Manufacturer price reduction pressure and supplier relations

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Abstract
Purpose – Manufacturer price reduction pressure on suppliers is an important contributor to helping a manufacturer maintain a strong competitive position by keeping costs low. The benefits of trusting supplier working relations also help strengthen a manufacturer’s competitive position. The purpose of this paper is to determine if manufacturer price reduction pressure and trusting working relations with the pressured suppliers, typically considered to be mutually exclusive, can co-exist.

Design/methodology/approach – A structural equation modeling approach was used to analyze data covering 946 production buying situations involving 279 suppliers and six NA automotive OEMs.

Findings – Manufacturer price reduction pressure and trusting working relations with the pressured suppliers, are not mutually exclusive, they can co-exist.

Research limitations/implications – The research found that it is not the pressure that impacts the manufacturer – supplier relations, but rather it is the manner by which the manufacturer goes about pressuring its suppliers that impacts its supplier working relations. The research, however, does not directly address how a manufacturer can achieve both ends simultaneously.

Practical implications – Manufacturers no longer have to choose between exerting price reduction pressures on suppliers or working to achieve trusting relations with suppliers. They can successfully do both. At the same time, suppliers must recognize that these conditions may occur and when applied simultaneously ultimately benefit both parties.

Originality/value – This research adds to the critically under-researched B2B pricing processes and pricing impact areas, while helping to influence managerial actions, an area in which academic B2B research is considered to be lacking.

Keywords Supplier relations, Price positioning, Automotive industry

Paper type Research paper

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

Introduction

From the earliest days of theory building, channel and subsequently supply-chain strategy has revolved around issues associated with role dependency among channel members (Kumar et al., 1995). This gave rise to the multi-faceted view that the channel can be considered an economic, functional, institutional, and/or social organization. Rosenberg and Stern (1970) confounded this view, which is based on the idea that channels are predominantly cooperative, by suggesting conflict is a critical channel characteristic. This notion provided the added facet that the channel can be considered a behavioral, “goal-seeking, role defining, power-exercising, and informational exchanging” system.

The context of the contending paradigms of cooperation versus conflict raised several issues for researchers. Namely, how to accurately predict the observed relationships within channels and how to present prescriptive rules for inter-firm influence strategies. Researchers subsequently introduced several themes, such as power, relationships, commitment, trust, conflict resolution, etc., to overcome these issues.

Frazier and Rody (1991), for example, hypothesized that the dependence levels of downstream channel members on upstream members have a significant bearing on the extent of cooperation afforded to and tolerance of upstream channel members’ influencing strategies. Kumar et al. (1995), however, observed that the literature offered contradictory conclusions, with some researchers suggesting that a firm’s dependence on its partner increases conflict and the partner’s use of coercion, while others reported an opposite effect. They cite Frazier and Rody (1991) who attempted to explain this contradiction by suggesting that different inter-dependence contexts lead to differing conclusions on the most effective inter-firm influencing strategies. They also mention Stern and Reve’s (1980) thesis that greater asymmetry in power and dependence levels lead to channel relationships that are more dysfunctional, less stable, and less trusting. In fact, Frazier and Rody’s (1991) research was conceptualized to shift the spotlight from research focused on asymmetrical channel relationships to what they believed was the more common situation in industrial product channels, namely more moderate downstream dependence levels, suggesting the effectiveness of more collaborative rather than adversarial strategies, by upstream channel members.

More recently Maloni and Benton (2000) considered power to be defined as the ability of one firm to influence the
intentions and actions of another firm, noting that the different bases of power (mediated versus non-mediated, coercive versus non-coercive, and economic versus non-economic) meaningfully affect inter-firm relationships in significant, yet contrasting ways.

This evolution of researchers’ perception of the interactions of channel members is further complicated by the rise of a more complex business environment in recent years. For example, channel management has increasingly shifted from a transactional to a relationship orientation. Also, globalization and greater cross-border integration within industries, has resulted in a shift towards a global supply and value chain perspective, and a subsequent move away from vertically integrated channels and kieretsu-like dependencies. These changes have contributed to a call for more collaborative relationships.

On the other hand, the increase in the hyper-competitiveness of the global economy and the need for significant cost reductions in increasingly integrated global supply chains have necessitated the need for more forceful inter-firm influencing strategies. These concerns have lead to a more adversarial approach by many firms. Complicating this adversarial versus collaborative dichotomy is the realization that effective collaborative relationships are engendered through trust and commitment developed over the long haul, while cost reduction needs are more immediate requiring achievement in the short-term.

The automotive industry, where much of the early channel empirical research occurred and a significant share of the current research is still situated, exhibits these broad trends in channel management, and supply chain integration theory and practice. While the automotive industry has ample examples of supplier relations migrating from a transactional adversarial approach to supplier relations with a heightened level of transparency and collaboration, several large automotive industry organizations still embrace an adversarial approach to their suppliers (e.g. Chandler, 2005; Emiliani, 2003; Sherefkin, 1999, 2003; Sherefkin and Armstrong, 2003). No where is this more true than when the domestic OEMs, Chrysler, Ford, and General Motors, demand price reductions from their suppliers.

It is in this context, collaborative supplier relations and adversarial price reduction pressure, that the present research has been designed and implemented in the automotive industry.

**Background**

Adversarial tactics are a common approach on which manufacturers have historically relied to get suppliers to meet their price reduction expectations. While the adversarial approach gained its greatest notoriety in the early 1990s under J. Ignacio Lopez de Arriortua, the General Motors VP approach gained its greatest notoriety in the early 1990s. While the adversarial approach (e.g. Dyer, 2000; Krog, 2004; Lewis, 1999; Liker, 2004; Nelson et al., 2001; Stallkamp, 2005) believing that more benefits result from co-operative, rather than adversarial supplier relations.

The benefits of co-operative relationships can be substantial. Fine (1998) in his book, *Clockspeed*, argues that a firm’s competitive advantage, as well as its core competency, is the result of the web of relationships a firm develops throughout its “chain of suppliers, distributors, and alliance partners.” Liker and Choi (2004) add to this argument suggesting that partnerships are the supply chain’s lifeblood.

The price reduction outcome of adversarial relations, however, cannot be easily dismissed. The need for manufacturers to maintain a competitive position in an increasingly competitive marketplace makes the achievement of lower prices, or, at the least, maintaining prices while providing greater value, an absolute necessity in virtually every industry. At the same time, manufacturers need the competitive advantages that result from having trusting supplier working relations.

A review of 20 years of business-to-business (B2B) marketing literature (Reid and Plank, 2000) found that “pricing processes and the impact of price as it relates to organizational buying processes is critically under researched.” As a result, the academic literature provides no direction to the interaction of manufacturer price reduction pressure and the working relations with the pressured suppliers.

At the same time, Spekman (2000) and Wilson (2000) have challenged the academic community with the recognition that the academic B2B field has not had much impact in influencing managerial actions. Our experience of working with large manufacturers and their suppliers in North America and Europe, in a variety of industries during the past 35 years, suggest that there is an opportunity to influence managerial actions by helping management reconcile the intuitively apparent contradiction of simultaneous price reduction pressure and trusting supplier working relations.

To determine if these two conditions, manufacturer price reduction pressure and trusting supplier working relations, are mutually exclusive or if they can co-exist is a worthwhile endeavor for three reasons. First, it will add to the academic dialogue of B2B pricing concerns. Second, the outcome will provide management specific direction as to how to address these two actions. Third, it will add to the literature that influences managerial actions. To achieve these purposes the paper focuses on the belief that price reduction pressure and trusting supplier relationships are mutually exclusive.

**Theory and hypotheses**

Since the focus of this study is co-operative manufacturer-supplier relations and its relationship components, it was felt that the relationship approach (e.g. Dwyer et al., 1987; Morgan and Hunt, 1994) provides a rational framework for the most relevant constructs to be investigated, as well as an approach to determine how manufacturer price reduction pressure might impact the manufacturer’s co-operative supplier relations. The conceptual model that is discussed in this section is summarized in Figure 1.

Using the relationship approach as the rational framework also leads to the conclusion that the North American automotive industry would be the most appropriate industry in which to conduct the study. It is well-documented that the full range of adversarial to high trusting working relations exist between the automotive original equipment manufacturers (OEM) and their tier 1 suppliers and that the industry is characterized by high OEM price reduction pressure on the suppliers (Chandler, 2005; Sherefkin and Armstrong, 2003).
Co-operative buyer-supplier relations

Manufacturers have recognized for years the value of co-operative supplier relations (e.g. Carlisle and Parker, 1989; Dyer, 2000; Grayson and Ambler, 1999; Lewis, 1999; Liker, 2004; Lyons et al., 1990; Nelson et al., 2001). This has been particularly true in the automotive industry where studies have shown that competitive advantage and productivity improvements can be accrued by those manufacturers who have co-operative relations with their suppliers (Dyer and Ouchi, 1993; Frey and Schlosser, 1993; Helper and Sako, 1995; Langfield-Smith and Greenwood, 1998; Nelson et al., 2001). Suppliers have also been shown to benefit from co-operative buyer-supplier relations in the areas of improved productivity, product quality and service, decreased lead times, increased competitiveness, and greater cost reductions (Ansari and Modarress, 1990; Frazier et al., 1988; Sheth and Sharma, 1997).

Regardless of industry, a key determinant of co-operative buyer-supplier relations success is the relationship itself (Laseter, 1998). Among the numerous elements that comprise a successful co-operative relationship are four critical interrelated elements: trust, communication, information sharing, and commitment (Das and Teng, 1998; Mohr et al., 1996). Communication is particularly important when there is a history of adversarial supplier relations (Cannon and Homburg, 2001; Frazier and Antia, 1995; Stuart and McCutcheon, 1995), such as in the automotive industry, as communication can be used to reinforce the benefits to be realized by the parties and in doing so help to ameliorate any lingering bad feelings or uncertainty of purpose. Toyota, for example, recognized the importance of better quality communication with suppliers when it began a process to improve its supplier relations at Toyota Australia (Langfield-Smith and Greenwood, 1998). A common characteristic of manufacturer-supplier communication among these studies is that the manufacturer’s communication with its suppliers is open and honest.

Communication and information sharing

Communication is an essential element of co-operative buyer-supplier relations (e.g. Cannon and Homburg, 2001; Dwyer et al., 1987; Jap and Ganesan, 2000; Morgan and Hunt, 1994) for it is through communication that each party can set the priorities and co-ordinate the activities necessary to achieve each other’s objectives (Mohr et al., 1996). Communication is particularly important when there is a history of adversarial supplier relations (Cannon and Homburg, 2001; Frazier and Antia, 1995; Stuart and McCutcheon, 1995), such as in the automotive industry, as communication can be used to reinforce the benefits to be realized by the parties and in doing so help to ameliorate any lingering bad feelings or uncertainty of purpose. Toyota, for example, recognized the importance of better quality communication with suppliers when it began a process to improve its supplier relations at Toyota Australia (Langfield-Smith and Greenwood, 1998). A common characteristic of manufacturer-supplier communication among these studies is that the manufacturer’s communication with its suppliers is open and honest.
Communication between manufacturers and their suppliers is also a critical element in providing the manufacturer a competitive advantage. Helper (1991) found in the late 1980s, as Japanese competition was increasing for the domestic automakers, that the domestic automakers realized the need to work more closely with their suppliers to solve problems that would eventually help them in the marketplace. Inherent in this process is more frequent information sharing by the manufacturers with suppliers and with greater amounts of information (Monczka et al., 1998; Nelson et al., 1998).

In addition, for manufacturer-supplier relations to grow into a co-operative relationship, communication between the involved parties must involve the sharing of both timely and meaningful information (Anderson and Narus, 1990). Sako and Helper (1998) further substantiated this need in the auto industry when they found that the greater the information shared by customers with suppliers, the greater the trust of the customer by the supplier.

Subsequently, if trust is not present because of high price reduction pressure, it would be expected that there would be less open and honest communication of meaningful information between a manufacturer and its suppliers. Therefore, if price reduction pressures and trusting manufacturer-supplier relations are mutually exclusive then:

H2. The greater the manufacturer price reduction pressure on suppliers, the less likely will the pressured suppliers perceive their manufacturer customers are communicating timely and adequate information to them in an open and honest manner.

Commitment

While communication is essential to a trusting manufacturer-supplier relationship, such relationships also require that neither party exploit the other (Morgan and Hunt, 1994). Such a commitment to the relationship by each partner is necessary if the relationship is to work (Anderson and Narus, 1990) and each party is to realize positive outcomes. Positive outcomes for each party are essential, as positive outcomes do more than simply provide the end result that is expected. They reinforce each party’s confidence that neither is being taken advantage of by the other and that each party is, to some degree, concerned about the other’s welfare (Ganesan, 1994). As these mutually beneficial concerns and subsequent actions become more prevalent between the parties over a long-term relation, variables, such as commitment and trust, are critical facilitators of relational exchange (Lambe et al., 2001).

Commitment has been defined as “an exchange partner believing that an ongoing relationship with another is so important as to warrant maximum efforts at maintaining it” (Morgan and Hunt, 1994). It is this perspective that lead Toyota (Dyer, 2000; Liker, 2004) and Honda (Laseter, 1998) to work with their suppliers in a manner that lead to highly trusting suppliers (Chandler, 2005; Shereffkin and Armstrong, 2003).

A “committed” Honda and Toyota taking the lead in building trusting supplier working relations is consistent with the findings of Frazier and Rody (1991). They found that when one party in a buyer-supplier dyad has a disproportionate amount of power, it is the party with the power, e.g. Honda and Toyota, that must take the initiative in the use of non-coercive activities if conflict in the dyad is to be reduced. These findings were substantiated in the automotive industry by Maloni and Benton (2000) in their study of power in the automotive industry. Additionally, the influence strategies used by the more powerful member of a dyad are reciprocated by the relatively weaker member when the weaker member is highly dependent on the other member (Frazier and Rody, 1991).

Non-coercive efforts can manifest themselves in a variety of non-opportunist activities by the more powerful manufacturer “committed” to an ongoing relationship with its less powerful suppliers. Certainly, the “committed” manufacturer will honor its contractual commitment to the supplier and will treat the supplier fairly in its dealings. In addition, the “committed” manufacturer will not only offer to, but will repay the supplier in some way in the future for providing help or support beyond the supplier’s contractual obligations and in doing so, live up to the spirit of its commitments over time. This sense of commitment, which is as essential as trust for successful long-term relations (Dwyer et al., 1987; Morgan and Hunt, 1994), results in the “committed” manufacturer treating the supplier in a manner that clearly indicates the supplier is valued (Moorman et al., 1992).

The actions of a “committed” manufacturer suggest that the manufacturer would act in a manner that would tend to reinforce trusting relations with its suppliers, rather than in an adversarial opportunistic manner to achieve the lowest supplier price. This leads to our third hypothesis. If price reduction pressures and trusting manufacturer-supplier relations are mutually exclusive the importance of manufacturer commitment to trusting manufacturer-supplier relations suggests that:

H3. The greater the manufacturer price reduction pressure on suppliers, the less likely will the pressured suppliers perceive the manufacturer is acting in a manner that reinforces their commitment to their suppliers.

Maturity of strategic sourcing

Manufacturers have been shown to take actions that preclude the need to pressure suppliers for price reductions. It has been suggested that supplier and manufacturer relations pass through a series of stages or phases (e.g. Bhote, 1989; Hakansson and Snehota, 1995; Iacobucci and Zerrillo, 1997; Langfield-Smith and Greenwood, 1998) eventually ending with a relationship that is characterized by mutual trust, with manufacturer and supplier working closely together to achieve lower costs. It has been found that the longer the association, i.e. as the relationship moves through its stages, the more profitable is the relationship to both the manufacturer and its suppliers. A well-maintained buyer-supplier relationship reduces transactional costs and generates higher quality goods, while keeping governance costs lower than in transactional markets (Heide and John, 1992; Sheth and Parvatiyar, 2000). In addition, it has been suggested that the lack of price reduction pressure may be related to the maturity of the manufacturer’s approach to strategic sourcing (Bhote, 1989; Monczka and Trent, 1991). Furthermore, management in leading-edge firms in various industries, who participated in the Michigan State University integrated procurement strategies study, projected a similar evolution in the manner in which their firms would be working with suppliers in the future (Monczka and Trent, 1991).

These projections suggest that a manufacturer will have a decreasing need to pressure its suppliers for price reductions as the relationship between itself and its suppliers matures toward more trusting working relations. Supplier actions reinforce this manufacturer behavior. As a supplier approaches a partnership-like relationship with its manufacturing customer, it is in the supplier’s self-interest.
Research methodology

Sampling frame
The subjects of this study are tier 1 production goods suppliers to the six major North American automotive original equipment manufacturers (OEM): Chrysler, Ford, General Motors, Honda, Nissan, and Toyota. The behavior of suppliers is an acceptable and necessary component of understanding exchange relationships (Hunt, 1983).

The study involved a mail survey in which the highest-ranking individual(s) responsible for OEM sales at each major North America tier 1 production goods suppliers was mailed the survey package. The names were obtained from a commercial organization that annually publishes a list of tier 1 supplier personnel (ELM International Inc., 2001). Involving the highest-ranking sales person responsible for OEM sales helped to minimize key-informant bias that could result from using informants with varying roles within the supplier organizations. This approach followed the general recommendation to use the most knowledgeable informant (Kumar et al., 1993).

Instrument development
The survey instrument was developed in several stages. Initially, we reviewed the literature to identify potential buyer-supplier relationship measures that could possibly be used in our research project. Second, we structured an interviewing process around the potential measures. We then interviewed over 20 supplier sales personnel, ranging from vice presidents of sales and marketing to managers of customer sales teams, in a variety of tier 1 automotive suppliers to gain an understanding of their perception of the appropriateness of the measures to describe relations between their firm and the firm’s OEM customers.

Fourth, we took the measures the interviewees identified as the most descriptive of their OEM-supplier relations and developed a questionnaire using these measures, using a single scale from several past relevant studies (e.g. Mohr and Spekman, 1994) that would enable respondents to more quickly and easily provide their opinions (Airecek and Settle, 1995). We then returned to the supplier sales personnel we interviewed earlier to make certain that the questions, as structured, measured the relationship item appropriately. We also asked 17 OEM purchasing personnel at four OEMs their opinion of the validity of the questions as related to their supplier relationship experiences.

In the final stage we modified the questions based on the comments of the supplier sales and OEM purchasing personnel and conducted a pre-test involving over 30 tier 1 sales personnel. The questionnaire was modified to address the few issues that were raised in the pre-test and the survey was implemented.

Measurement constructs
As the instrument development process progressed the measures that evolved to be most meaningful to the sales personnel fell under four general areas: trust, communication and information sharing, commitment, and good buyer-supplier relationships.

Trust
The OEM treatment of its suppliers is reflected in the reaction of the suppliers to the commitment the OEM has to developing and maintaining trusting working relations with suppliers. Suppliers have indicated that the trust they have of the OEM is a reflection of this commitment by the OEM (e.g. Das and Teng, 1998; Dyer and Chu, 1997; Smeltzer, 1997). Consequently, this measure was included in our analysis.

Communication and information sharing
In 1990 Mohr and Nevin (1990) identified communication strategies among channel members as having the essential characteristics of frequency, being regularized and structured (formal mode), and content. Subsequently, Mohr and Spekman (1994) building on their idea of communication behavior found that successful partnerships tended to experience higher levels of communication quality: timely, accurate, adequate, and relevant information; and higher levels of information sharing then did less successful partnerships. Exploring these basic ideas with suppliers subsequently evolved into three measures of OEM communication in this study: having open and honest communication with suppliers, and providing timely information and adequate amounts of information to suppliers. From the viewpoint of the suppliers in the pretest and earlier stages of the study we found, like Mohr and Spekman (1994), that a five point itemized extent scale ranging from very little extent to very great extent fully described these measures. To maintain consistency among the questions we used this scale with all of our measures.

Commitment
Mohr and Spekman (1994) in their evaluation of the characteristics of successful partnerships also found that, along with communication; quality, coordination, commitment, and trust between partners, are important elements for success. These four characteristics are embodied in the findings of Gundlach et al. (1995) that credible commitments between parties result in social norms that evolve toward a governance approach which help to stabilize long-term exchange relations. Exploring these ideas with suppliers lead to four measures both the supplier sales and OEM purchasing personnel agreed describe important aspects of their working relations: suppliers being treated as valued suppliers by the OEMs, OEMs honoring their contractual commitments, OEMs living up to the spirit of their commitments to suppliers, and OEMs being fair in their dealings with suppliers.

Good buyer-supplier relationships
One interesting outcome of the supplier interviews was the interviewees’ predilection to describe the overall relationship they had with each of their OEM customers in terms of “good” or “bad.” As they perceived the occurrence, frequency, and/or quantity of each of the preceding variables to be greater they were more likely to perceive their overall
relationship with their OEM customer as being good. They did not, interestingly, characterize their relationship in terms of partnership-like, which is how academicians tend to describe the positive confluence of these variables. Subsequently, the respondents were asked to describe their overall relationship with each of their OEM customers in terms of being a good overall working relationship.

**Price reduction pressure**

To gain an understanding of the price reduction pressure the supplier perceived was being exerted on their firm by each OEM customer we simply asked the suppliers the extent to which such pressure was felt. To reduce the subjectivity of this measure we also asked the specific price reduction percentage the OEM asked of the supplier and the corresponding price reduction percentage the supplier gave the OEM during the previous year for the buying situation the supplier was answering the survey questions. During the pretest we found that these are two numbers that every supplier is acutely aware as they represent the more contentious component of the supplier – OEM working relations, involving numerous supplier personnel in a variety of functional areas across several levels of management when determining how and what to respond to the OEM’s demands, while clearly impacting the supplier’s profitability.

**Data collection**

The survey package was mailed to the highest-ranking sales personnel responsible for the OEM account. It was anticipated that the recipient of the questionnaire would typically involve other members of the firm in answering the questionnaire because of the breadth of the questions. This expectation was justified as over 71 percent of the questionnaires in this survey were completed by cross-functional team consensus, a lead individual surveying and accumulating opinions of other sales team members and/or other functional areas, or a lead individual asking others to fill-in various sections of the questionnaire. The remaining questionnaires (29 percent) were completed by a single individual. In the latter case, the suppliers generally were smaller in annual sales, $30 to $75 million, provided a single product line to several of the OEMs, and/or included only one or two OEMs among its customers.

The survey was structured to ensure anonymity of the respondents and confidentiality of the completed questionnaire. These conditions were discussed in pre-survey and survey letters mailed to the supplier, and on the cover of the questionnaire. The intent of repeating these conditions was to instill a high degree of willingness on the part of the respondents to participate in the study, as well as to help ensure that they would be frank and candid in their response.

The survey package also contained a sheet on which was listed the respondent’s name and company, and a statement indicating the questionnaire had been completed and mailed back to us under separate cover. The respondent was asked to fax us the sheet when they mailed the completed questionnaire. Each non-responding supplier was mailed a series of up to three reminder letters emphasizing the importance of their participation.

This concentrated effort to encourage participation in the surveys is based on Dillman’s (1978) total design method.

**Survey sample**

The supplier sales-related respondents were asked to answer the questions for each of the six major North American OEMs (Chrysler, Ford, General Motors, Honda, Nissan, and Toyota) their firm was currently supplying on the basis of the commodity area (powertrain, chassis, exterior, interior, electrical and electro-mechanical, and body-in-white) they supplied the OEM.

A total of 279 completed useable questionnaires resulted from a mailing of 642 surveys (April-June 2002) for an effective response rate of 43.5 percent. The respondents, each representing a unique supplier, provided information on 946 OEM – commodity area buying situations, the study’s unit of analysis, for an average of 3.39 buying situations per respondent.

The participating respondents’ self-reported 2001 North American automotive OEM sales range from $30 million to almost $30 billion. The 279 participating suppliers, on the basis of their 2001 North American OEM sales, supplied approximately 47 percent of the annual production buy of the six OEMs. This figure, plus the ability to evaluate the responses to specific questions relative to the same questions in similar surveys of previous years, indicated that the results of the study are representative of the tier 1 supplier population of the North American automotive industry.

**Analysis and results**

**Proposed research model**

We propose the model in Figure 2 as our research model. It is presented as a causal model. The major underpinning of this research is that OEM price reduction pressure on suppliers and trusting OEM-supplier relations with the pressured suppliers could be independent of each other.

**OEM-supplier working relationship (η4)** is presented as a dependent variable that is directly influenced by supplier trust of OEM (η3). Supplier trust of OEM (η1), in turn, is modeled as a variable that is directly influenced by two factors: OEM communication and information sharing with suppliers (η2), and the OEM commitment to suppliers (η5). That OEM price reduction pressure on suppliers (ξ1) may affect the OEM-supplier working relationship (η4) is modeled by treating OEM price reduction pressure on suppliers (ξ1) as an independent variable that affects OEM communication and information sharing with suppliers (η3), OEM commitment to suppliers (η2), and supplier trust of the OEM (η5).

When the OEM demands price reductions, the demand itself may be both a reflection of existing price reduction pressure and/or a cause of more price reduction pressure. Thus, OEM price reduction asked of supplier (η6) is modeled as an endogenous variable that is influenced by OEM price reduction pressure on suppliers (ξ1). OEM price reduction asked of supplier (η6), in turn, directly influences supplier price reduction given to OEM (η8), the second dependent variable in this research.

The two endogenous variables, η5 and η6, are not part of the theoretical structure of the proposed research model. They are included in the structural equations model of this research only to evaluate the criterion-related validity of the price pressure construct.

**Measurement model**

The indicators used for the measurement of the constructs in the proposed model are presented in Table I. Since two of the constructs, communication and information sharing, and commitment are measured using multiple indicators (y1-y3 and y4-y7, respectively) the indicators of these constructs were assessed for unidimensionality and reliability using ITAN (Gerbing and Hunter, 1988), a statistical package for item analysis using correlational data.
ITAN analysis indicated that the multi-item indicators were strong on the criteria of unidimensionality. Indicators loaded significantly higher on their own constructs than on other constructs. The tendency to load higher on one construct may be viewed as a reflection of convergent validity (although the measures are not based on multiple methods) and the low loading against other constructs may be viewed as a reflection of discriminant validity. Measure reliability of multi-indicator measures was assessed using coefficient $\alpha$. The standardized values of coefficient $\alpha$ were 0.855 for Communication and 0.897 for Commitment. The results from ITAN analysis provide support for the unidimensionality and the reliability of the indicators in the measurement model.

Analysis of proposed research model

The analysis was performed on a covariance matrix of the collected data in two stages. In the first stage, the proposed research model (Figure 2) was tested and assessed using LISREL 8.30 (Jöreskog and Sörbom, 1999). In the second stage, the model was adjusted by removing specific links and constructs, and the results of LISREL analysis were evaluated in order to evaluate the importance of the links that were removed and the changes that were made.

The results of LISREL analysis provide moderate support to the proposed research model. The chi-square goodness-of-fit do not support the model ($\chi^2 = 355.91, p = 0.0$). The root mean square error of approximation (0.10) and the root mean square residual (0.11) provide only weak support. The normed fit index (0.92), the comparative fit index (0.93), the incremental fit index (0.93), and the relative fit index (0.89), all provide strong support for the structural relationships modeled. The Goodness-of-fit index (0.91), the adjusted
goodness-of-fit index (0.86), and the parsimony goodness-of-fit index (0.57) provide fairly good support for the model.

Unlike the fit of the overall model, the values of most of the structural coefficients are significant (with T-values ≤ −1.96 or ≥ 1.96). The values of the structural coefficients from the standardized solution are presented in Table II.

The structural coefficient of 0.84 in Table II provides strong support for the positive relationships between OEM-supplier working relationship and supplier trust of OEM (0.84, $\beta_{31}$). The relationship between OEM commitment to suppliers and supplier trust of OEM (0.82, $\beta_{32}$) was also found to be significant, substantial, and positive. The relationship between OEM communication and information sharing with suppliers, and supplier trust of OEM (0.16, $\beta_{31}$) remains positive and significant, but relatively weaker. The direct relationship between OEM price reduction pressure on suppliers and supplier trust of OEM (−0.06, $\gamma_{31}$), and OEM-supplier working relationship (0.04, $\gamma_{41}$) are both very weak, negative, and are not significant. The correlation ($\psi_{21}$) between the residuals of the endogenous variables (OEM communication and information sharing with suppliers, and OEM commitment to suppliers) indicate a strong significant and positive relationship of 0.61.

The relationship between OEM price reduction pressure on suppliers, the only exogenous variable in the model, and OEM communication and information sharing with suppliers ($\gamma_{11}$), although significant, is relatively weak and negative with a value of −0.17. The relationship of the exogenous variable and OEM commitment to suppliers ($\gamma_{31}$) is also negative and significant, but stronger (−0.36).

The relationship between OEM price reduction pressure on suppliers ($\xi_1$) and OEM price reduction asked of supplier (0.30, $\gamma_{31}$) and between OEM price reduction asked of supplier and supplier price reduction given to OEM (0.55, $\beta_{65}$) are significant, substantial, and positive. The values of these two structural coefficients indicate that the measurement of price pressure in this research possesses an acceptable level of criterion-related validity.

**Hypothesis 1**

The value of $\gamma_{31}$ (Table II), the structural coefficient between OEM price reduction pressure on suppliers and supplier trust of OEM, is very weak (−0.06) and not significant. Table II indicates that the value of $\gamma_{31}$ contrasts sharply with the much higher $\beta_{31}$ value, representing the impact of OEM communication and information sharing with suppliers on supplier trust of OEM, and $\beta_{53}$, representing the impact of OEM commitment to suppliers on supplier trust of OEM.

The above findings of LISREL analysis have important managerial implications. They indicate that conscious and well-planned efforts to maintain superior communication with and commitment to suppliers, even in the presence of price reduction pressure, may reduce the negative impact of price reduction pressure on trust through the weakening of the relationships represented by $\gamma_{31}$ and $\gamma_{21}$.

The findings of LISREL reject $H1$. The results of LISREL analysis indicates that this relationship is mostly captured by the indirect relationship between OEM price reduction pressure and supplier trust of the OEM through the latent variables communication and commitment.

**Hypothesis 2**

The price reduction pressure – communication relationships described in $H2$ can be tested by examining the values of the relevant structural and measurement coefficients in the LISREL model analyzed in this research. OEM price reduction pressure on suppliers is represented by the indicator $x_1$, the sole indicator of the latent variable $\xi_1$. Its value is fixed at 1. Communication is measured by three indicators: OEM communicates openly and honestly with suppliers ($\gamma_{11}$), OEM provides suppliers timely information ($\gamma_{21}$), and OEM provides suppliers adequate information ($\gamma_{31}$). The results of this LISREL analysis provide weak to moderate support for the existence of a negative relationship ($\gamma_{31}$) between price reduction pressure and communication (Table II) and $H2$.

**Hypothesis 3**

In $H3$, OEM commitment to its pressured suppliers is represented by a latent variable with four indicators: $y_4$, OEM treats suppliers as valued; $y_5$, OEM honors its contractual commitments; $y_6$, OEM lives up to spirit of its commitments; and, $y_7$, OEM is fair in dealings with suppliers (Table I and Figure 2). The value of $\gamma_{21}$ generated through LISREL analysis is relatively strong (−0.36) and in the hypothesized direction (Table II). Thus, $H3$ is supported.

**Hypothesis 4**

The impact of OEM price reduction pressure on suppliers and OEM-supplier working relationship is represented in the proposed model by the direct path consisting of structural coefficient $\gamma_{41}$, in Table II and Figure 2. The relationship is also partly traced by the indirect paths through OEM communication and information sharing with suppliers, OEM commitment to suppliers, and supplier trust of OEM ($\gamma_{11}$, $\beta_{31}$, $\beta_{32}$, or $\gamma_{31}$, $\beta_{42}$, $\beta_{53}$, or $\gamma_{31}$, $\beta_{53}$) see Figure 2).

The results of LISREL analysis do not support $H4$. The direct relationship ($\gamma_{41}$) between the two variables is very weak (0.04) and not significant. Hence, the relationship between $\xi_1$ and $\eta_3$ or $\eta_4$ is unlikely to bypass OEM communication and information sharing with suppliers, and OEM commitment to suppliers. This indicates that the
relationship, if any, between OEM price reduction pressure on suppliers and OEM-supplier working relationship probably takes place through OEM communication and information sharing with suppliers, and/or OEM commitment to suppliers, and through supplier trust of OEM, as described in the proposed model (Figure 2), thus validating our research model.

Further analysis
In order to examine the hypothesized relationships in greater detail, the model was analyzed a second time (Figure 3), first by removing all three of the intervening variables between OEM price reduction pressure on suppliers and OEM-supplier working relationship. Then these variables were reintroduced, first supplier trust of OEM and then OEM communication and information sharing with suppliers, and finally OEM commitment to suppliers. When all three intervening variables are removed a significant negative relationship of \(-0.37\) appears between OEM price reduction pressure on suppliers and OEM-supplier working relationship. This appears to support the popular belief, reflected in \(H4\), that OEM price reduction pressure on suppliers is bound to adversely affect OEM-supplier working relationships.

The introduction of supplier trust of OEM as an intervening variable explains the OEM-supplier working relationship better. The direct relationship between OEM price reduction pressure on suppliers and OEM-supplier working relationship, however, is weak and not significant (0.05). The relationship between supplier trust of OEM and OEM-supplier working relationship is significant and positive (0.80). The relationship between OEM price reduction pressure on suppliers and supplier trust of OEM also is significant, but in the opposite direction (\(-0.38\)). The introduction of supplier trust of OEM as an intervening variable shows the path of the hypothesized negative relationship.

The introduction of OEM communication and information sharing with suppliers and OEM commitment to suppliers bring the model to the form represented in Figure 2. As stated earlier, it shows that the negative relationship is due to the negative impact of OEM price reduction pressure on suppliers on OEM communication and information sharing with suppliers and OEM commitment to suppliers. Since OEM communication and information sharing with suppliers and OEM commitment to suppliers consists of variables over which management can exercise control, management can, with the appropriate degree of attention paid to these variables, neutralize the proposed negative relationship between OEM price reduction pressure on suppliers and OEM-supplier working relationship. In other words, if the pressure is applied in a manner that is consistent with trusting working relations and with considerable open and honest communication between manufacturer and supplier the potential adverse impact of the pressure will be mitigated.

Managerial implications and future research
Difficult decisions that involve choosing between two mutually exclusive alternatives are not unusual for management. In today's competitive marketplace, many large manufacturers who are increasingly dependent upon their suppliers for lower cost goods feel that they are caught between deciding whether they should develop trusting working relations with these suppliers or pressure them for lower prices.

This study began with the expectation that these two situations, both of which have been shown to contribute to a manufacturer's competitive advantage, are mutually exclusive. Analysis of these two situations at the six major North American automotive OEMs (Chrysler, Ford, General Motors, Honda, Nissan, and Toyota), however, found no meaningful, significant relationship between manufacturer price reduction pressures on suppliers and the state of the manufacturers' working relationship with the pressured suppliers (Table III, \(H4\)). In addition, no meaningful significant relationship was found between manufacturer price reduction pressure and supplier trust of the manufacturer (Table III, \(H1\)). These findings indicate that a manufacturer can apply price reduction pressure on suppliers while having a trusting working relationship with the pressured suppliers.

**Figure 3 Adjusted models**

**Adjusted model 1: without communication, commitment, and trust**

![Diagram of adjusted model 1](image1)

**Adjusted model 2: without communication and commitment**

![Diagram of adjusted model 2](image2)

Note: *Significant at the 0.05 level
There was, however, moderate support for manufacturer communication with suppliers being perceived by pressured suppliers to be honest and open, or associated with worthwhile information (Table III, H2). In addition, commitment to the pressured suppliers by the manufacturers demanding price reductions was found to be less than positive (Table III, H3). Nonetheless, these three OEM characteristics, open and honest communication with suppliers, providing suppliers worthwhile information, and positive commitment to suppliers, are each very important conditions for trusting manufacturer-supplier relations to exist.

Implications for manufacturers
The nature of the global marketplace requires that manufacturers provide good value if they hope to be competitive. While manufacturers can continually improve the efficiency of their internal operations, they cannot hope to remain competitive without also involving their suppliers (Fine, 1998; Liker and Choi, 2004). One approach to involving their suppliers in creating value for their end-customers, is for manufacturers to apply considerable price reduction pressure on their suppliers. Another approach is to develop trusting working relations with their suppliers.

This research found that manufacturers can pressure suppliers for price reductions while having trusting working relations with these same pressured suppliers. The research findings suggest, however, that the pressure must be accompanied with actions that reinforce the suppliers’ perception that the manufacturer wants and is working conscientiously on developing and maintaining trusting working relations with its suppliers. These actions include the manufacturer being sincere and fair in the manner it works with its suppliers, and sharing timely and informative information, openly and honestly.

Implications for suppliers
Suppliers must realize that marketplace competitiveness virtually demands that their customers continually pressure them for price reductions. In fact, price reduction pressure on suppliers must occur, for low procurement costs are an important element in helping ensure a manufacturer maintains its competitive advantage in the marketplace. Subsequently, if a supplier is providing goods to a manufacturer that is working to develop and maintain trusting working relations with its suppliers, the supplier should not expect that these actions preclude the manufacturer from also applying price reduction pressures.

Suppliers must recognize that these conditions, manufacturer customers working toward trusting supplier relationships and manufacturer price reduction pressures, when applied simultaneously ultimately benefit both parties.

Limitations and directions for future research
The current research, however, does not address directly the issue of how can a manufacturer achieve both ends simultaneously. This study and others suggest the manner in which suppliers are treated, and open and honest communication as important characteristics of trusting manufacturer-supplier working relations. No research, however, has related these characteristics to manufacturer price reduction pressure on suppliers. Consequently, a first step would be to compare and contrast the manufacturer – supplier relationship characteristics of manufacturers with good supplier relations with the characteristics of manufacturers with bad supplier relations under conditions of manufacturer high price reduction pressure. A second step would be to determine how manufacturers with good manufacturer – supplier relations maintain those good relations while pressuring its suppliers to reduce prices. Finally, a third step would be to consider how a manufacturer can continue to maintain price reduction pressures on its suppliers while simultaneously improving its supplier relationships. The answers to these questions would provide additional insight into how manufacturers can improve their all around competitiveness.

Conclusion
The competitive conditions of the global marketplace are increasing the pressure on manufacturers to maintain, if not lower, costs while increasing the value of their end product. Manufacturers cannot do this alone. With over 50 percent of costs attributed to suppliers, on average, manufacturers must also involve their suppliers in a manner that will enable the suppliers to maximize their contribution to the manufacturer's competitive advantage, while responding to the manufacturer’s price reduction pressure. This study has shown that these two seemingly incompatible approaches, pressuring suppliers for price reductions and maintaining trusting relations with the pressured suppliers, can occur concurrently. Management is now assured that they can
achieve both end results. In realizing this end the study has achieved its objectives.

References


Appendix

Figure A1 Survey items

To understand the extent to which suppliers were experiencing automotive original equipment manufacturers’ (OEMs) price reduction pressure and the suppliers’ perception of the state of the relationship characteristics that accompanied the pressure, suppliers were asked in the study the following questions for each OEM they were currently supplying:

1) To what extent does (OEM's name) communicate openly and honestly with your firm?
2) To what extent does (OEM's name) communicate timely information to your firm?
3) To what extent does (OEM's name) communicate adequate amounts of information to your firm?
4) To what extent does (OEM's name) treat your firm as a valued supplier?
5) To what extent does (OEM's name) honor its contractual commitments with your firm?
6) To what extent does (OEM's name) live up to the spirit of its commitments to your firm?
7) To what extent is (OEM's name) fair in its dealings with your firm?
8) To what extent does your firm trust (OEM's name)?
9) To what extent does your firm have a good overall buyer-supplier working relationship with (OEM's name)?
10) To what extent does your firm feel pressure from (OEM's name) to reduce prices?
11) What price reduction percentage, to the nearest tenth, did (OEM's name) ask of your firm?
12) What price reduction percentage, to the nearest tenth, did your firm give (OEM's name)?

The following scale comprises the possible answers for questions #1 - #10, above:

<table>
<thead>
<tr>
<th>To a very little or no extent</th>
<th>To a little extent</th>
<th>To some extent</th>
<th>To a great extent</th>
<th>To a very great or almost great extent</th>
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<td>1</td>
<td>2</td>
<td>3</td>
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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.

No one is happy when someone tells them they have got to do the same for less. Especially if they feel they are already giving good value, and maybe even looking for a price rise themselves. Being told it is a price drop to look forward to can come as a shock, especially when they have what they think is a trusting and co-operative relationship with their customer. In manufacturing, no guessing what a supplier’s reaction will be when the manufacturer demands a cut.

Or, rather, there is plenty of guessing as it is proving difficult for researchers to accurately predict what happens when a powerful partner uses pressure in this way. However, as in other walks of life, it is often not what you do but the way that you do it that prompts either an angry or an understanding reaction. An diplomatic attempt at mutual understanding goes a long way.

Hopefully, the automobile manufacturing industry’s purchasing lieutenants have come a long way in the tact department in the 15 or so years since GM’s J. Ignacio Lopez de Arriortua was feared and loathed by suppliers for what they said was a heavy handed way of reducing GM’s parts bill by several billions of dollars a year. Suppliers accused him of using dubious tactics to cajole and threaten them, of short-term fixes, and of wrecking the trust that is needed in such business relationships.

Mr Lopez’s use of adversarial tactics were not exactly the issue. The lengths he went to in using them was. Adversarial tactics are a common approach on which manufacturers have historically relied to get suppliers to meet their price reduction expectations. Many have since realized that more benefits result from co-operative, rather than adversarial, supplier relations. The benefits of co-operative relationships can be substantial. Then again, the price reduction outcomes of adversarial relations cannot be easily dismissed.

The need for manufacturers to maintain a competitive position in an increasingly competitive market place makes the achievement of lower prices, or at least maintaining prices while providing greater value, an absolute necessity in virtually every industry. At the same time, manufacturers need the competitive advantage that results from having trusting supplier working relations.

John W. Henke et al. say the academic literature provides no clear direction to the interaction of manufacturer price reduction pressure and the working relations with the pressured suppliers. Consequently, they bring their long experience working with large manufacturers and their suppliers in a variety of North American and European industries in a study of suppliers to the six major North American automotive giants, Chrysler, Ford, General Motors, Honda, Nissan, and Toyota. And they conclude by assuring managers that two seemingly incompatible approaches – pressuring suppliers for price reductions and maintaining trusting relations with the pressured suppliers – can occur concurrently.

With increasing global pressure on manufacturers to maintain, if not lower, costs while increasing the value of their end product, they cannot do this alone. And with more than 50 per cent of the costs attributed to suppliers, on average, manufacturers must also involve these suppliers in a manner that will enable the suppliers to maximize their contribution to the manufacturer’s competitive advantage, while responding to the manufacturer’s price reduction pressure.

Suppliers must realize that marketplace competitiveness virtually demands that their customers continually pressure them for price reductions. In fact, price reduction pressure on suppliers must occur, for low procurement costs are an important element in helping ensure a manufacturer maintains its competitive advantage in the marketplace. Subsequently, if a supplier is providing goods to a manufacturer that is working to develop and maintain trusting working relations with its suppliers, the supplier should not expect that these actions preclude the manufacturer from also applying price reduction pressures.

Suppliers must recognize that these conditions – manufacturer customers working toward trusting supplier relationships and manufacturer price reduction pressures – when applied simultaneously ultimately benefit both parties.

As for the manufacturers, while they can continually improve the efficiency of their internal operations, they cannot hope to remain competitive without also involving their suppliers. One approach to involving their suppliers in creating value for their end-customers, is for manufacturers to apply considerable price reduction pressure on their suppliers. Another approach is to develop trusting working relations with their suppliers.

This research found that manufacturers can pressure suppliers for price reductions while having trusting working relations with these same pressured suppliers. The pressure, however, must be accompanied with actions that reinforce the suppliers’ perception that the manufacturer wants and is working conscientiously on developing and maintaining trusting working relations with its suppliers. These actions include the manufacturer being sincere and fair in the manner it works with its suppliers, and sharing timely and informative information, openly and honestly.

(A précis of the article “Manufacturer price reduction pressure and supplier relations”. Supplied by Marketing Consultants for Emerald.)