# Empirical study of relationship value in industrial services

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#### Abstract

**Purpose** – The purpose of this paper is to assist industrial service providers in building relationships that maximize value to their customers. The study aims to add to relationship value research by examining its dimensions, antecedents, outcomes, and cross-culture relevance.

**Design/methodology/approach** – Using structural equation modeling, the study examines the influence that relationship value has on commitment and intentions, as well as the determinants of value encompassing the core offering, sourcing process and buyer operations. The sample covers 42 countries for cross-cultural perspectives.

**Findings** – By understanding the factors creating relationship value, providers are more likely to build enduring relationships with their buyers. Findings confirm that commitment and intentions are influenced by relationship value, which, in turn, is impacted by benefits such as performance, efficiency, and reliability as well as comparative costs and switching costs.

**Research limitations/implications** – The study is oriented more towards industrial services. Further research is encouraged that extends the study domain to consumer and professional services.

**Originality/value** – The research demonstrates the mediating influence that relationship value has on behavioral outcomes. Especially important to global service providers, this knowledge is then extended beyond the traditionally studied single-country settings to a world perspective, while extending the field of relationship value into the largely ignored industrial services sector.

Keywords Relationship marketing, Services, Services marketing, Value analysis, Partnership

Paper type Research paper

An executive summary for managers and executive readers can be found at the end of this issue.

# Introduction

Partnering has become a topic of great interest as buyers and suppliers recognize value from sustained relationships. According to Anderson (1995), the purpose for relationships is to work together in ways that add value to the parties. Buyers benefit from cooperation, while suppliers distinguish themselves along intangible dimensions that are difficult to imitate. This struggle for distinction is intensified as buyer power grows from border openings, deregulation and the internet. Collectively, these circumstances provide buyers with more outsourcing options, which, in turn, place more pressure on suppliers to find advantage. Moreover, evidence is mounting that suppliers gain far more profits from customer retention than from prospecting (Anderson and Weitz, 1989; Reichheld and Sasser, 1990).

Yet, despite a growing body of research devoted to relationship value, few conceptualizations have emerged. An exception is the recent work of Ulaga and Eggert (2006) in US and German manufacturing settings. The study offers a promising framework that is potentially extendable to services and more cultures. Of the remaining studies in the industrial

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Journal of Business & Industrial Marketing 23/4 (2008) 228-241 © Emerald Group Publishing Limited [ISSN 0885-8624] [DOI 10.1108/08858620810865807] sector, most examine value at the transaction level or with the intent of discovering source selection criteria.

The examination of value from a relational perspective is especially relevant to industrial services because of the personal contact between parties (Liljander and Roos, 2002; Moller and Torronen, 2003). Moreover, the intangibility of service attributes is often revealed over several historical transactions from which the buyer can predict future performance. Consequently, buyers of services are more likely to seek longer-term partnerships than those in the market for goods (Gronroos, 1998; Holmlund and Kock, 1995; Mittal, 1999). Despite its relevance, however, only a few studies (Hogan, 1998; Ulaga, 2001; Ulaga and Chacour, 2001; Ulaga and Eggert, 2004, 2006) have attempted to operationalize relationship value using a methodology that is psychometrically sound. Scholars are therefore calling for research that reveals its nomological structure along with its behavioral outcomes (Anderson, 1995; Ulaga, 2001; Woodruff and Gardial, 1996).

To this end, this study will test determinants and outcomes of relationship value relevant to global industrial services. The global context follows sufficient evidence that certain cultures are rationally driven while others are socio-sentimental in nature. For example, empirical studies in cross-cultural marketing (Furrer *et al.*, 2000; Hewett and Bearden, 2001; Williams *et al.*, 1998) reveal strong correlations between a buyer's national individualism and its tendency to form economic judgments (Gilliland and Bello, 2002). Relationship value may therefore have distinct perspectives across nations.

The paper is divided into three sections. The first section reviews the extant literature for concepts relevant to relationship value. In the next section, hypotheses are tested in support of the proposed model following an evaluation of

fit statistics for the structural equation model. Finally, conclusions are drawn relative to questions of explanatory power and construct relevance.

# Literature review

# Relationship value structure

The conceptualization of relationship value has roots in business and service marketing, where it is normally defined as a higher-order construct having transactional and relational dimensions (Dyer and Singh, 1998; Ulaga and Eggert, 2005, 2006). Common across the literature (see Table I) are references to its subjective nature, comparison to alternatives, and benefit/sacrifice trade-offs. Ulaga and Eggert's (2006) grounded theory framework demonstrates high explanatory power ( $R^2 = 0.73$ ) when these benefits are classified across the core offering, source processing and customer operations and when sacrifices to psychological costs including the time, aggravation and risk associated with supplier exchanges.

Although research on value has traditionally focused on discrete service episodes from an economic perspective, recent studies include relational perspectives as well (Anderson and Narus, 1990; Donaldson and O'Toole, 2000; Ford and McDowell, 1999; Friman *et al.*, 2002; Gadde and Snehota, 2000; Ravald and Gronroos, 1996; Rexha, 2000; Ulaga and Chacour, 2001). In particular, Wilson and Jantrania (1994) define value as outcomes of a collaborative relationship that enhance partner competitiveness. This strategic dimension to relationship value was also emphasized during interviews with study respondents.

Consistent with these authors, this study treats relationship value as a higher-order construct that begins with economic value and proceeds to strategic (goal-oriented) value. This resonates with the Means-End Chain Model offered by Gutman (1982) and Woodruff (1997). According to Woodruff (1997), "customer value is a customer's evaluation of product attributes, attribute performances and consequences arising from use" (p. 142).

# **Relationship value antecedents**

## Exploratory research

The research begins with six in-depth interviews of buyers of industrial services on topics ranging from commitment to value determinants. Similar to Ulaga and Eggert's (2006) population, the study sample falls under industrial goods and services. The difference here is the selection of services as opposed to manufactured goods. A major distinction relates to the greater tangibility of evidence afforded to buyers of goods. Both domains, however, have a common drive to reduce suppliers in search of efficiencies, risk sharing and value creation.

In assessing value, a literature search revealed that buyers examine hard and soft quality evidence of what they expect to receive and on how they receive it. The service quality literature, in particular, suggests that buyers seek confirmation of capabilities and competence. In the specific case of after-sales services (e.g. maintenance), the scope of this study, such evidence often comes from scorecards of service delivery, reliability and best value. Here, service delivery measures the time for a repaired unit to return to service, reliability is measured as the unit's serviceable life, and best value measures life cycle cost savings.

Consistent with the definitions proposed by Gronroos (1998) and the context of benefits studied by Ulaga and Eggert (2006), this study also proposes that determinants of value have an economic (cost savings), functional (delivery) and technical (reliability) dimension. In an industrial marketing context, economic constitutes something the buyer gets should the relationship continue (Holmlund and Kock, 1995). It resembles the construct known as perceived value and is often demonstrated through historical pricing or a formal offer bid. Beyond evidence of a solid offer proposition, however, buyers of industrial services examine the degree to which the "deliverables" exceed performance expectations as described under Ulaga and Eggert's (2006) core offering benefits. Gronroos (1998) refers to this technical dimension as "what" is received after the interaction is over (e.g. reliable operation, specification conformance or service-need fit). His functional dimension refers to "how" the service is received (e.g. promptness) and resembles what Ulaga and Eggert (2006) call sourcing benefits. Table II shows the similarities and distinctions across this study and that proposed by Ulaga and Eggert (2006).

#### Core and sourcing benefit links to relationship value

In addition to the "hard" evidence assessments made of manufactured goods, buyers of industrial services assess work performance as cues for what Mittal (1999) calls "projected reliability" and the SERVQUAL survey instrument calls "service reliability". That is, once the work is determined to meet specifications, the evaluation of *solution* quality then considers the service provider's consistency in exceeding expected performance. Hence, the following is proposed:

*H1.* A service provider's core benefits, as measured by work performance, have a positive impact on relationship value.

In addition to examining the core benefits of service deliverables, industrial services buyers often consider the degree of customer service ("soft" quality) surrounding the deliverable. In the case of after-sales, this includes service efficiency and treating customers with respect (personal interaction). For example, a recurring theme noted throughout the interviews was the supplier's ability to quickly turn around service requests. The shorter the service cycle from "service request-to-service return," the less the inventory required to back up units in service. Credit is also given to promptness as a benefit to the sourcing process. As stated by one respondent: "We need answers within hours".

Buyers also view personal interaction as a concern for their success. Consistent with Ulaga and Eggert's (2006) study, buyers of industrial services see interpersonal ties as the key to problem solving. One interview respondent referenced a supplier termination with: "You can kiss them [vendor] goodbye [...] They come here in droves during proposal time and then disappear until the next major procurement [...] We need vendors that work with us every day".

These "soft" dimensions resemble what SERVQUAL calls service responsiveness, assurance and empathy. In a study of perceived value across industrial contexts, Lapierre (2000) found that responsiveness to be an important value driver. The author's measure of responsiveness resembles this study's

Table I Sumi	nary of lite	erature review								
				Relationship value driv	vers				Relationship	
			Benefits			Sacrifices			value index	
					Direct	In-use			construction/	
Study	Context	Core benefits	Sourcing benefits	Operations benefits	costs	costs	Other	External	dimension(s)	Outcomes
Sharland	US	N/A	N/A	Tailored systems,	Price	Customer	Switching	Competing	Reflective measure	Longevity,
(1997)	sample			adaptations, competitive		final	costs	alternatives		commitment
				advantage, supplier		product				
		:		investments						
Cannon and	US and	Quality	Information exchange,	Flexibility, adaptations,	Price	Acquisition,	N/A	Competing	Cost dimensions	Expanded share of
Homburg (2001)	German sample		communication frequency	customer cost management		operations		altematives, geographic closeness	only	purchases
Dyer and	Theory-	N/A	Self-enforcement	Knowledge-sharing		N/A		Partner scarcity	Z	/A
Singh (1998)	based			routines, complementary capabilities, relation-specific assets						
Eggert and	US	Performance,	On-time, accurate, flexible	Mutual goals, time to	Price	Acquisition,	N/A	Relationship	Formative measure	Commitment, trust,
Ulaga (2002)	sample	reliability,	delivery, information,	market, knowledge		operations		life cycle		satisfaction,
		consistency	problem-solving, communication					(moderator)		expansion, propensity to leave
Gao <i>et al.</i>	US	Reliability,	Technical assistance,	Allowance for upgrading	Price	Acquisition,	Time,		Reflective measure	N/A
(2002)	sample	consistency,	speed, cooperation,			life cycle	haggling,			
		ımage	enjoyable experience			costs	dısputes, monitoring			
Grisaffe and	NS	Overall and	N/A	Customer focus (need	Price		N/A		Reflective measure	Repurchase
Kumar	sample	relative quality,		responsiveness, ease of					(relative absolute	intention,
(1998)		image		business)					value)	recommend
Hogan	SU	Quality	Trust, cooperation	Synergy, relationship-	Price	N/A	N/A	Cost sensitivity	N/A	Willingness to invest,
(1998)	sample	advantage		specific adaptations	advantage					commitment
Krapfel <i>et al.</i>	Theory-	N/A			N/A	Cost	N/A	Replaceability,	Function of	N/A
(6061)	nasen					chillapc		ci i i cali t	unucanty, supplier quantity, replaceability, slack	
										(continued)

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Table I										
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					Direct	In-use			construction/	
Study	Context	Core benefits	Sourcing benefits	Operations benefits	costs	costs	Other	External	dimension(s)	Outcomes
Lapierre (2000)	Quebec and Ontario samole	Product quality	Responsive, technical competence, trust	Flexibility, product customization, solidarity	Price	N/A	Time, effort, conflict	N/A	Formative measure	N/A
Moller and Torronen (2003)	Theory- based	N/A		New resource creation, market intelligence		Supplier efficiency			N/A	
Ravald and Gronroos (1996)	Theory- based	Attributes, performance	Technical support, safety, credibility, security, trust	Needs understanding, contribution to value chain	Price	Acquisition, life cycle costs	Psychological costs, risk of failure	N/A	Multi-dimensional	Loyalty
Ulaga and Chacour (2001)	Germany sample	Breadth, consistent, ease of use, image	Technical support, response speed, srevice reliability, personal relations	N/A	Price			2	<i>II</i> A	
Ulaga and Eggert (2006); Ulaga (2001)	Germany sample	Performance, reliability, delivery	Responsive, information management, personal interaction	Time to market, activity outsourcing, knowledge	Price	Acquisition, operations	N/A	Competing alternatives	Formative measure	N/A
Walter <i>et al.</i> (2003)	Germany sample	Quality, volume, safeguard	Social support	Market, scout function	Price	Indirect costs			N/A	
Wilson and Jantrania (1994)	Theory- based	Performance, product reliability, technology, image	Responsive, service reliability, social bonds, trust, dyad relations, culture	Time to market, goals, strategic fit, core competencies, facilities, knowledge, training	Price	Acquisition, life cycle costs			MA	

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Table II	Comparison	of Ulaga and	Eggert (2006)	context with	current study	
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	Ulaga and Egg	jert (2006)	This st	udy (industrial services)
	Benefits	Costs	Benefits	Costs
Core offering	Product quality	Direct costs	Work performance	Switching costs and cost advantage (comparative price and life cycle savings)
	Delivery performance			
Sourcing process	Service support	Acquisition costs	Service efficiency	
	Personal interaction		Personal interaction	
Customer operations	Supplier know-how	Operation costs	Supplier reliability	
-	Time to market		Business understanding	
			Flexibility	

reference to service efficiency, a subset of the SERVQUAL responsiveness dimension relevant to industrial after sales. Ulaga and Eggert (2006) also found a positive relationship between value and sourcing benefits, the latter of which is represented by service support (e.g. responsiveness) and personal interaction. This leads to the following:

*H2.* A service provider's sourcing benefits, as measured by service efficiency and personal interaction, has a positive impact on relationship value.

#### Customer operation benefit links to relationship value

A third domain of value creation cited by Ulaga and Eggert (2006) is customer operations. In particular, buyers will credit their providers with having expertise and capabilities that contribute to the bottom line. In the case of industry services, this is recognized when suppliers demonstrate an understanding of the buyer's tasks and their willingness to accommodate the buyer when most needed. Study interviews concluded that buyers gravitate towards relationships when the provider demonstrates an understanding and alignment with their tensions. One study respondent remarked: "We look for suppliers that know how to return aircraft to service". The literature refers to business understanding as an element of customer orientation and one of the original SERVOUAL dimensions. In the case of customer orientation, Williams and Attaway (1996) found that relationship development was influenced by needs discovery. Similarly, Kim and Cha (2002) found a positive relationship between "understanding customer needs" and relationship quality.

Other proposed dimensions of operational benefits are supplier flexibility and reliability. One interviewee commented: "We don't want our fate to be in their hands" Another stated: "We are looking for suppliers that are easy to do business with and are willing to adjust their terms [...] Now and then, I need an emergency turn time on repairs". They also referenced supplier reliability and flexibility in their score cards. The literature makes this reference to flexibility as the extent to which the supplier makes concessions in response to sudden, often unanticipated customer needs (Cannon and Homburg, 2001). Smith (1998) found this flexibility in handling supply agreements to influence relationship quality. Consistent with these and other findings (Noordewier *et al.*, 1990; Ulaga, 2001), the following is therefore proposed:

H3. Operations benefits, as evidence by a service provider's business understanding, reliability and flexibility, has a positive impact on relationship value.

#### Cost advantage links to value

Monroe (1991) claims that customers value cost reductions more than benefits when assessing value. The role of costs was underscored in interviews that cautioned suppliers against too much social bonding. One stated that relationships don't matter: "It all comes down to best value, where we look at total life cycle costs". This study's reference to "cost" as opposed to "price" advantage reflects the "in-use" value to buyers and not just acquisition value. Finally, the term advantage permits a comparison to alternatives as consistent with literature definitions of value.

Much attention has been given to cost savings assessment as today's educated analysts find ways to measure most tangible and even intangible benefits. A review of the literature indicates that the pursuit of operational cost savings is a primary goal of relationship building in industrial settings (Cannon and Homburg, 2001; Ulaga and Eggert, 2006; Woodruff, 1997). The following is therefore proposed:

*H4.* The perceived cost advantage of a supplier's service has a positive impact on a relationship value.

#### Switching costs links to value

The importance of customer switching costs to behavioral outcomes is well documented in the literature (Lee and Feick, 2001; Oliver, 1996) and refers to the costs incurred from changing providers (Lee and Feick, 2001). Ulaga's (2001) qualitative study on value creation acknowledged switching costs as among a supplier's direct costs. Similarly, a study of sourcing strategies (Sharland, 1997) found it to be the only significant predictor of perceived value, thereby leading to the following:

*H5.* The perceived switching costs associated with changing service providers positively influences relationship value.

# **Relationship value outcomes**

## **Future intentions**

Outcomes discussed in the literature include affective commitment, longevity, share of purchase, willingness to invest, word of mouth and future intentions (Sharland, 1997; Cannon and Homburg, 2001; Eggert and Ulaga, 2002; Grisaffe and Kumar, 1998; Hogan, 1998; Ravald and Gronroos, 1996). The latter is defined as the intent to continue in a relationship or a reluctance to search for alternatives. It often encompasses contract renewals and increased patronage (Zeithaml *et al.*, 1996). A number of

studies demonstrate the linkage between perceived value and the notion of repurchase intentions (Bolton and Drew, 1991; Bolton *et al.*, 2003; Chang and Wildt, 1994; Eggert and Ulaga, 2002; Szybillo and Jacoby, 1974). A study conducted by Grisaffe and Kumar (1998), for example, found a positive relationship between value and future intentions in a services setting thereby leading to the following:

*H6.* A buyer's future intentions to a service provider are influenced by relationship value.

#### Affective commitment

In addition to future intentions, some studies demonstrate the influence that perceived value has on affective commitment or the extent to which parties like to maintain their relationships (Geyskens *et al.*, 1996). This sentiment of allegiance has been demonstrated to mediate the link between relational value and its proposed outcomes (Hennig-Thurau *et al.*, 2002). Dwyer *et al.* (1987) point out that committed partners are willing to incur sacrifices in time and effort in pursuit of future benefits that outweigh these sacrifices. In essence, they are influenced by relationship value.

Regarding affective commitment as a predictor of outcomes, Moorman *et al.* (1993) suggest that buyers committed to a relationship might have a greater propensity to act because of their need to remain consistent with their commitment. Similarly, Morgan and Hunt (1994) found empirical support for the relationship between a buyer's commitment and acquiescence, propensity to leave, and cooperation, all of which are behavioral outcomes of relationships. The following are therefore proposed:

- *H7.* A buyer's future intentions to a service provider are influenced by affective commitment.
- *H8.* A buyer's affective commitment to a service provider is influenced by relationship value.

In Figure 1 we show the resulting model and associated hypotheses for the proposed relationship value determinants and outcomes.

#### Methodology

This research begins with an evaluation of a structural equation measurement model that exemplifies the nomological structure underlying the hypotheses. Consistent with the literature (Ulaga, 2001; Ulaga and Eggert, 2006), the research follows a formative approach in measuring relationship value. Consequently, dimensions of relationship value, such as that suggested by Wilson and Jantrania (1994), need not be highly correlated with each other (Diamantopoulos and Winklhofer, 2001).

#### Data collection

The sampling population includes aircraft component repairs, a services category known as industrial after-sales services (see Figure 2). To maintain homogeneity, fleet operations were restricted to commercial use (e.g. as opposed to private flying or military applications) and unscheduled maintenance. As shown in Table III, sampling across regions, carrier type and size indicates a fair cross section of buyers.

The approach to conceptual model development followed a three-stage process. First, interviews were conducted to conceptualize factors driving relationship behavior. Data was then obtained through self-administered questionnaires mailed to buyers of 42 countries listed in Table IV. A total of 202 usable responses were collected for an effective response rate of 14 percent. Though low, this rate is not unusual for international industrial services (Dillman, 2000) which, according to Harzing (2000), vary between 6 percent and 16 percent.

### Research design and measurement

Shown in Table V are the domain-adapted scales taken from the literature. Scaling for work performance, service quality, and personal interaction resemble SERVQUAL items with modifications made to suit the industry. Items for business understanding were derived from interviewees asked to comment on the items best reflecting the construct as well as wording appropriate for the indicator. A pre-test was then administered for domain qualification (e.g. restriction to nonmission critical repairs) and universal language suitability.



Figure 1 Proposed model and hypotheses

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Figure 2 Taxonomy of services



Table III Profile of respondents

	Percentage
Region	
North America	55
Europe	26
Asia	5
South America	3
Australia/NZ	7
Middle East	4
Total	100
Fleet size	
>100 aircraft	31
25-99 aircraft	29
<25 aircraft	40
Total	100
Operator type	
Major/national	42
Regional airline	34
Commuter/charter	12
Cargo	7
Other (e.g. leaser, helos)	5
Total	100

#### Scale reliability and construct validity

From the original 42-item instrument, five items were removed based on the item's corrected item-to-total correlation. As a further measure of scale robustness, the remaining items were then tested for convergent validity using confirmatory factor analysis. AMOS 4.0 was used to construct the measurement model and assess the degree to which latent variables measure the right underlying construct. Results led to the elimination of seven items from the original set. Once unidimensionality and convergence validity were established, internal consistency was then recalculated using Cronbach's  $\alpha$ . All coefficients were in an acceptable range >0.70 (see first column of Table VI).

Exploratory analysis was then used to determine whether the relationship value determinants aligned well with benefit dimensions suggested by Ulaga and Eggert (2006). From the Table VI factor loadings, the analysis confirmed that work performance items formed the core benefits; service efficiency and personal interaction formed the sourcing process benefits; and supplier reliability, business understanding and flexibility formed the operations benefits. Two items were subsequently removed from the list as a result of shared factor loadings, thus yielding the final 35-item scale as displayed in Table VII.

# **Data analysis and findings**

#### Measurement model results

Using structural equation modeling, fit statistics indicate that the model of hypothesized relationships meets criteria for "reasonable and excellent fit" indices suggested by Joreskog and Sorbom (1982) and Bentler (1990). Shown in Table VIII are the resulting statistics. Moreover, the study findings confirm all proposed paths (H1 to H8 of Figure 1), as displayed in Figure 3.

 Table IV
 Distribution of respondent countries for all 202 usable responses

Number of cases	Country	Hofstede score on individualism <sup>a</sup>
1	Abu Dhabi	25
12	Australia	90
1	Austria	55
1	Belgium	75
2	Bhutan	52
2	Brazil	38
20	Canada	80
1	Chile	23
1	China	20
1	Croatia	33
1	Czech Republic	58
3	Denmark	74
2	Finland	63
3	France	71
1	French Polynesia	
8	Germany	67
1	Greece	35
2	Greenland	74
1	Hong Kong	25
2	Iceland	60
1	India	48
1	Israel	54
2	Italy	76
1	Japan	46
1	Latvia	39
1	Luxembourg	60
1	Macau	20
1	Malaysia	26
1	Mexico	30
1	Nepal	30
1	New Zealand	79
4	Norway	69
2	Portugal	27
1	Slovakia	52
5	Spain	51
1	Sweden	71
4	Switzerland	68
2	Taiwan	17
2	Turkey	37
8	UK	89
93	US	91

Note: <sup>a</sup>The higher the score, the more individualistic; the lower the score, the more collective the nation's orientation

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Results of relationship value outcomes and dimensions In response to dimensionality questions about relationship value, Figure 3 shows that economic and strategic dimensions equally share the explained variance for intentions. Furthermore, behavioral outcome is largely influenced by the perceived value of the relationship and the buyer's affective commitment to the provider. This supports *H6* ( $\beta = 0.58$ , p < 0.001) and *H8* ( $\beta = 0.15$ , p < 0.01). Finally, relationship value has a strong influence on commitment. This supports *H7* ( $\beta = 0.58$ , p < 0.001), thereby lending credence to the mediating influence commitment has on relationship value and intentions. This also resonates with relationship marketing literature suggesting that a buyer's cognitive assessment of value precedes affective attachments (Ulaga and Eggert, 2004).

### **Results for antecedents**

Figure 3 also demonstrates that benefits and costs collectively account for 80 percent of the explained variance for relationship value with benefits accounting for nearly two-thirds of the impact. This agrees with Ulaga and Eggert's (2006) conclusions and opposes the viewpoints of Anderson *et al.* (2000) that argue for greater attention placed on cost reduction than performance enhancements.

Among the core benefits, strong support is shown for the impact that work performance has on relationship value ( $\beta = 0.27, p < 0.001$ ), thereby supporting *H1*. Support is also shown for the impact that sourcing and operational benefits have on relationship value, thereby supporting *H2* ( $\beta = 0.18$ , p < 0.01) and *H3* ( $\beta = 0.26, p < 0.001$ ), respectively. This confirms the relevance of "soft" aspects of relationship value such as personal interaction, service efficiency and reliability, business understanding and flexibility.

On the cost side, strong support for H4 ( $\beta = 0.35$ , p < 0.001) suggests that buyers calculate the comparative cost savings from selecting one supplier over another. Similarly, partial support for H5 ( $\beta = 0.35$ , p < 0.05) suggests that switching costs do in fact serve as an exit barrier that ties buyers to the service provider. Moreover, their positive influence on relationship value suggests that buyers consider the costs of starting up new supplier arrangements when considering long-term relationships. This somewhat contradicts the premise surrounding transaction cost analysis, which implies that relationships are formed in part to avoid hostage-oriented structural bonds (Rokkan *et al.*, 2003). The positive influence suggested by this study would instead suggest that, however resentful, buyers examine costs of switching much like opportunity costs. To

Table V	Distribution	of respondent	countries for	all 202	usable responses
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-		
Construct	Measured dimensions	Source(s)
Relationship value consequences	Intentions to buy	Domain-adapted Eggert and Ulaga (2002), Brown <i>et al.</i> (1993), Hausknecht (1990), Heskett <i>et al.</i> (1997), Yi (1990), Gabarino and Johnson (1999)
	Affective commitment	Gilliland and Bello (2002), Geyskens <i>et al.</i> (1996)
Relationship value dimensions	Economic value	Dodds <i>et al.</i> (1991), Grisaffe and Kumar (1998)
	Strategic (goal)	Barry and Johnson (2004)
Relationship value antecedents	Core and sourcing benefits	Domain-adapted SERVQUAL
	Operations benefits	Domain-adapted SOCO scales from Saxe and Weitz (1982), Barry and Johnson (2004)
	Switching costs	Sharland (1997)
	Cost advantage	Barry and Johnson (2004)

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					Factor loading from				
	Corrected item to			Standard	Fromax rotation	Stratogic	Affective	Euturo	
Cronbach's $\alpha$	total correlation	Indicators	Mean <sup>a</sup>	deviation	value	value o	commitment	intentions	
Dimonsions and ou	itcomoc								
	0.635	ECONMIC1	2 001	1 738	0.80	0 / 0	0.22	0.38	
0.075	0.000	ECONMIC2	2.501	1.250	0.00	0.45	0.34	0.30	
	0.709	FCONMIC3	2.545	1 1 1 1	0.70	0.04	0.34	0.40	
	0.706	FCONMICA	2.070	1.090	0.80	0.40	0.37	0.55	
	0.756	FCONMIC5	2.745	1.030	0.81	0.45	0.32	0.57	
0 779	0 599	STRATGC1	2.400	1.005	0.60	0.78	0.55	0.49	
0.775	0.633	STRATGC2	2.000	1 1 2 0	0.50	0.70	0.31	0.45	
	0.622	STRATGC3	2.355	1 182	0.50	0.07	0.46	0.40	
0 889	0.723	AFFECTV1	2.000 4 517	1.102	0.29	0.76	0.40	0.30	
0.000	0.804	AFFECTV2	4 597	1 547	0.23	0.32	0.88	0.20	
	0 790	AFFECTV3	4 846	1 588	0.41	0.39	0.86	0.34	
	0 715	AFFECTV4	4 2 2 9	1 720	0.28	0.43	0.83	0.34	
0 748	0.619	INTENT1	2 753	1 296	0.53	0.15	0.59	0.76	
	0.587	INTENT2	2 5 3 0	1 507	0.36	0.51	0.23	0.82	
	0.530	INTENT3	3 1 5 4	1 621	0.43	0.35	0.32	0.81	
	0.000	IIIIEIIII	5.151	11021	0115	0.55	0.52	0.01	
					Core	Sourcing	Operations	Cost	Switching
Antecedents					benefits	benefits	benefits	advantage	costs
0.743	0.594	PERFORM1	2.495	1.125	0.86	0.58	0.45	0.39	0.11
	0.594	PERFORM2	2.337	1.015	0.86	0.67	0.55	0.52	0.08
0.900	0.812	SRVCEFF1	2.579	1.183	0.73	0.84	0.57	0.51	0.02
	0.792	SRVCEFF2	2.446	1.041	0.69	0.88	0.58	0.50	0.19
	0.800	SRVCEFF3	2.594	1.173	0.57	0.89	0.58	0.50	0.11
	0.667	SRVCEFF4	2.262	0.965	0.53	0.78	0.59	0.25	0.12
	0.708	SRVCEFF5	2.688	1.261	0.70	0.74	0.55	0.48	-0.10
0.867	0.770	PERSONL1	2.376	1.212	0.62	0.87	0.61	0.53	0.24
	0.770	PERSONL2	2.109	1.092	0.61	0.85	0.63	0.43	0.16
0.788	0.651	RELIABL1	2.579	1.326	0.75	0.76	0.83	0.57	0.27
	0.651	RELIABL2	3.114	1.383	0.46	0.55	0.85	0.43	0.27
0.886	0.839	UNDRSTD1	2.490	1.350	0.58	0.67	0.86	0.47	0.20
	0.857	UNDRSTD2	2.936	1.460	0.43	0.55	0.88	0.38	0.13
	0.819	UNDRSTD3	2.619	1.374	0.64	0.62	0.91	0.38	0.20
NM	NM	FLEXIBTY	2.670	1.259	0.72	0.69	0.73	0.47	0.23
0.743	0.599	COSTADV1	2.906	1.239	0.54	0.46	0.47	0.86	- 0.07
	0.599	COSTADV2	3.408	1.460	0.40	0.46	0.38	0.91	0.25
0.715	0.569	SWCHCST1	3.772	1.665	0.21	0.25	0.31	0.25	0.80
	0.510	SWCHCST2	5.465	1.667	0.10	0.09	0.13	0.17	0.51
	0.625	SWCHCST3	4.762	1.664	0.07	0.10	0.14	0.07	0.84
		Courses	Onevetien	Cast		Francis	Chuchowie	Affe ative	Future
Covariances	Cara hanafit	Source	Operation	1 COSL	Switching cost	Economic	Strategic	Allective	Future
Covariances		benefit	benefit	auvantage	Switching cost	Value	value	communent	intentions
Source benefit	0.515	0 911							
Oneration	0.054	0.511							
henefit	0.683	0 808	1 341						
Cost	0.005	0.000	1.5 11						
advantage	0.571	0.602	0.708	1.458					
Switching cost	0.226	0.229	0.380	0.309	1.766				
Economic									
value	0.531	0.567	0.678	0.834	0.167	0.829			
Strategic									
value	0.730	0.716	0.863	0.707	0.485	0.647	0.990		
Affective									
commitment	0.480	0.452	0.669	0.551	0.796	0.442	0.624	1.950	
Future									
intentions	0.662	0.636	0.773	0.630	0.279	0.636	0.723	0.671	1.454
Notes: <sup>a</sup> 1 = strongly	y agree, 7 = strongly dis	agree. NM, no	ot meanin	qful					

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# Table VII List of scales

Relationship value dimens	ion	
Economic value	Compared to alternatives,	the price for this supplier's services is reasonable
	Service from this supplier i	s typically a good buy
	At the price shown, service	e from this supplier is typically very economical/uneconomical
	Service from this supplier i	s typically good/poor value for the money
	At the price expected, serv	ice is typically very acceptable/unacceptable
Strategic value	Compared to alternative su	uppliers, we are confident this supplier will better help us reach our goals
	In terms of services leading	g to the desired result, this supplier compares favorably to its competitors
Palationship value outcom	200	
Future intentions	We expect our relationship	with this sumpliar to continue for a long time
	The renewal of our relation	with this supplier to continue for a long time
	It is unlikely that we will h	e doing business with this supplier over the next few years (P)
	We are continually on the	lookout for another supplier to replace this supplier (P)
Affactiva commitment	Our loyalty to this supplier	is a major reason we continue to work with this supplier (R)
Affective communent	We want to stay associate	d with this supplier because of our allogiance to them
	We intend to continue wer	with this supplier because of our allegiance to them.
	Given all things our two fu	ring with this supplier because we leer they are part of the family
	Given all tillings our two ill	his have done for each other, we expect to continue our relationship
Relationship value anteced	dents	
Core offering benefits	Work performance	The work performed by this supplier typically meets our expectations for life cycle reliability
		The services provided by this supplier lead to our desired result
Sourcing benefits	Service efficiency	The supplier's firm has fast, efficient procedures for handling our repair requests
		This supplier's service personnel competently handle most of our requests
		This supplier's service personnel work quickly and efficiently
		This supplier's service personnel know what they are doing
		Turnaround time for work performed typically meets our expectations for service delivery
	Personal interaction	The supplier's employees act as if they value us as a customer
		The supplier's employees treat us with respect
Operations benefits	Supplier reliability	When it comes to things that are important to us, we could count on this supplier's support
		We can count on this supplier to consider how their decisions and actions affect us in the future
	Business understanding	This supplier understands the sense of urgency we face every day
		This supplier understands what it takes for our business to succeed over the next few years
		This supplier understands how their services impact our operation
	Flexibility	This supplier is flexible enough to handle unforeseen problems
Cost advantage	Compared to alternatives,	the price for this supplier's services is reasonable
	Supplier's service payment	terms will provide us cost savings greater than we could expect elsewhere
Switching costs	It would be very time-cons	uming to build a relationship with a substitute supplier at this time
	Switching to another suppl	ier will involve great risk
	Changing suppliers will be	too disruptive for our business, so we continue to work with this one
Note: Items marked "(R)" w	ere reverse scored	

# Table VIII Results of measurement model fit statistics

Measures of fit	Reasonable estimate	Well fit	Model results	Assessment
Normed chi-square ( $\chi^2$ /df)	< 5.0	<2.0-3.0	2.03 (1,163/572)	Reasonable to excellent fit
Normed fit index (NFI)	>0.90	>0.95	0.944	Reasonable fit
Relative fir index (RFI)	>0.90	> 0.95	0.927	Reasonable fit
Incremental fit index (IFI)	>0.90	> 0.95	0.971	Excellent fit
Tucker-Lewis coefficient	>0.90	> 0.95	0.962	Excellent fit
Comparative fit index	>0.90	> 0.95	0.970	Excellent fit
Root mean square error of approximation (RMSEA)	< 0.08	< 0.05	0.072	Reasonable fit

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#### Figure 3 Standardized regression coefficients



**Notes:** \* *p* < 0.05; \*\* *p* < 0.01; \*\*\* *p* < 0.001

ignore these costs, buyers would essentially be underestimating the buyer savings from sticking with their incumbents (i.e. relationship value would be understated).

# **Study limitations**

The study suffers from a few limitations related to scale development and generalizability. Although the scale items were subjected to rigorous examinations of wording and contextual fit during interviews and pre-tests, the latter served more as a domain context check. Given that the questionnaire was administered in English, the nature of some behavioraloriented questions could have different interpretations with overseas buyers despite language editing after the pre-test. A more accurate examination of cultural context would have applied back translations across each country. Also, given the blend of product and service attributes in industrial after-sales applications, generalizations of this study beyond industrial settings is questionable.

## Implications and suggestions for future research

The study results are encouraging in their support of theories suggesting buyers are influenced not only by the transfer of services, but with the value of interaction with their service providers. The benefits weighed against the costs of a relationship frame the buyer's choice to either maintain or withdraw from future interactions with their service provider. In the particular case of industrial services, buyers will rationalize the value gained from their relationships as a way to streamline their vendor programs and weed out unprofitable relationships. These evaluations often transcend beyond economic assessments into the strategic aspects of the relationship.

The key to building sustainable value is for service providers to balance aspects of the offer with that of the relationship itself. It behooves service providers to be in tune with buyer tensions and their perception of relative cost savings, including those incurred from switching suppliers. Moreover, suppliers should administer their own scorecards on work performance, responsiveness in handling requests, and willingness to be flexible.

Results of this research are beneficial to both scholars and practitioners. The research offers a model of high explanatory power that predicts relationship value from the standpoint of the relational behaviors of service providers. A further contribution of this study is that it supports recent findings that relationship value encompasses more than simply an economic but also a strategic dimension (Wilson and Jantrania, 1994; Ulaga, 2001; Ulaga and Eggert, 2006). The findings confirm that, just as buyers form cognitive judgments of the service provider's perceived value to their organization, they also form affective attachments from the commitment shared with their suppliers.

Finally, this study adds to the growing field of cross-cultural research especially important to relationship marketing. By including a broad cross-section of nations, the model provides a global perspective of relationship value along with its determinants and outcomes. Although results of this study are encouraging, additional research is encouraged to examine its global relevance beyond industrial services. Researchers are therefore encouraged to investigate model relevance to professional and consumer services as well as other relational variables discussed in the literature (e.g. sales effectiveness, supplier image and conflict resolution) that can further enrich the field of relationship value.

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