

# Pricing, purchasing and product performance factors associated with the relational exchanges of different sized customers

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## Abstract

**Purpose** – The purpose of this research is to understand what pricing, purchasing, product defect and late deliveries factors are associated with the decisions of small, medium and large size customers to enter into closer customer-supplier relationships with their suppliers.

**Design/methodology/approach** – The study involves a survey of 372 professionals in the paper industry to investigate the linkage between pricing, purchasing efficiencies and reductions in product defects and later deliveries and relational exchanges across customers of different sizes and resources.

**Findings** – The results indicate that the pricing, purchasing, product defect and late delivery factors associated with relational supply chain exchanges are different for small, medium and large size customers.

**Research limitations/implications** – Data were collected from individuals' perspectives of the customer-supplier relationships within customer organization only and involved the exchange of one type of product. Similar studies need to be conducted in other industries involving other types of product exchanges that capture both customer and supplier perspectives to verify these findings.

**Practical implications** – Supplier sales and marketing managers need to understand that different sized customers with different resources may have different performance objectives when entering into relational exchanges. These varying customer performance objectives should help supplier marketing managers to better segment their relational exchange customers and help them in assessing their ability to satisfy varying customer relational exchange performance goals.

**Originality/value** – While the linkage between closer customer-supplier relationships and pricing, purchasing, product delivery has been studied in prior research, this is one of the first studies to show that different customer performance factors are associated with different sizes of customers and their relational exchanges. This paper also suggests that further research grounded on a resource-based theory (RBT) of the firm would be valuable in better understanding the factors associated with different customers' relational exchanges.

**Keywords** Supply chain management, Channel relationships, Supplier relations

**Paper type** Research paper

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

## Introduction

In the past two decades, closer customer-supplier relationships have captured the attention of many customers and suppliers as a means to improve performance. Academics have steadily built a body of knowledge on relational exchanges suggesting that customers seek to achieve lower purchasing prices, while planning:

- for reductions in purchase prices;

- purchasing and ordering efficiencies;
- reductions in product defects; and
- reductions in late deliveries through closer customer-supplier relationships (Noordewier *et al.*, 1990; Cusumano and Takeishi, 1991; Cannon *et al.*, 2000; Cannon and Homburg, 2001; Corsten and Felde, 2005; Kannan and Tan, 2006).

While some researchers (Kalwani and Narayandas (1995) have identified a positive relationship between long term manufacturer-supplier relationships and supplier performance, other researchers have stated the supplier's cost benefit ratios of relational strategies are often unclear and relational exchanges are not always successful (Yim *et al.*, 2004; Goerzen, 2007; Corsten and Felde, 2005). Sometimes, supplier relational exchange strategies are based on their firms' strategies and individual intuition rather than on

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understanding of their customers' relational exchange goals and their own ability to address them (Beverland, 2001). As noted by Morgan and Hunt (1994) and Schwepker (2003), customers and suppliers need to align their complementary resources to achieve superior outcomes. Since customer relational exchange needs differ, suppliers must be flexible in offering the appropriate mix of products and services and exchange strategies to complement differing customer performance requirements.

The objective of this research is to understand whether and how pricing, purchasing, product defect and late delivery performance factors differ in their linkage to the relational exchanges of small, medium and large size customers. While many of these factors have been studied in prior research, this study adds value by investigating how these performance factors are associated with the relational exchanges of different size customers with different resources.

Prior research has been valuable in understanding a range of performance factors associated with closer customer-supplier relationships but has not offered much guidance in delineating which factors are linked to differences in customer types. All customers are not the same, and they come in different sizes with different resources. In developing relational exchange strategies, suppliers must understand the different performance factors associated with different customers' decisions to enter into closer customer-supplier relationships and cannot assume a common set of performance factors are associated with all their customer relational exchanges. As noted by Fink *et al.* (2009), a better understanding of customer needs should form the basis for relational strategies. This is particularly important to suppliers who have not always reaped performance improvement through relational exchange strategies (Fink *et al.*, 2007).

The paper is based on the individual perceptions and extensive experiences of industry practitioners who have managed supplier relationships in the pulp and paper industry. The focal customer-supplier relationship investigated is the relationship between the individuals (the customer) in pulp, paper, and paperboard mills responsible for managing supplier relationships and their process control equipment (PCE) suppliers. These purchases represent a significant and high involvement purchase for individual managers (i.e. the customer) in the pulp, paper, and paperboard mills since they are used to manage critical operational processes. Thus, these individuals are making important decisions when they decide to utilize single or multi-vendor sourcing strategies, choose with whom to conduct business, and determine the type of exchange relationship (i.e. transactional or relational) they want. Because these transactions are so important, we believe that the managers we surveyed were able to recall salient characteristics of the relationships associated with such transactions and accurately recount them.

The framework for the research is illustrated in Figure 1. The framework specifies linkages between concepts that might explain relational exchanges including lowest prices, planned price decreases, fewer purchasing resources, efficiency in ordering, percentage product defects and percentage late deliveries. This framework will be used to summarize prior research in this area and to discuss the research questions, methodology and research results. Finally, we address the implications of our investigation for sales and marketing managers and future research in this field.

## Theory, research framework and literature review

In this section, we will discuss the theory and research relevant to each element of the framework (Figure 1) and its value in expanding our understanding of relational exchanges based on customer size and resources. This discussion provides the basis for our proposed research questions to further our understanding about the relationship between customer size, pricing, purchasing, product defect, late delivery factors and customer relational exchanges. Initially, we will discuss the relationship between customer size and relational exchange in light of the resource-based theory (RBT) of the firm. Next, we will review how the researched performance factors have been associated with relational exchanges in prior studies. Finally, we will summarize the use of relational norms in measuring closeness in relational exchanges.

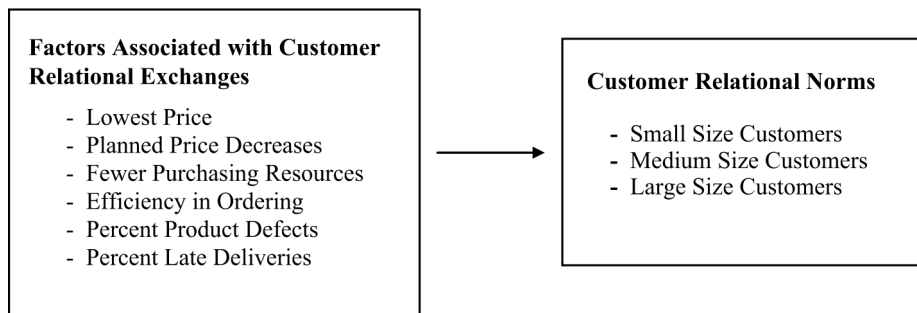
### Resource-based theory, relational exchanges and customer size

As stated by Morgan and Hunt (1994), closer relational exchanges are often based on the integration of complementary customer and supplier resources to achieve a superior performance or competitive advantage. This resource based theory (RBT) of customers' relational exchanges suggests that customers with different resources pursue relational exchanges for different reasons and to potentially obtain different performance outcomes. The division of labor and investment between customers and suppliers allows each to specialize or focus on value creation activities that support their own distinct competencies and resources (Jarillo, 1988; Kogut, 2000; Moller and Svahn, 2006). This specialization often leads to increased interdependence to coordinate complex processes or to improve product and service offerings (Andersen, 2002; Moller and Svahn, 2006).

For example, some larger customers may have some organizational slack and a willingness and ability to inventory more supplier products and therefore be less concerned with late deliveries and product defects. Other larger customers may have the power to negotiate lower prices and a desire to reduce large purchasing support staffs by reducing the number of suppliers.

The variations in resources and performance factors associated with different customers suggest that suppliers may need to segment their markets and develop different relational exchange strategies and offer different performance benefits to customers of different sizes and resources. As noted previously, prior research has linked closer customer-supplier relationships with different factors; however, the varied importance of these factors for different types of customers has received limited attention. This suggests the value of exploring the following research questions:

- RQ1.* Does the linkage between pricing and customer purchasing resources and relational exchanges vary by customer size?
- RQ2.* Does the linkage between supplier product defect and late delivery performance and relational exchanges vary by customer size?

**Figure 1** The framework for the research**Relational exchange and performance**

Creating value is the essence of sales and marketing strategies, and suppliers must understand their customers' desired performance goals to succeed. The research framework (Figure 1) reflects how performance outcomes may be associated with customer relational exchanges. There have been many success stories of customers creating closer relational supplier exchanges to reduce the cost of acquiring parts and raw materials, improve product quality, reduce delivery time, gain access to supplier knowledge, manage risk and uncertainty of complex or technology intensive tasks, and enhance manufacturing flexibility and time-to-market (e.g. Bertrand, 1986; Cusumano and Takeishi, 1991; Larson, 1994; Artz, 1999; Scannell *et al.*, 2000; Casciaro, 2003; Johnston *et al.*, 2004). The research on performance and customer relational exchanges has emerged from multiple academic perspectives including supply chain management, strategic management and marketing.

Several studies in the supply chain management area reveal a positive relationship between performance and closer relational exchanges. Artz (1999) studied the relationships between OEMs and suppliers. He found a significant linkage between transaction costs, delivery performance and OEM satisfaction and partner collaboration. Johnston *et al.* (2004) identified a linkage between shared partners planning and flexibility and buyer assessment of performance based on a composite of multiple performance measures. The relationship between supply chain partner trust and innovation and reduced buyer cost was also revealed in Corsten and Felde (2005) research on joint action in buyer-seller relationships between Swiss OEMs and suppliers. Other supply chain management studies have also shown linkages between functional integration across members of the supply chain and costs (Larson, 1994).

In the strategic management area, researchers have studied a wide range of customer performance improvements. For instance, Cusumano and Takeishi (1991) explored the supplier relationship between US and Japanese automotive firms operating in the USA and Japan, and found that the Japanese firms had fewer suppliers, longer-term relationships, higher levels of information exchange, and more joint product development efforts than their US counterparts. In addition, the Japanese firms reported superior purchasing and production performance over US firms, presumably because they sourced higher quality products from their suppliers at substantially lower prices than their US competitors were able to negotiate within US markets. In another study of the automotive industry, Dyer (1996) used asset specific investments to measure the closeness of customer-supplier

relationships and found positive relationships between human asset specificity and higher customer quality and reduced new model cycle time and between site asset specificity and lower automaker inventories.

Other strategy researchers have linked customer relational exchanges with improved customer performance defined as the cost of the product obtained from the focal supplier (Berggren, 1992) or, alternatively, the reduction in administrative costs realized by customers working with specific suppliers (Harrigan, 1988; Kogut, 1988; Cannon and Homburg, 2001). Customers' production performance, defined as the amount of improvement in the production processes realized by forging close relationships with specific suppliers, has been shown to improve due to either the focal suppliers' extant products and services, or to the utilization of their specific knowledge. Performance benefits accruing in this fashion include better quality products (Buckley and Casson, 1976; Cannon *et al.*, 2000) and improved supplier delivery time (Kogut, 1988).

Note that the direction of the relationships discussed above is from relational exchange to improved performance. This is a relationship exactly opposite to the one we are studying since we are interested in how performance shapes relational exchanges. To avoid confusion, let us point out that the research cited above examined performance after many supply relationships had been severed and after the survivors had been well tested. The question Cusumano and Takeishi (1991) did not address is: "What qualified the supply partners in the eyes of their powerful customers?". Performance may be one outcome of relational exchange but it is quite probable that performance on certain dimensions – for example, at a minimum, the ability to supply products that work as specified – is a necessary pre-qualifying achievement that a supplier must attain to be considered a suitable relational partner. Thus, as suggested by Beverland (2001), the level of relational exchange may be influenced by prior supplier performance, and the supplier's ability to meet customer performance standards must be demonstrated prior to a customer's willingness to develop closer relationships.

In the marketing literature, Noordewier *et al.*'s (1990) investigation of the relationship between environmental uncertainty, relational exchanges, and customer performance across a number of industries, revealed that relational exchanges improved customer performance under conditions of high environmental uncertainty; however, no parallel improvements in customer performance were uncovered within more certain environmental contexts. They defined performance based on purchasing improvements, i.e. lower product prices and acquisition

costs. Ulaga (2003) used a qualitative approach in interviewing 21 purchasing managers and found linkages between closer relationships and supplier product quality, supplier on-time delivery, customer time-to-market, customer direct product costs and customer process costs. These results were similar to those from Cannon *et al.*'s (2000) study linking relational exchanges to improvements in supplier product quality and delivery. In one of the few empirical studies on firm size and customer-supplier relationships, Redondo and Fierro (2007) found both trust and commitment to be not significantly related to long-term orientation for large firms.

### Relational exchange norms

The current research uses relational norms to measure the characteristics of customer-supplier exchanges. Relational exchange strategies based on relational norms have been conceptualized on a continuum, with transactional, arm's-length relationships at one end, and close, relational exchanges at the other (Macneil, 1980, 2000). At the transactional end of the continuum, exchange is defined as a single transfer of goods based on economic considerations. Here, the objects of exchange are easily monetized commodities or money and the transaction is completed with little or no social interaction. In transactional exchanges, therefore, normative behavioral norms imply that individual actors will pursue strategies which are aimed at the attainment of their individual goals without deference to their partners' goals (Heide and John, 1990). At the other end of the continuum are relational exchanges in which customers and suppliers develop relational norms. Firms that develop relational norms as a part of their exchange strategy recognize that most economic exchanges occur in the context of social relationships (Granovetter, 1985; Macaulay, 1963). These relational exchanges are characterized by a greater degree of trust and mutual obligation, the planning of exchange structures and processes, the sharing of benefits and burdens, the planning for relations among current and new participants, and a consistent awareness of conflict and mutual interests (Kaufmann and Dant, 1992; Kaufmann and Stern, 1988).

In other words, the notion of relational norms or relationalism conceives of exchange relationships functioning within a context of contractual norms of behavior (Macneil, 1978, 1980). These contracting norms, in turn, become credible disincentives to opportunistic behavior and project the expectations of continued transactions into the future. Williamson (1985) credits Macneil's relational exchange theory for providing a finer cut to understanding such hybrid (i.e. neither market nor hierarchy) systems. Thus, the extent to which various contracting norms manifest themselves within focal exchange relationships is conceptualized as a discriminating measure of the level of relationalism or closeness achieved in those relationships.

### Research framework summary

Prior supply chain, strategic management and marketing studies have focused primarily on the relationship between customer performance and closer relationships, but not specifically on whether the performance factors differ for customers of varying sizes and resources. This research uses the RBT of the firm and builds upon this prior research by incorporating pricing, purchasing, product defect and late

delivery factors and relational norms into a single model to investigate the relational exchanges of small, medium and large size paper mills. By investigating a wider range of performance factors, the current study fills a gap in the literature by testing where differentials in exchange performance linked to closer relational exchanges with suppliers may occur over different size customers.

## Methodology

### Data collection

In an industrial survey, it is considered prudent to sample all corporate entities to ensure representativeness. Therefore, we initially compiled comprehensive national lists of:

- firms belonging to the pulp, paper and paperboard industry; and
- individuals (customers) most qualified to discuss their firms' relationships with their primary supplier of process control equipment (i.e. key informants).

Our exploratory research suggested that, in this industry, individuals from three key departments (i.e. purchasing, technical support, and engineering) had significant interactions with the process control equipment suppliers. Hence, we developed our list of potential PCE customers or respondents with the help of the *Lockwood-Post Directory of Pulp, Paper and Allied Trades* and the rosters of the Paper Industry Management Association (PIMA). The initial list described a population of approximately 1,800 names, representing 270 firms operating in 526 plant sites. Follow-up phone calls to each plant cleaned the list resulting in 1,170 valid customer names.

The survey resulted in 372 completed, usable questionnaires, or a realized response rate of 32 percent. The questions were framed in terms of individual respondents' perceptions of the relationship between them and their primary supplier. We did not aggregate or average responses within plant sites or across multiple plant sites to develop an organizational perspective for two reasons. First, as discussed in the subsequent section on "Measures – relational norms", we used scales previously tested by Kaufmann and Dant (1992) and Li (1994) that measured individual perceptions of customer-supplier relationships. This both justified the scales used in this study and allowed us to compare the validity of our scales to prior studies. Second, aggregating multiple responses within a plant or across plants assumes each respondent is referencing the same PCE supplier and has equal power and authority with regard to this supplier within the organization. However, paper companies often have multiple PCE suppliers whose equipment can be used in a single department, a single plant, multiple plants or across multiple departments such as pulp, papermaking and environmental control within a single plant, and individual customer respondents were not always referencing the same supplier or the same use of the PCE. Thus, aggregating individual customer responses regarding potentially different suppliers across different applications or departments or plants would not be appropriate.

MANOVA comparisons contrasted the responses of purchasing departments' personnel with those of technical support and engineering departments, and yielded non-significant results ( $p = 0.427$ ), suggesting the absence of systematic response biases. In a similar vein, the non-response

bias was evaluated by comparing early and late respondents (cf. Armstrong and Overton, 1977), again using MANOVA, across a series of constructs. All MANOVA runs were again statistically insignificant ( $p$ -values ranged from 0.13 to 0.92). Finally, additional checks for non-response bias were carried out by random, follow-up telephone interviews. The non-respondents pointed to a range of reasons for not responding, such as insufficient time, receipt of too many surveys, inability to recall receiving the survey and feeling unqualified to respond. However, no systematic pattern of reasons for non-response could be uncovered.

### Measures

The measurement models employed in this study follow the latent measures approach to tapping relational norm variables. Two to five questions were asked to measure the dependent variable – relational norms (see the Appendix). Subsequently, a composite measure (based on means) was derived for each variable once the reliability and psychometric properties of the measure had been ascertained. One question was used to measure late supplier deliveries, supplier product defects, lowest prices, planned price decreases, fewer purchasing resources and efficiency in ordering. Table I presents the psychometric assessment of the relational norm variables.

### Performance

As discussed previously, prior research has indicated that deliveries (Kogut, 1988; Artz, 1999; Ulaga, 2003), defects (Buckley and Casson, 1976; Larson, 1994; Cannon *et al.*, 2000), efficiencies (Buckley and Casson, 1976; Harrigan, 1988), and purchasing cost reductions (Corsten and Felde, 2005) are realized from closer relationships. Since adequate multiple item performance measures for these constructs could not be identified, new questions and measures for these performance constructs were developed for this study. The questions were pre-tested with both industry practitioners and academics and deemed clear and appropriate.

### Relational exchange norms

The relational exchange norms measures used in this study, as explained earlier, are based on Macneil's (1978, 1980) definitions of discrete and relational exchange, and their subsequent use by other researchers (e.g. Kaufmann and Stern, 1988; Noordewier *et al.*, 1990; Dant and Schul, 1992). As already noted, the specific scales employed herein were operationalized and validated by Kaufmann and Dant (1992) and Li (1994). All relational exchange measures were provided with five-point response anchors of "strongly agree" to "strongly disagree", with a defined neutral point. In all cases, "strongly agree" was numerically coded as 5.0 while the "strongly disagree" anchor was coded as 1.0. Four items were utilized for measuring six of the norms and five items were used for measuring one of the norms – conflict resolution. An aggregate of all 29 questions with a Cronbach's  $\alpha$  of 0.85 was used to measure relational norms. While many prior studies have used a subset of Macneil's norms, our

research measured a comprehensive set of seven relational norms.

Our approach using a subset of Macneil's norms based on Kaufmann and Dant's (1992) research is consistent with prior marketing studies. As reported by Ivens and Blois (2004), 98 of the 100 articles they reviewed that explored the effects of Macneil's norms on other variables had drawn on Kaufmann and Dant's (1992) work. Ivens (2006) identified an underlying dimensional structure to the norm concepts developed by Kaufmann. While Ivens and Blois (2004) and Blois and Ivens (2006, 2007) raised some issues about the validity of the Kaufmann's scales, their research suffers from methodological and analytical shortcomings. Their use of students in classes studying relationship marketing raises concerns regarding demand characteristics and external validity. In addition their study design confounds sample and treatment, which is presumably why they used  $t$ -tests rather than analysis of variance. Blois and Ivens (2006) view the fact that the Kaufmann and Dant based scales showed greater dispersion as a shortcoming when it can just as easily be argued that they provide a greater ability to discriminate. Despite these concerns, therefore, we decided that the extensive testing and validity assessment of Kaufmann and Dant's (1992) scales and their use in so many field studies measuring practitioner perceptions of relational norms support our use of their measures of Macneil's norms in this study.

As indicated in Table I, the overall relational norm measure performed well from a reliability-validity perspective with a reliability Cronbach's coefficient of 0.85. More rigorous LISREL diagnostics aimed at the validation of measurement models by single factor structure tests were supportive. This is evident from the consistently high AGFI estimates (i.e. scores of .90 or higher) that point to psychometrically cohesive measures (Table I). Though the  $\chi^2$  values were significant with  $p < 0.05$  in some tests, the artificial sensitivity of  $\chi^2$  values to large sample size is well documented and typically ignored in the face of contrary evidence from indices such as AGFI (cf. Bagozzi and Yi, 1988). Note that no items were eliminated from the relational norm scale.

We used a standard econometric approach (e.g. Wooldridge, 2000, chapter 7) to test for intercept and slope differences for the moderating variable, size, by including dummy variables for two of the three size categories to test for intercept differences and to compute the interactions of the size dummy variables and the other independent variables to test for slope differences. Unfortunately, computing interaction variables can result in multicollinearity problems. And, it was no surprise that a preliminary analysis showed that in their raw form, the inclusion of interactions between several independent variables and size resulted in multicollinearity. For this reason, we centered each of the independent variables by subtracting their means and then computed their interactions with the size dummy variables (Kleinbaum *et al.*, 1988; Aiken and West, 1991, chapter 3). The resulting regression equation thus consisted of the

**Table I** Psychometric evaluation of performance and uncertainty measures: single factor structure tests (LISREL)

| Construct           | Cronbach's $\alpha$ | $\chi^2$ values | df | $p$ -values | AGFI |
|---------------------|---------------------|-----------------|----|-------------|------|
| Relational exchange | 0.85                | 18.6            | 27 | 0.00        | 0.96 |

centered versions of the independent variables, the dummy variables for size and the interactions between the centered independent variables and the dummy variables for size. This step successfully eliminated the multicollinearity (maximum VIF of 4.207) and allowed us to proceed with the regression analysis.

**Results**

The focus of this research is the linkage between closer customer-supplier relationships and multiple performance outcomes for three groups of customers: small, medium and large sized paper mills. Survey responses were categorized by size so that approximately one-third of the sample fit into each category:

- 1 *small* – defined as customers that produced 570 or less tons of paper per day;
- 2 *medium* – producing 571 to 1,300 tons of paper per day; and
- 3 *large* – those producing over 1,300 tons of paper per day.

Size was represented in the regression model by dummy variables. Following normal practice in OLS regression studies when using dummy variables, we omitted one group, i.e. the medium sized group, a choice that made interpretation of the results easier. The resulting regression model allowed us to test for differences in intercepts and slopes between groups for each of the independent variables and the interactions between these variables and size.

As shown in Table II, the coefficients of the dummy variables for small and large size customers are significantly different from zero and have opposite signs indicating the means for the three groups of customers are different. The main effects for planned price decreases and ordering efficiency are significant meaning these variables are significantly linked to relational exchange but do not vary by customer size. The slope coefficients testing for differences between the small and medium size groups of customers were significant for percent lowest price, percent late deliveries and product defects. For large size customers, the slope coefficients testing for differences between them and medium size customers approached the classic level for significance for fewer purchasing resources (0.054) only.

Since the significant variables for the small group are different from those that are significant for the large group, the evidence suggests that the results in Table II indicate that

performance factors associated with closer customer-supplier exchanges vary with customer size, validating our research questions as appropriate in our efforts to develop a greater understanding of relational exchanges. The regression analysis reveals linkages between pricing, product defects and late deliveries and relational exchange that vary by customer size and resources.

**Management implications**

Our primary finding is that customer size appears to have an influence on relational exchanges because performance factors associated with closer customer-supplier relationships vary with customer size and, presumably, customer resources. Customer size, therefore, appears to be an important factor in developing reliable explanations of relational exchanges, although our literature review has established that, heretofore, the influence of size on relational exchange and the remaining performance factors influencing such exchanges has been largely ignored. The current study, therefore, shows the explicit linkages between performance and relational exchange depend on the customer’s size, at least in the paper industry. The results also indicate a need for more resource-based theory (RBT) research of relational exchanges that explicitly considers size effects when exploring the efficacy of relational strategies and the impact of time, uncertainty and complexity on the exchange and performance alike. In particular, researchers testing transaction cost and resource dependency theories and relational exchange may be at a considerable risk if they neglect the size based heterogeneity identified here and make the almost classic assumption that the effects of such variables on both performance and relational exchange are homogeneous.

Different types of pricing and purchasing performance were shown to be associated with factors shaping the relational exchanges of small and large size customers. As closer relational supply chain exchanges shift from small to large customers, the evidence is that percent product defects, lowest price and late deliveries fade in importance. In the small group, it appears that the need for lowest price and late delivery and product defect improvements can intensify the customers’ commitments to a relational strategy. Yet for the large group, the single result approaching significance for fewer purchasing resources suggests that large customers are influenced more by their own resource improvements than supplier performance or pricing.

**Table II** Test of slope and mean differences

| Variable                                 | $\beta$ | t-value | p-level |
|--|---------|---------|---------|
| Intercept                                |         | 196.83  | 0.000   |
| Dummy small customers                    | -0.536  | -17.28  | 0.000   |
| Dummy large customers                    | 0.398   | 13.36   | 0.000   |
| Planned price decreases                  | 0.060   | 2.24    | 0.026   |
| Efficiency in ordering                   | 0.057   | 2.048   | 0.041   |
| Percentage product defects               | -0.067  | -1.924  | 0.055   |
| Slope small – lowest price               | 0.077   | 2.70    | 0.007   |
| Slope small – percentage late deliveries | 0.067   | 2.26    | 0.025   |
| Slope small – percentage defects         | -0.144  | -3.87   | 0.000   |
| Slope large – fewer purchasing resources | 0.050   | 1.94    | 0.054   |

Notes:  $R^2 = 0.816$ ; adjusted  $R^2 = 0.810$ ; highest VIF (variance inflation factor) = 4.207

Of course, this is an exploratory study but size related results point to a need for more RBT research of relational exchanges to allow us to develop a better understanding of the causality of the results. However, the results here suggest larger customers may have more inventory to buffer late product deliveries and may desire to reduce larger purchasing support staffs through relational exchanges. At least in this study, smaller customers appear to using relational exchanges to achieve the lowest prices and larger customers do not appear to be using their size and potential power to achieve similar objectives.

The supply chain, sales and marketing management implications of this research are also important. The research is based on a survey of individuals (or customers) who have experience ranging from very little to over 20 years managing exchanges with their primary suppliers of PCE. Their responses to our survey show that customer relational exchanges are related to different pricing, purchasing, product defect and late delivery factors for small versus medium versus large size customers as they make their relational exchange decisions. These results imply that supplier sales and marketing managers need to become more discriminating when they decide to enter into relational exchanges. For example, they need to appreciate that not all customers have the same objectives and resources when they seek relational exchanges and may seek different performance benefits in relational exchanges with suppliers. These research results, therefore, may help supplier sales marketing managers understand potential customer performance needs in their relational exchanges and, so, in turn, give them the information they need to decide how to segment potential relational exchange customers and whether their company has the capabilities to economically satisfy varying customer needs. Sales managers, in particular, are trained on the value of solutions selling that focuses on specific customer problems. This research indicates customer problems and solutions may vary based on customer size and resources and different supplier relational exchange sales strategies are needed for different customers.

The results reported here also suggest that marketing managers need to assess how their own company's and their customers' resources might align and influence relational exchange. For example, a supplier's ability to offer the lowest price and reduce product defects and late deliveries may determine their potential success in pursuing relational exchange strategies with smaller customers. In contrast, a supplier's ability to help larger customer reduce their purchasing staffs may determine the success of relational exchange strategies with larger customers. As noted previously, suppliers have not always reaped performance improvement from the relational exchange strategies, which might be due to the lack of understanding of different customer relational exchange performance goals.

### Limitations and future research

The results and limitations of this study suggest several opportunities for further research. First, this research suggests different size customers have varying resources and points to the need for further RBT studies of customer-supplier relational exchanges. As noted in the "Literature review" section, Morgan and Hunt (1994) stated relational exchanges are often based on integrating complementary customer and

supplier resources to achieve superior performance, and others (Jarillo, 1988; Kogut, 2000; Moller and Svahn, 2006) have suggested that the division of labor and investment between customers and suppliers allows each to specialize in value creation activities that support their distinct resources. RBT studies of closer relational supply chain exchanges appear to be limited.

Second, studies in several industries are needed to learn how pricing, purchasing, product defect and delivery performance influence relational exchange over customers of varying size. Much of the prior empirical research exploring customer performance and relational exchanges is based on satisfaction with cost and supplier quality, commitment and continuity expectations. Due to the limits of these measures and lack of appropriate performance scales, new performance measures were created for this study. Since researchers have attributed many potential benefits to relational exchanges, more effort needs to be placed on developing and testing empirically valid scales to measure purchasing, production, time-to-market, quality, profitability and competitively advantageous performance factors associated with relational exchanges. There is a particular need for tangible, hard performance measures to help us appreciate just what the real impacts of relational exchanges and performance is across time.

Third, this study focused on the exchange of one product, PCE, which is capital equipment used to monitor and control manufacturing processes. Future research needs to investigate the linkages between performance and relational exchange constructs for other products such as spare parts and "consumed" products and materials that are ultimately incorporated into the customer's end product.

Fourth, the present study explored performance issues and their impact on relational exchange but only from the customer's perspective. Parallel investigations from the suppliers' perspective focused their performance measures are needed. Fifth, we defined customer based on the individual perceptions of managers responsible for PCE supplier relationships. More research is needed into the buying center, plant or site and company perspectives of customer-supplier relationships.

Finally, our research is potentially limited by common method biases. As summarized by Podsakoff *et al.* (2003), common method bias is an issue in behavioral research and has several potential sources. First, method bias can be produced by a common source or rater for both predictor and criterion variables. Second, method bias can result from the manner in which items are presented to respondents and by item and measurement context. Future research to replicate this study should consider these factors in developing an appropriate methodology for data collection.

In practice, if the promise of relationalism is to be realized, it is imperative that both exchange partners, no matter their size, recognize its advantages, its costs, and its risks, as their business together unfolds over time. Such knowledge is a sound basis for performance expectations, as well as a foundation for the further work needed to unlock the benefits of relationalism, wherever they exist, and to sustain them for as long as both parties can work together for their separate success.

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### Further reading

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## Appendix. Final scale items

Table A1 Final scale items

| Constructs                          | Indicators  |
|-------------------------------------|---|
| Conflict resolution                 | They approach all disputes between us with an open mind<br>They have formal procedures for handling disputes<br>We have our own formal procedures for handling disputes<br>When disputes occur, we sort them out among ourselves easily<br>We often need the services of a third party to resolve disputes (R)  |
| Relational focus                    | Maintaining a relationship with them is more important to us than individual outcomes<br>We will maintain the relationship with them only if each transaction produces a positive outcome (R)<br>Payoffs from individual transactions are more important to us than maintaining the relationship with them (R)<br>Our relationship with them is important only because it facilitates individual transactions (R) |
| Restraint on power use              | When they try to influence us, they put pressure on us (R)<br>When we try to influence each other, we use whatever leverage we have over the other (R)<br>We rarely use pressure tactics to influence each other<br>Even when we have leverage, we are reluctant to use it  |
| Solidarity                          | Our relationship with them is best described as "arm's length" (R)<br>Our relationship with them is a long-term venture<br>Our relationship with them is a series of one-shot dealings (R)<br>Our relationship with them is best described as a "co-operative effort"   |
| Role integrity                      | They routinely discuss issues which go beyond buying/selling<br>What we expect from each other is quite complex, since it covers both business and non-business issues<br>Our roles are simple: we are the buyer, and they are the seller (R)<br>All we are concerned with is that they meet our requirements for quantity, delivery schedule and price (R)   |
| Mutuality                           | In our relationship, one of us benefits more than one deserves (R)<br>We each benefit in proportion to the efforts we put in<br>We do more to help them than they do to help us (R)<br>Even if costs and benefits are not evenly shared between us in a given time period, they balance out over time   |
| Flexibility                         | When circumstances change, we can easily make adjustments to current transactions<br>The terms of the current transaction are hard to change, even when unexpected events occur (R)<br>If something unforeseen happens, we can work out new terms of the transaction<br>The terms of the current transaction are difficult to renegotiate   |
| Lowest price                        | We have obtained the lowest price for the primary product.  |
| Planned price decreases             | We have obtained planned price decreases for the primary product  |
| Fewer purchasing resources          | The amount of resources allocated to the purchase of the primary product have decreased in the past three years   |
| Efficiency in ordering              | We have improved the ease and efficiency in placing and receiving orders  |
| Supplier percentage late deliveries | Approximately ___ percent of product deliveries from this supplier are late   |
| Supplier percentage defects         | Approximately ___ percent of deliveries from this supplier do not comply with specifications or are defective   |

Notes: All scales were anchored with "strongly agree" (coded 5) to "strongly disagree" (coded 1) response categories with a defined neutral point. Reverse coded items are indicated by "(R)"

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## Executive summary and implications for managers and executives

*This summary has been provided to allow managers and executives a rapid appreciation of the content of the article. Those with a particular interest in the topic covered may then read the article in toto to take advantage of the more comprehensive description of the research undertaken and its results to get the full benefit of the material present.*

Whatever people might say to the contrary, size matters. One-size-fits-all gloves and socks might prove an exception but, when considering customer organizations, treating small, medium and large enterprises in a customer-supplier relationship in the same way can be a big mistake.

The mistake could be as simple as assuming that all customers rely, at all costs, on having deliveries made on time and wouldn't tolerate any delays or defects. In fact some larger customers may have some organizational slack and a willingness and ability to inventory more supplier products and therefore be less concerned with late deliveries and product defects. Similarly, larger rather than smaller customers may have the power to negotiate lower prices and a desire to reduce large purchasing support staffs by reducing the number of suppliers. All customers are not the same, and they come in different sizes with different resources. The variations in resources and performance factors associated with different customers suggest that suppliers may need to segment their markets and develop different relational exchange strategies and offer different performance benefits to customers of different sizes and resources.

In developing relational exchange strategies, suppliers must understand the different performance factors associated with different customers' decisions to enter into closer customer-supplier relationships and cannot assume a common set of performance factors are associated with all their customer relational exchanges. A better understanding of customer needs should form the basis for relational strategies. This is particularly important to suppliers who have not always reaped performance improvement through relational exchange strategies.

In a bid to understand what pricing, purchasing, product defect and late delivery factors are associated with the decisions of small, medium and large size customers to enter into closer customer-supplier relationships with their suppliers, Robert Fink *et al.* studied the relationships between the individuals in paper, pulp and paperboard mills responsible for managing supplier relationships and their process control equipment suppliers. These purchases represent a significant and high involvement purchase for individual managers (i.e. the customer) in the pulp, paper, and paperboard mills since they are used to manage critical operational processes. Thus, these individuals are making important decisions when they decide to utilize single or multi-vendor sourcing strategies, choose with whom to conduct business, and determine the type of exchange relationship (i.e. transactional or relational) they want.

Customer size appears to be an important factor in developing reliable explanations of relational exchanges. The study results also indicate a need for more resource-based theory (RBT) research of relational exchanges that explicitly considers size effects when exploring the efficacy of relational strategies and the impact of time, uncertainty and complexity on the exchange and performance alike. In particular, researchers testing transaction cost and resource dependency theories and relational exchange may be at a considerable risk if they neglect the size-based heterogeneity identified in the study and make the almost classic assumption that the effects of such variables on both performance and relational exchange are homogeneous.

Different types of pricing and purchasing performance were shown to be associated with factors shaping the relational exchanges of small and large size customers. As closer relational supply chain exchanges shift from small to large customers, the evidence is that percent product defects, lowest price and late deliveries fade in importance. In the small group, it appears that the need for lowest price and late delivery and product defect improvements can intensify the customers' commitments to a relational strategy. Yet for the large group, the single result approaching significance for fewer purchasing resources suggests that large customers are influenced more by their own resource improvements than supplier performance or pricing.

Results suggest larger customers may have more inventory to buffer late product deliveries and may desire to reduce larger purchasing support staffs through relational exchanges. At least in this study, smaller customers appear to use relational exchanges to achieve the lowest prices and larger customers do not appear to be using their size and potential power to achieve similar objectives.

Supplier sales and marketing managers need to become more discriminating when they decide to enter into relational exchanges. For example, they need to appreciate that not all customers have the same objectives and resources when they seek relational exchanges and may seek different performance benefits in relational exchanges with suppliers. Customer problems and solutions may vary based on customer size and resources and different supplier relational exchange sales strategies are needed for different customers.

Marketing managers need to assess how their own company's and their customers' resources might align and influence relational exchange. For example, a supplier's ability to offer the lowest price and reduce product defects and late deliveries may determine their potential success in pursuing relational exchange strategies with smaller customers. In contrast, a supplier's ability to help larger customer reduce their purchasing staffs may determine the success of relational exchange strategies with larger customers.

*(A précis of the article "Pricing, purchasing and product performance factors associated with the relational exchanges of different sized customers". Supplied by Marketing Consultants for Emerald.)*

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