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Herbert Fraser MacKenzie

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PARTNERING ATTRACTIVENESS IN BUYER-SELLER RELATIONSHIPS

by
Herbert Fraser MacKenzie

School of Business Administration

Submitted in partial fulfilment
of the requirements for the degree of
Doctor of Philosophy

**Faculty of Graduate Studies
The University of Western Ontario
London, Ontario
May 1992**

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ABSTRACT

Partnering has been described as one of the most profound changes to hit the American industrial marketplace in five decades. From a marketing perspective, it is critical to determine what makes a supplier attractive to a customer for a partnering relationship, before the customer decides to establish such relationships with its vendors. Suppliers who are winners in this new environment will have a strategic advantage over their competition; those who lose could seriously restrict their possibility of future growth.

Drawing on organizational buying behavior theory and channel relationship theory, a comprehensive causal model of antecedent constructs to partnering attractiveness was developed. Data were gathered from a cross-section of purchasing people across southwestern Ontario involved in the purchasing of stationery and office supplies, and welding supplies and equipment. Model parameters were estimated by Partial Least Squares (PLS), a regression-based causal modelling methodology developed by Herman Wold.

The model was able to explain 43% of the variance in partnering attractiveness with the data from stationery supplies purchasers, and 36% with the data from welding supplies purchasers. With both sets of data, a reduced model restricted to those constructs from channel relationship

theory was able to predict partnering attractiveness as well as the full model. With both sets of data, a reduced model restricted to those constructs from organizational buying behavior theory accounted for a significantly lower percentage of variance explained in partnering attractiveness.

Additional constructs investigated in this research were satisfaction and trust, two causal antecedents to partnering attractiveness that are predicted within the same model. The moderating effects of relationship importance have also been investigated where the buyer-seller relationships have been designated as either primary relationships (between a buyer and the seller that supplies more of a particular product group to that buyer than any other seller) or secondary relationships (between a buyer and all other sellers for a particular product group).

The results of this research have implications for marketing theory, marketing management, and for research methodology.

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Chapter 1

THE MANAGEMENT PROBLEM

Partnering has been described as "one of the most profound changes to hit the American industrial marketplace in five decades" (Industrial Distribution 1988). Partnering started on the production line through Just-In-Time (JIT) purchasing, and has since moved into the area of maintenance, repair and operating (MRO) supplies purchasing through systems contracting and other less formal supply arrangements. With these new purchasing philosophies, industrial buyers began to look for fewer, more dependable suppliers with whom they could develop longer-term, closer relationships. A second impetus was the new importance placed on inventory reduction, due to the high and increasing costs of holding inventories. Partnering arrangements have allowed buyers to reduce their inventories while maintaining or improving supplier prices and service levels. Finally, the availability of usable computer power within purchasing departments has given buyers the analytical tools to analyze individual items and groups of items, summarize usage, and cross-reference product and supplier comparability. This has enabled buyers to better predict their needs, and to better evaluate those suppliers capable of filling those needs.

A survey reported by Purchasing (1988a) found 68 percent of the respondents had established some form of partnering agreement with their suppliers. A further 10 percent reported considering partnering. Of those respondents who reported having a partnering relationship, 85 percent said they were able to achieve their goals, and 80 percent were planning to enter agreements for other categories of products and services. Dowst (1989a) reported another Purchasing survey which indicated 92 percent of purchasers were seeking closer, longer-term relationships with their suppliers than they were five years previously. The same survey indicated that 87 percent of marketing executives were aware of this purchasing trend.

This partnering trend has a number of implications for the industrial distributor that make it worthy of investigation. First, closer relationships between distributors and industrial customers will change the power balance between distributors and manufacturers. As distributors begin to act more like extensions of their customers' purchasing departments and less like their suppliers' marketing departments, manufacturer dependence on key distributors will increase. Where customers previously bought from distributor "X" because that distributor sold products manufactured by manufacturer "Y," there will be a greater tendency for customers to buy products manufactured by manufacturer "Y" because they are sold by distributor "X." As

a result, manufacturers will be forced to establish or maintain closer partnering relationships with these key distributors.

A second implication is that industrial customers will use fewer suppliers. Dowst (1989b) noted that one of the seven deadly sins of JIT was retaining too many vendors. Rob Mellor, president and CEO of Briggs-Weaver, a Dallas-based, giant industrial distributor with 17 locations in four states, reported that one of their largest customers wanted to identify five to seven distributors capable of supplying 100 percent of their requirements (see Berkwitt 1988). Their goal was to reduce their supplier-base from 32 vendors. In a survey, Purchasing (1989b) found that 56.6 percent of the respondents planned to reduce their supplier base in the coming year. Another survey by the same magazine reported that 50 percent of purchasing managers were doing more sole-sourcing than in the past (Purchasing 1987b). This was up from 43 percent who reported they were doing more sole-sourcing in 1986. At the same time, 56 percent reported that their plans included more sole-sourcing in the future.

A third implication is that suppliers will be more carefully evaluated. The number of formal rating programs has increased in recent years. A survey by Purchasing (1989c) found that 70.3 percent of formal rating programs were less than five years old. Another survey by the same magazine

found 23.4 percent of purchasing respondents listed "qualifying suppliers" as one of their top priorities for 1989 (Purchasing 1989a).

While the term partnering has been used more frequently in the trade press over the past five years, the trend toward "increasingly domesticated" markets was noted by Arndt (1979). Partnering is simply a confirmation of the trend toward domestication, and an indication that it will continue. Distributors who are winners in this new environment will have a strategic advantage over their rivals. Those who lose in this environment could seriously restrict their possibility of future growth.

For these reasons, it is important that industrial distributors gain knowledge of how customers evaluate exchange relationships, and how customers decide the distributors with which they will consider partnering relationships. Therefore, the management question is:

What are the relevant criteria used by industrial customers that determine the attractiveness of industrial distributors as possible suppliers in partnering relationships?

The attractiveness of a distributor for a partnering relationship can be assessed as the extent to which a customer would intend to partner with that distributor, if the customer were to form a partnering relationship.

The next section will discuss an overview of the relationships to be studied in this research. It will be followed by a discussion of the expected contributions of this study.

RELATIONSHIPS TO BE EXAMINED

This research proposes to study the causal antecedents of a distributor's partnering attractiveness from the customer perspective. In this research, **partnering attractiveness** is defined as the degree to which a customer would consider a closer, longer-term relationship with a particular distributor, and is measured as the extent to which the customer would keep that distributor as a source of supply if the customer were reducing its vendor-base. While it is possible for a customer to develop closer, longer-term relationships with a number of distributors and not consider reducing the number of active distributors used as supply sources, true partnering relationships can only exist when customers trim their vendor-bases. In order to maintain responsible and trustworthy relationship partners, customers must not use multiple sources of supply whose markets, technology, and strategic interests conflict (DeRose 1988).

The two most important predictors of partnering attractiveness are proposed to be satisfaction and trust. In this study, **satisfaction** is defined as "a positive affective state resulting from the appraisal of all aspects of a firm's

working relationship with another firm" (cf. Anderson and Narus 1984, p. 66). Trust is defined as the customer firm's belief that a supplier firm will perform actions that will result in positive outcomes (rewards) for the customer firm, as well as not take unexpected actions that would result in negative outcomes (costs) for the customer firm (cf. Anderson and Narus 1986, 1990). Satisfaction is proposed as a causal antecedent of trust. The more satisfied the customer is with regard to the distributor's past performance on important supplier selection criteria, and the better the evaluation of the general atmosphere surrounding the relationship, the more trust the customer will have for the distributor, and the more attractive the distributor will be for a partnering relationship.

What are the predictors of satisfaction and trust? The aspects of a working relationship which are important from a customer perspective can be dichotomized into two groups of constructs, the offer portfolio constructs and the relationship atmosphere constructs. The first set of constructs, referred to as the offer portfolio constructs, includes those controllable variables which a distributor manipulates in the hopes of gaining customer response and, ultimately, customer satisfaction. To the extent these constructs predict satisfaction, they should also predict trust. They reflect the customer's purchasing objectives, and are therefore the implicit promises made by the supplier firm

to the customer firm in an exchange relationship. Magrath and Hardy (1989) suggested that trust within a marketing alliance is a function of how closely actual behavior reflects promised behavior. The offer portfolio constructs include product quality, inventory management, the salesperson, location, service, price, and reputation. These constructs have been identified from the trade literature, from the organizational buying literature, and from personal interviews as important to buyers with regard to supplier selection and evaluation.

The second set of constructs, referred to as the **relationship atmosphere** constructs, includes those relational variables which result because of the interaction between the exchange partners. Each exchange relationship is unique, being established over a series of unique transactions, and by the interaction process which each party has used in relating to each other. The atmosphere surrounding an exchange relationship can be characterized in terms of power-dependence, cooperation-conflict, feelings of social closeness, goal congruence, relationship age, and the nature of interorganizational communication.

There are interrelationships between these various constructs, and these have not been developed for the purpose of this discussion. However, they will be discussed at length in Chapter 3 where they will be defined and where the conceptual and research models will be developed. The purpose

of the present discussion is to propose a framework for organizing the various constructs which a customer would use for evaluating a distributor for a potential partnering relationship. The justification for using these constructs can be better seen when the expected research contributions are discussed. The following section will discuss the expected contributions.

EXPECTED RESEARCH CONTRIBUTIONS

There are a number of purposes for research in marketing, one important one being to improve the practice of marketing management. One way to do this is to help operating marketing managers develop better marketing strategies. While it might be important for the marketing manager to design and implement marketing strategies involving decisions related to the offer portfolio, it is proposed an equally important component of effective marketing strategies should be the evaluation and management of the relationship atmosphere. This research will show which constructs related to the offer portfolio are important in predicting trust and satisfaction in a customer-distributor working relationship, from the customer perspective. Previous studies have relied on the responses of buyers in ranking or rating evaluative criteria. This study will examine the actual ability of evaluations on these criteria to predict satisfaction and trust in a relationship,

as well as the direct effect these constructs might have on partnering attractiveness.

This research will also show which constructs related to the **relationship atmosphere** are important in predicting trust and satisfaction in a customer-distributor relationship, from the customer perspective. It is believed that the atmosphere surrounding an exchange relationship will have predictive power for predicting partnering attractiveness. This is a new contribution to management practice, and will demonstrate the importance of managing the **relationship atmosphere** as well as the **offer portfolio**.

It is believed that these two sets of constructs might change in relative importance as an exchange relationship develops. For example, early in a relationship, the offer portfolio might be relatively more important. As a relationship matures, the atmosphere surrounding the relationship could increase in importance. The change in the relative importance of these sets of constructs is only conjecture, and will not be tested in this research as this would necessitate a longitudinal design.

One aspect of a customer-supplier relationship that can be easily determined is whether the supplier accounts for a greater percentage (primary supplier) or a lesser percentage (secondary supplier) of a customer's purchases for a

particular product group. This indicator of supplier importance will be investigated as a moderating variable, and this will allow marketing management, where they are a secondary source of supply, to focus their resources on those aspects of the offer portfolio or the relationship atmosphere which have the greatest effect on improving their partnering attractiveness, or on weakening the partnering attractiveness of the primary supplier. It is believed this is the first study to investigate the moderating effects of supplier importance.

ORGANIZATION OF THESIS CHAPTERS

The management problem to be addressed and some of the expected contributions to management practice to be made by this research have been described in this chapter. The relevant literature related to buyer-seller relationships will be reviewed in Chapter 2.

Based on this literature review, a conceptual framework will be developed reflecting what has been found, and a research model will be developed which will address some of the gaps in our knowledge, and some of the issues raised from previous research. These models will be presented in Chapter 3, where the constructs included in the models and the relationships among those constructs will also be discussed.

Research design issues and field research procedures will be presented in Chapter 4, along with the operationalization of constructs and the data analyses techniques to be used in this study.

Results from the data analyses will be presented in Chapter 5.

The implications and limitations of the research, and suggestions for future research will be discussed in Chapter 6.

Chapter 2

LITERATURE REVIEW

Many earlier marketing scholars recognized the centrality of the exchange relationship in the marketing discipline (cf. Alderson 1965; Bagozzi 1975; Ferber 1970; Hunt 1983; Kotler 1972; Kotler and Levy 1969; Kotler and Zaltman 1971; Luck 1969, 1974). However, few marketing studies during this time directly investigated exchange behavior, and Bagozzi (1979, p. 434) argued, "We know very little about exchange behavior and lack a formal conceptualization of its parts." There is need to better understand the different types of exchange relationships that exist between buyers and sellers. An arm's length approach characterizes one extreme, while a closer, longer-term approach based on trust and liking characterizes the other.

The rationale for closer, longer-term buyer-seller relationships, the various research approaches in the literature, alternative conceptual models, and empirical research on buyer-seller interaction will be discussed in this chapter. Suggestions for incorporating these various research approaches into a single study, and for extending our knowledge of buyer-seller relationships by building on this past research will be made.

RATIONALE FOR BUYER-SELLER RELATIONSHIPS

There are a number of reasons why cooperative relationships develop between exchange partners. The important reasons will be reviewed in this section.

Resource Dependence

According to Pfeffer and Salancik (1978), the key to an organization's survival is its ability to gain and maintain resources. Most organizations are not in control of all the components necessary for their operation, and they must depend on their environment for these resources. Unfortunately, environments are not always dependable. New organizations enter and exit, and resources become more or less scarce. The most direct way for an organization to control its dependence on another organization is to gain some control over that other organization. This is not always possible through acquisition and ownership. Organizations can coordinate their behaviors in several other ways, including advisory boards, interlinking boards of directors, cooptation, joint ventures, trade associations, cartels, coordinating councils, reciprocal exchange agreements, and social norms. These range from informal to formal, tacit to explicit, and all represent methods of sharing power in an effort to coordinate mutual interdependence.

Organizations which coordinate their behavior by methods other than ownership maintain a greater degree of flexibility. Relationships can be established, renegotiated, dissolved, or reestablished with greater ease than changes can be made to organizations which have formally integrated. The price is less than complete control over the other firm's activities, but these various types of interorganizational linkages (referred to as negotiated environments by Cyert and March, 1963) help an organization stabilize exchanges with its environment by reducing uncertainty. The more each organization becomes enmeshed in the social networks of the partner organization, the more stable, predictable, and binding the interorganizational linkages become. Interpersonal linkages play a psychological role. They help reduce uncertainty as people prefer to deal with people who are familiar.

Lower Transaction Costs

Transaction cost analysis is largely characterized by the work of Williamson (1975, 1979). The transaction cost approach regards an understanding of transaction cost economizing as central to the study of organizations. An important dimension of this is the determination of efficient boundaries, as between firms and markets. Jarillo (1988) extended Williamson's work and, drawing on the work of Farmer

and MacMillan (1976) and MacMillan and Farmer (1979), provided an economic argument for cooperative interorganizational relationships. His argument follows.

First, let IC be the internal cost of carrying out an activity within the firm. EP is the cost of an external supplier (potential partner). TC is the transaction cost, as defined by Williamson, representing the cost of establishing and maintaining the relationship, as well as costs associated with balancing dependence in the relationship to prevent opportunistic behavior by the exchange partner. The total cost of transacting the activity externally (EC) is the cost of the external supplier (EP) and the transaction cost (TC). In transaction cost terms, a transaction would be internalized when the internal cost is less than the external cost; $IC < EC$. It would be contracted externally when the external cost is less than the internal cost; $EC < IC$.

If we assume that companies cannot influence their cost of performing an activity (at least in the short-term), where IC and EC are close, TC becomes important. If TC can be lowered by developing a closer buyer-seller relationship so that $EC < IC$, cooperation becomes economically feasible and can supply a competitive edge.

Needed Skills and Knowledge

Kogut (1988) argued that firms can be viewed as organizations which embody different skills and knowledge structures. The ability to carry out complex tasks, such as high technology R&D projects, is embedded within the organization structure and within individuals in each organization. This ability cannot be exchanged through markets, or even license agreements. In this instance, mergers or cooperative exchange relationships provide more efficient forms for complex organizational learning (Moller and Wilson 1988).

Increased Profits

Besides reducing costs, companies frequently exhibit strategic behavior directed at increasing profits (Kogut 1988). These behaviors can vary from attempting to hurt competitors, to collusive arrangements made in an attempt to gain market access or establish market power. Contractor and Lorange (1988) provide several examples in international markets.

MAJOR CONCLUSIONS CONCERNING THE REASONS FOR ESTABLISHING COOPERATIVE EXCHANGE RELATIONSHIPS

The previous discussion argues that cooperative, long-term relationships are more likely when:

1. the efficiency of the interorganizational system is greater than the alternative modes of transacting the specific activity, such as merger or ownership;
2. transaction costs can be minimized, making the external cost of performing an activity less than the internal cost of performing that same activity;
3. strategic moves can provide increased profits, by such means as providing access to new markets, blocking competitors by gaining the best sources of supply for important resources, or by increasing market share through quality improvements or improved management practices.

Long-term, cooperative exchange relationships will only develop when the benefits are seen as greater than the associated costs, by both exchange partners. The reasons for cooperative relationships are complementary and, as will be seen in later sections on the approaches and modelling that appear in the literature, much of the research integrates several theoretical perspectives. The next section will review the theoretical perspectives that appear in the marketing literature, and will critically evaluate the research within those perspectives that is relevant to this study.

RESEARCH APPROACHES TO EXPLAINING BUYER-SELLER RELATIONSHIPS

There have been many approaches taken to explain buyer-seller relationships. Moller and Wilson (1988) have identified four interlinked domains of buyer-seller research,

each including a number of theoretical approaches. These four domains include:

1. the environmental context of organizational interaction, including its influence on interaction modes,
2. dyadic interaction at the interpersonal level,
3. departmental or functional group level interaction, including inter- and intraorganizational functional interaction, and
4. interaction with the organization as the unit of analysis, focusing on the internal variables and subprocesses.

It is the final domain that is applicable to this study. Table 2.1 summarizes the research approaches to buyer-seller relationships included in this domain - the "Industrial Marketing and Purchasing Group (IMP) Approach," the "Channel Power and Conflict/Dependence Theory / Political Economy Approach," the "Social Exchange/Social Influence Approach," and the "Supplier Selection and Evaluation Approach." These research approaches will now be discussed, along with how each contributes to the present study.

THE IMP GROUP APPROACH

The first approach to be discussed is the IMP Group approach. The IMP Group interaction model (see Figure 2.1) was inductively developed, and was based on data collected

Table 2.1. Research Approaches in Buyer-Seller Interaction Relations and Process/Organizational Level

Approach	Focus	Key Concepts, Issues, Example Articles
Industrial Marketing and Purchasing Group (IMP) (Hakansson 1982, 1987; Turnbull and Valla 1986; <u>Industrial Marketing and Purchasing</u> , Vols. 1-5.	Problem oriented focus on describing interaction practices and strategies. Organizational behavior, resource dependence, and network perspective main theoretical bases.	Competitive, cooperative, and command strategies (Campbell 1985), analysis of realized supplier/buyer strategies, (Turnbull and Valla 1986), resource deployment and communication, and organization in interaction (Campbell and Cunningham 1983; Cunningham and Homse 1986; Hardwick and Ford 1986; process model of interaction relationship (Ford 1980, 1982, 1984).
Channel Power and Conflict Theory/Dependence Theory/Political Economy Framework (Gaski 1984; Emerson 1962; Stern and Reve 1980; Achrol, Reve, and Stern 1983).	Description of interaction in behavioral and cognitive terms; models of interaction performance.	Bases of power and exercise of power, dependence, conflict, perceived goal compatibility, satisfaction, performance modes of cooperation and control (formalization, centralization, and specialization) (Frazier 1983; Gaski 1984; Dwyer and Oh 1988; Heide and John 1988, 1990; Achrol and Stern 1988; Ruekert, Walker, and Roering 1985).
Social Exchange/Social Influence Theory (Homans 1958; Thibaut and Kelley 1959; Kelley and Thibaut 1978; Scanzoni 1979).	Description and analysis of organizational interaction process on the basis of individual social exchange relations.	Emphasizes the dynamics of interaction process. Perceived comparison level (CL) and alternative specific comparison levels (CL-alt) of expected cost and benefits of relations, perceived trust, conflict, functionality of conflict, cooperation, and satisfaction from relation (Anderson and Narus 1984, 1986, 1990; Wilson and Mummulaneni 1986, 1988; Mummulaneni and Wilson 1991), dynamic framework for the process character of interaction (Dwyer, Schurr, and Oh 1987).
Organizational Buying Behavior Theory/Multiattribute Choice Theory (Robinson, Faris, and Wind 1967; Webster and Wind 1972; Green and Wind 1973).	Description and analysis of decision criteria related to product/supplier choice; heuristics employed in product/supplier assessment and choice.	Evaluative criteria including price, quality, service, location, product assortment, salespeople, and reputation. (Duncan 1966; Parket 1972; Dempsey 1978; Lehmann and O'Shaughnessy 1974; Rao and Kiser 1980). Multiattribute approach primarily applied to product/supplier choice, with alternatives conceptualized as perceived expected attribute values as attributes; judgemental rules provide means for describing decision heuristics involved (Wildt and Bruno 1974; Scott and Wright 1976; Wilson 1978; Wind, Grashof, Goldhar 1978; Choffray and Lilien 1978, 1980; Moller and Pesonen 1981; Wind and Robertson 1982; Moller 1986; Wilson and Mummulaneni 1986).

Source: Adapted from Moller and Wilson (1988)

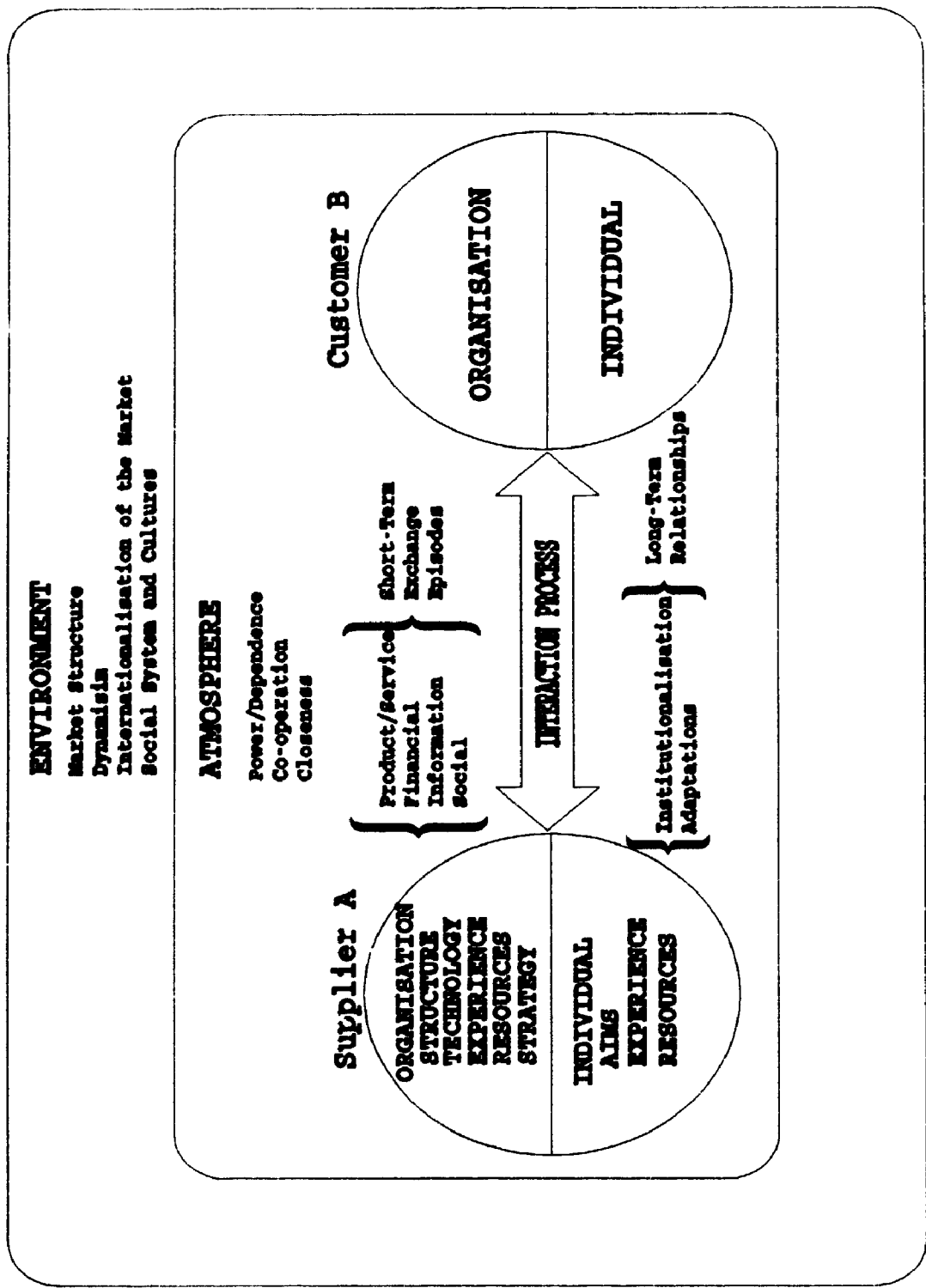


Figure 2.1. The IMP Group Interaction Model

Source: Cunningham (1980)

from a large study of over 300 buyers and sellers in five European countries. The theoretical support for this model comes from interorganizational theory, including resource dependence theory (Pfeffer and Salancik 1978) and the new institutional economic theory characterized by Williamson (1975, 1979, 1981, 1985). The model has been positioned by Turnbull and Valla (1986) as "a descriptive and explanatory framework of industrial market dynamics." It has not generated much empirical research yet, but it has introduced several new interaction variables that promise to increase our knowledge of buyer-seller relationships. As well, the inductive research that has contributed to this model offers support for many of the hypotheses that will be proposed and tested in the present study. For these reasons, the IMP Group interaction model will be described, and its contributions to the present study will be discussed.

According to the IMP Group interaction model, there are four main groups of variables which describe and influence buyer-seller interactions, including variables which relate to:

1. the interaction process,
2. the interacting participants,
3. the interaction atmosphere, and
4. the interaction environment.

The Interaction Process

Relationships develop as the result of a number of episodes, each involving the exchange of one or more of the following elements:

1. product or service exchange,
2. information exchange,
3. financial exchange, and
4. social exchange.

The product or service is often the core element exchanged, and its characteristics are likely to have a significant effect on the relationship. The exchange process will be quite different depending on whether either party has uncertainty concerning the other party's abilities, needs, or resources. Information exchange has several salient aspects which can affect relationship development including content (technical, economic, organizational), formality-informality, and whether the information is transferred by personal or impersonal means. Financial exchange is a measure of the economic importance of the relationship. Social exchange is important in reducing uncertainty between the exchange parties (Hakansson and Ostberg 1975), and this is particularly important as the geographical or cultural distance between the parties increases. Social exchange episodes serve to avoid short-term difficulties, and to maintain relationships between transactions. According to Hakansson (1982), the most important function of social exchange is the process by which

successive episodes gradually interlock the exchange parties in a relationship based on mutual trust. Trust building is seen as a social process which takes place over time, and is based on personal experience, and the successful execution of the other exchange elements.

These exchange episodes may become routinized over time, leading each party to develop expectations concerning the roles and obligations of the other party. Eventually these expectations may become institutionalized to the point where neither party questions the values and mores that have developed to support the relationship. Further, information exchange may build up interorganizational contact patterns and role relationships, and these can interlock the parties to a greater or lesser extent. Another important aspect of relationships is the adaptations that either party makes to the exchange process or elements. Many of these adaptations may be unconscious; however, many may be the result of a conscious strategy to attract and maintain specific exchange partners.

The Interacting Parties

A number of buyer and seller organization characteristics may have an effect on the relationship. Buyer and seller firm technology is important, both in terms of product features and manufacturing processes. Matching, or failing to match,

technological expertise may be important in some relationships, and may be unimportant in others. **Organization size** is important as relative size may define power in the relationship, with the larger firm able to dominate the other relationship participant. **Organization structure**, defined in terms of centralization, formalization, and specialization, can influence the way relationships develop. This influence can be seen in the number and roles of persons involved. **Organization strategy** is important as the buyer and seller firm strategies have a strong influence on the relationship. **Organization experience** is another organizational variable to be considered. Experience is important within a specific relationship and across similar relationships, as companies learn to manage their interactions. It can affect the importance placed on any relationship, and the commitment to that relationship.

Individual variables are also important as **individuals**, at least one from each organization, are central to the interaction process. More commonly, several individuals are often involved, coming from different functional areas, different levels of hierarchy, and performing a variety of different roles. The personalities, experience, and motivations of the individuals involved will determine how they interact in the social exchange episodes, and will also determine the strength of the social bonds that develop and influence the decisions of each exchange participant.

The Interaction Atmosphere

One aspect of the buyer-seller relationship which can be consciously planned and managed is the atmosphere surrounding the relationship (Hakansson 1982). The atmosphere can be described in terms of the power-dependence relationship between the interacting firms, the degree of conflict or cooperation in the relationship, the closeness or distance between the interacting parties in terms of psychic and physical distance, and the expectations of each party in the relationship. Relationship atmosphere is a complex construct that has yet to be fully conceptualized or operationalized.

There are advantages and disadvantages to different atmospheres. For example, the reasons for firms to develop closer relationships, or to remain in arm's length relationships, can be analyzed in terms of an economic dimension and a control dimension. With regard to the **economic dimension**, there are a number of costs that can be reduced when firms develop closer relationships. Among these are transaction costs (Williamson 1975, 1979), which result because of more efficiency in administration, distribution, and negotiating. A second cost that can often be reduced is production cost, which can result due to a more optimal distribution of production processes between buyers and sellers. Revenues may also be increased. Closer relationships allow for information exchange, both technical

and commercial. Products can be redesigned, new products can be developed, and facilities and resources can be more efficiently used.

The control dimension provides another important reason for closer relationships. Closer relationships help decrease uncertainty associated with either purchases or sales, as firms increase control over other relationship participants. Control is related to perceived power in the relationship. There are a number of bases of power (French and Raven 1959), and these bases may change over time, affecting the perception of power. The power of one participant over another is directly related to the dependence of that second participant on the first. A critical aspect of buyer-seller relationships is therefore the interdependence of the participating firms, and the way they manage or balance this interdependence.

The Interaction Environment

The interaction environment is the broader context within which exchange relationships develop, and consists of several aspects including market structure, dynamism, internationalization, position in the distribution channel, and the social system. The market structure depends on buyer-seller concentration, the rate of change or stability of constituent members, and the number of alternative exchange relationships available to any firm. Dynamism, or the degree

of change in the market, affects the extent to which organizations can afford to develop closer relationships, because it affects the relationship in two opposing ways. It affects the ability of firms to make forecasts and predict behavior, and it affects the opportunity costs of dependence on a small number of relationships. The stage of **internationalization** affects the firm's motivations to develop international relationships, and this, in turn, may affect the organization structure. The **position in the distribution channel** can be important, especially when an extended channel is involved, where there are numerous channel members from the primary producer to the end-customer. The relationship between any two channel members may be affected by other members in the channel. The **social system** refers to real and perceived barriers to trade, and is particularly important in the international context. However, there are more narrow social system variables that may affect relationship development in a particular industry or market.

More detailed descriptions of these variables can be found in Hakansson (1982) and Turnbull and Valla (1986), and the general features of the research project can be found in Cunningham (1980). How these variables relate to various dependent measures is largely descriptive as the original data did not lend itself to quantification. A set of propositional statements have not been developed, and the model has not been subjected to rigorous empirical testing. However, the model

has started to generate some research since it was first developed (cf. Ford, Hakansson, and Johansson 1986; Haller, Johansson, and Mohamed 1987; Johansson and Mattson 1987).

Ford (1980, 1982, 1984) considered the nature of buyer-seller relationships in industrial markets, and the process through which they develop over time (see Figure 2.2). He proposed five stages of relationship development, including the pre-relationship, early, development, long-term, and final stages. The model was based on ideas from the IMP Group project (Hakansson 1982), and described relationship development in terms of changes in five central constructs. Relationships were seen to develop with 1) increased experience, 2) reduced uncertainty, 3) reduced distance (social, cultural, technological, temporal, and geographical), 4) increased actual and perceived commitment, and 5) increased adaptations between buyers and sellers.

CONCLUSIONS FROM THE IMP GROUP INTERACTION APPROACH

The IMP interaction model promises to contribute much to our understanding of buyer-seller relationships. It describes the mechanisms through which relationships originate and develop over time. It argues that buyers and sellers are brought together because of their complementary needs and a recognition they are dependent on each other. Repeated personal contacts provide the mechanism through which

	1	2	3	4	5
	The Pre-relationship Stage	The Early Stage	The Development Stage	The Long-Term Stage	The Final Stage
Evaluation of new potential supplier		Negotiation of sample delivery	Contract signed or delivery build-up scale deliveries	After several major or large purchases	In long established stable markets
Evaluation initiated by:		Experience			
- particular episode in existing relationship		- Low	- Increased	- High	
- general evaluation of existing supplier performance		Uncertainty			
		- High	- Reduced	- Minimum development of institutionalisation	Extensive Institutionalisation
- efforts of non supplier		Distance			
- other information sources		- High	- Reduced	- Minimum	Business based on Industry Codes of Practice
- overall buying decision					
Evaluation conditioned by:		Commitment			
- experienced with previous supplier		Actual - Low	Actual - Increased	Actual - Minimum	
- uncertainty about potential relationship		Perceived - Low	Perceived - Demonstrated by informal adaptations	Perceived - Reduced	
- "Distance" from potential supplier		Adaptation	Increasing formal and informal adaptations	Extensive adaptations	
Commitment		High investment of management time.	Cost savings increase	Cost savings reduced by institutionalisation	
- zero		Few cost-savings.			

Figure 2.2. The Development of Buyer/Seller Relationships in Industrial Markets

Source: Ford (1980)

information is exchanged, and through which credibility is established (Cunningham and Turnbull 1982). Repeated successful interactions provide the mechanism through which relationships develop (Cunningham and Homse 1982). As these interactions occur, buyers and sellers often make investments in the relationship, frequently in the form of product and process adaptations. Participant assessment of the relationship determines the degree of satisfaction with the relationship, and the extent to which either party would like to continue the relationship or develop a closer, longer-term relationship.

The IMP Group interaction model was developed in Europe, and it challenged the traditional ways of viewing industrial marketing and purchasing. First, it challenged the separation of buying behavior and industrial marketing, and emphasized the similarity of tasks by both parties when looking for suitable exchange partners. It viewed buyers and sellers as having complementary needs, each recognizing their **dependence** on the resources of the other. Second, it challenged the view of industrial marketing as the manipulation of marketing mix variables designed to get a response from a passive customer market. Third, it challenged the concentration of industrial buying behavior research on investigating discrete purchasing decisions, and promoted the importance of establishing and maintaining buyer-seller relationships. Fourth, it emphasized the **stability** inherent in industrial markets, where buyers and

sellers make mutual adaptations, and become increasingly interdependent. This contrasts the view that buyers change suppliers frequently and easily, and that sellers find it easy to enter new markets rapidly and freely.

The IMP Interaction Model is descriptive and exploratory, and has only begun to generate research. However, because it was developed inductively, it provides an empirical base to help develop new theoretical models. It has introduced the concept of an interaction atmosphere, and although it has not been fully conceptualized, the dimensions of interaction atmosphere and the relationships between these dimensions offer the promise of increasing our knowledge of buyer-seller relationships.

A criticism of the model made by Wilson and Mummulaneni (1986) was that it was largely restricted to the analysis of relationship development. They argued that it lacked a managerial orientation as it did not address the supplier choice decision frequently faced by the buying organization. While it is true the model did not address the supplier choice decision, the issue of relationship development is just as managerially relevant. A model that addresses both issues would certainly be relevant to marketing management.

Before reviewing the supplier choice literature, the literature related to buyer-seller relationships which has

been developed in North America will be reviewed. Much of the earlier literature was developed in the context of manufacturers and distributors or dealers, and the most frequently researched phenomena were power and conflict. The theory of power and conflict will now be briefly reviewed with special emphasis on dependence and dependence theory.

POWER AND CONFLICT THEORY/DEPENDENCE THEORY

There has been a considerable amount of research conducted on channel relationships, and the central constructs which have received the most attention have been power and conflict. Table 2.2 lists the marketing channels studies which have investigated either power or power and conflict.

While power has received much attention and empirical support, dependence has had a rather secondary role in channel relationship theory. This has resulted because there was little empirical support for its relationship with other constructs in channel relationship models. Figure 2.3 shows the various constructs and the relationships among those constructs that have been found in the literature reviewed by Gaski (1984). There have only been two studies which investigated dependence (Etgar 1976b; Phillips 1981), and they have only investigated the relationship between dependence and power, and dependence and countervailing power. It is proposed that dependence is a critical construct that needs

Table 2.2. Empirical Studies of Power or Power and Conflict in Marketing Channels

Cross-Sectional Surveys

Assael, JM 1968
 Weik, unpublished, 1968
 Assael, ASQ 1969
 Stern and Heskett, in edited work, 1969
 Rosenberg and Stern, JMR 1971
 El-Ansary and Stern, JMR 1972
 Pearson, JP 1973
 Hunt and Nevin, JMR 1974
 Porter, RES 1974
 Wilkinson, JMRS 1974
 El-Ansary, JR 1975
 Etgar, JMR 1976a; JMR 1976b
 Lusch, JMR 1976a; JMR 1976b
 Brown, (AMA) 1977
 Etgar, JMR 1977
 Kelly and Peters, (AMA) 1977
 Lusch, JPD 1977
 Brown and Frazier, (AMA) 1978
 Etgar, JMR 1978a; JR 1978b
 Michie, (AMA) 1978
 Wilkinson and Kipnis, JAP 1978
 Etgar, JM 1978
 Gultinan, Rejab, and Rodgers, JR 1980
 Phillips, JMR 1981
 Sibley and Michie, IMM 1981
 Wilkinson, JPD&MM 1981
 Lusch and Brown, JMR 1982
 Gaski and Nevin, JMR 1985
 Lusch and Ross, JAMS 1985
 Frazier and Summers, JMR 1986
 Gaski, JMR 1986
 Kale, JMR 1986
 Hunt, Mentzer, and Danes, JBR 1987
 Butaney and Wortzel, JM 1988
 Frazier, Gill, and Kale, JM 1989
 Frazier and Rody, JM 1991
 Dant and Schul, JM 1992

Laboratory Experiments

Walker, (AMA) 1972
 Stern, Sternthal, and Craig, JMR 1973
 Stern, Sternthal, and Craig, JAP 1975
 Hunger and Stern, AMJ 1976
 Roering, JBR 1977
 Dwyer, JR 1980
 Dwyer and Walker, JM 1981

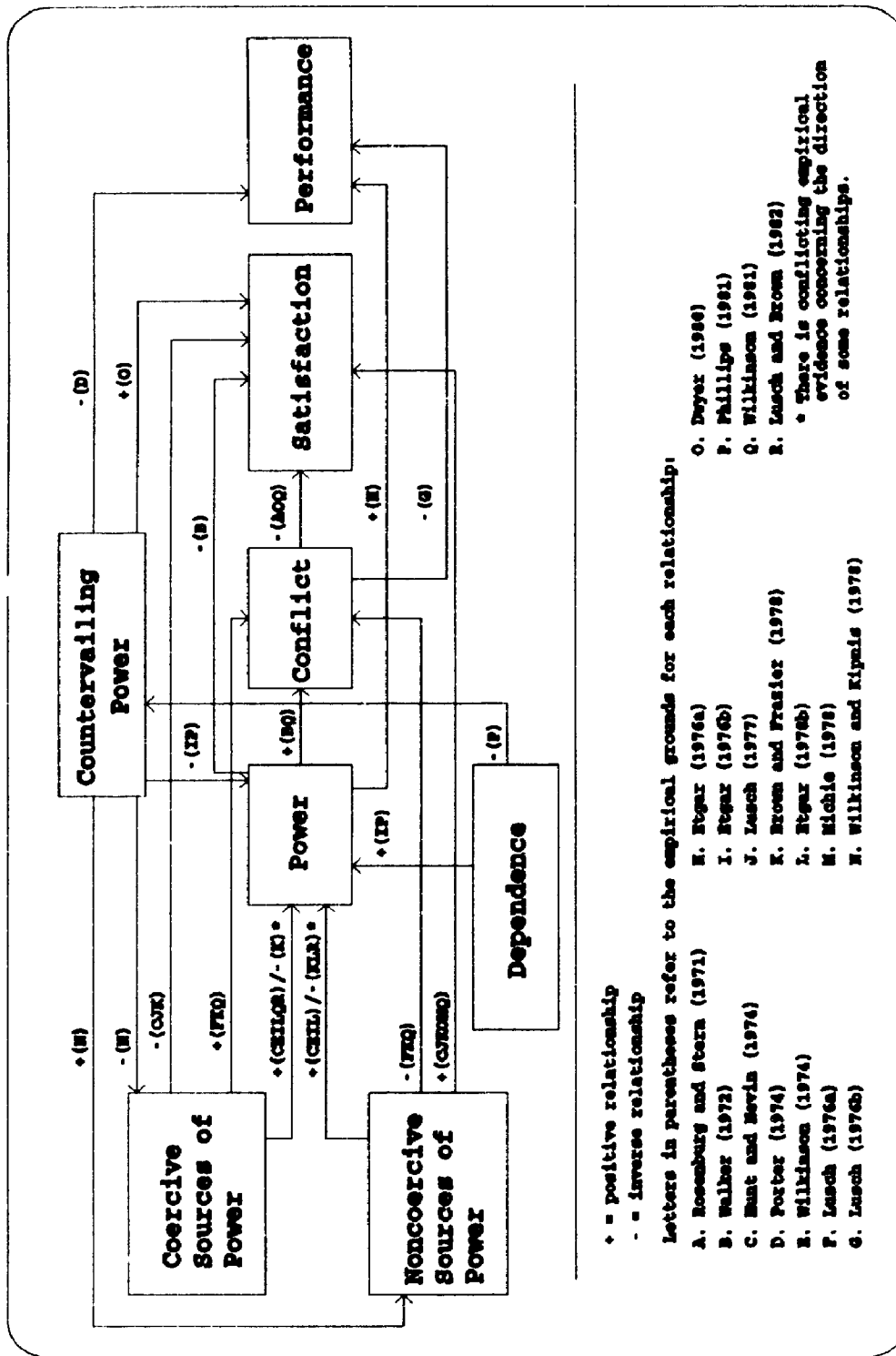


Figure 2.3. The Theory of Channel Power and Conflict

Source: Gaski (1984)

investigation and understanding within any theory of channel relationships, and this argument will be developed after reviewing prior research on dependence in a channel context. The following section will discuss the concept of dependence, and suggest why it may not have received much empirical support.

The Concept of Dependence

According to Emerson (1962, p. 32), the power of one social actor resides implicitly in the dependence of another social actor:

The dependence of actor A upon actor B is (1) directly proportional to A's motivational investment in goals mediated by B, and (2) inversely proportional to the availability of those goals to A outside of the A-B relation.

In most social relationships, there is a mutual dependence between the parties. This mutual dependence implies that each social actor is to some degree able to facilitate or hinder the gratification of the other social actor, and therefore, has some power over the other party. This parallel structure, the power of A over B and the power of B over A, was identified by Gaski (1984) and is shown in Figure 2.4. As noted by Gaski (1984), the decision variables of the seller and buyer may overlap to some degree, but will unlikely be identical.

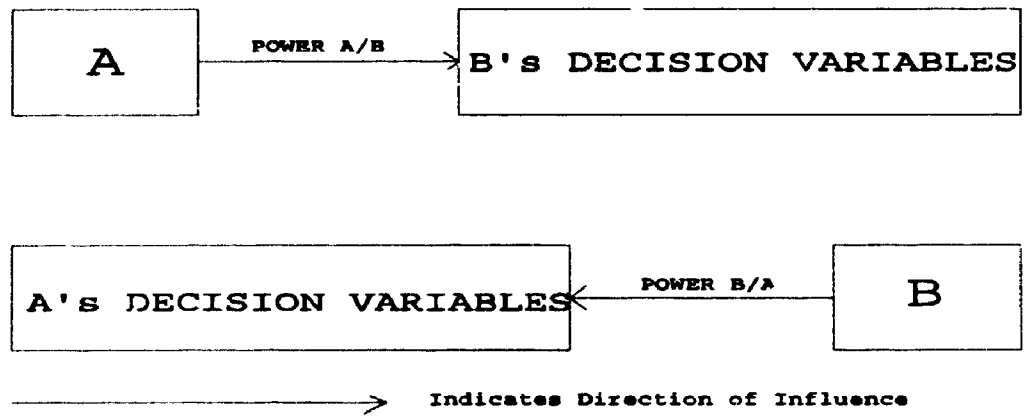


Figure 2.4. The Parallel Structure of Power in a Channel Dyad

Source: Gaski (1984)

If the buyer and the seller each have power over the other, then each must also have some dependence on the other. This is certainly understandable, given they each have different goals, and each depends on the other to help achieve those goals. How is the power of one party related to the dependence of the other party? According to Emerson (1962, p. 33), "the power of A over B is equal to, and based upon, the dependence of B upon A." That is, the power of the seller is equal to the dependence of the buyer on that seller. These power dependence relations can be expressed as:

$$\text{POWER A / B} = \text{DEPENDENCE B / A}$$

$$\text{POWER B / A} = \text{DEPENDENCE A / B}$$

This power-dependence relationship has not received strong support in the marketing literature. El-Ansary and Stern (1972) failed to find any relationship, while Etgar (1976b) found that dependence explained very little additional variance in power beyond the variance explained by power sources. Gaski (1984) offered a possible explanation. He suggested that sources of power in marketing channels and channel member dependence are conceptually inseparable. According to Gaski:

Simply, any content valid selection of channel member A's power sources, especially reward sources, should adequately cover the domain of what

channel member B is dependent upon for ultimate success (p. 23).

This led Gaski to hypothesize:

With valid measurement, global or general dependence measures will continue to add insignificantly to power sources in the prediction of channel power, although dependence alone should be a reasonably adequate predictor of power (p. 23).

Thus, both Emerson and Gaski support the view that power in a relationship exists only to the extent that dependence exists. While power has been investigated extensively, dependence has been relatively neglected. Future research should investigate the effect of dependence between relationship participants. Participants in a relationship only interact to the extent there is dependence between them, and this dependence promises to offer important insights into exchange behavior.

Before leaving this section, two recent studies will be reviewed which have both shown the importance of dependence in exchange relationships, and how dependence can affect behavior between exchange participants. Heide and John (1988) developed a model which was not as broad in scope as many of the previous channel models, but it did focus attention on relationship investments and dependence (see Figure 2.5). The authors extended the basic transaction cost analysis approach developed by Williamson (1975, 1979, 1981, 1985) by combining

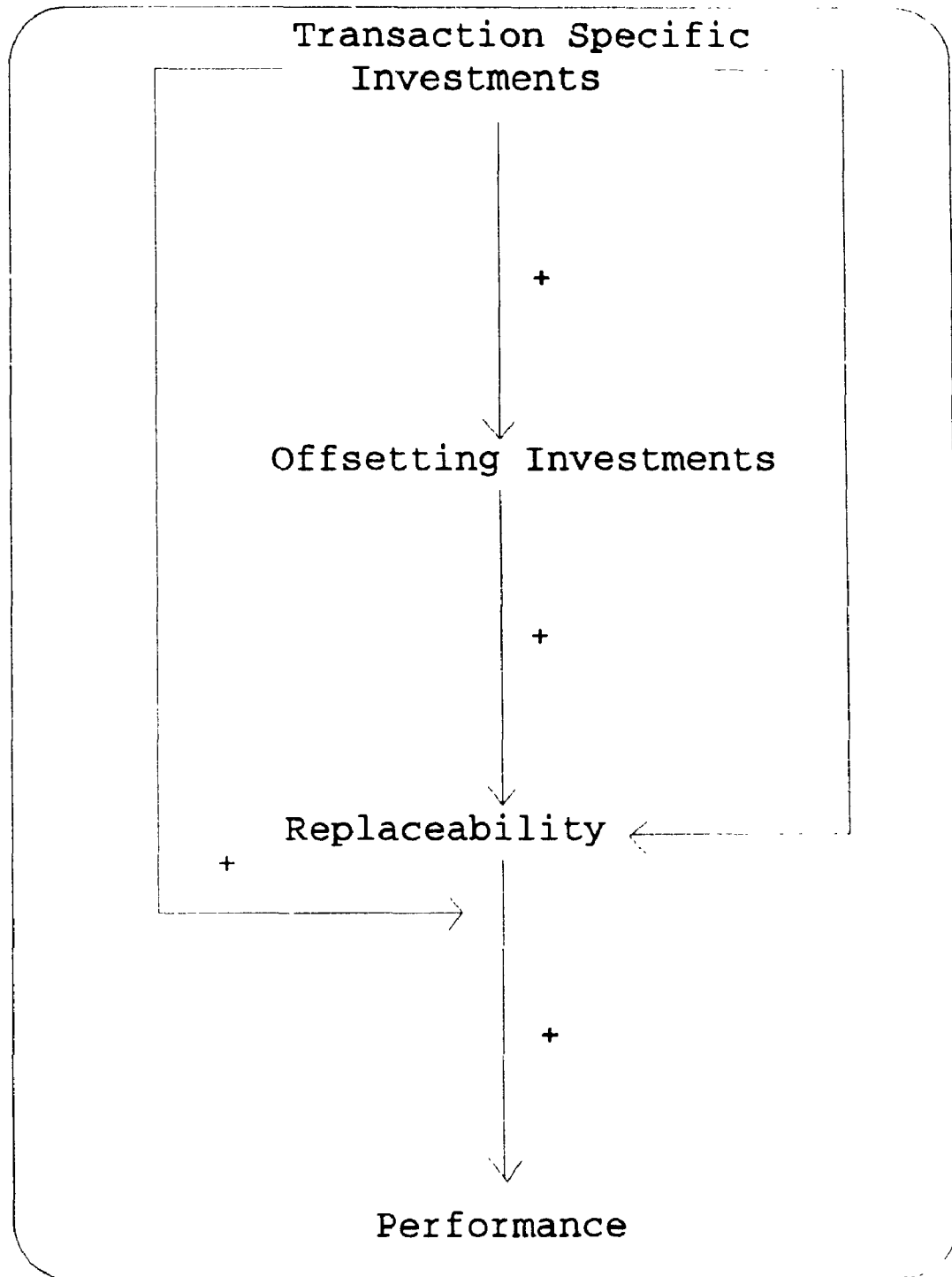


Figure 2.5. Major Relationships in Model

Source: Heide and John (1988)

insights from dependence theory (Beier and Stern 1969, Emerson 1962). They tested the model with data gathered from manufacturers' agents.

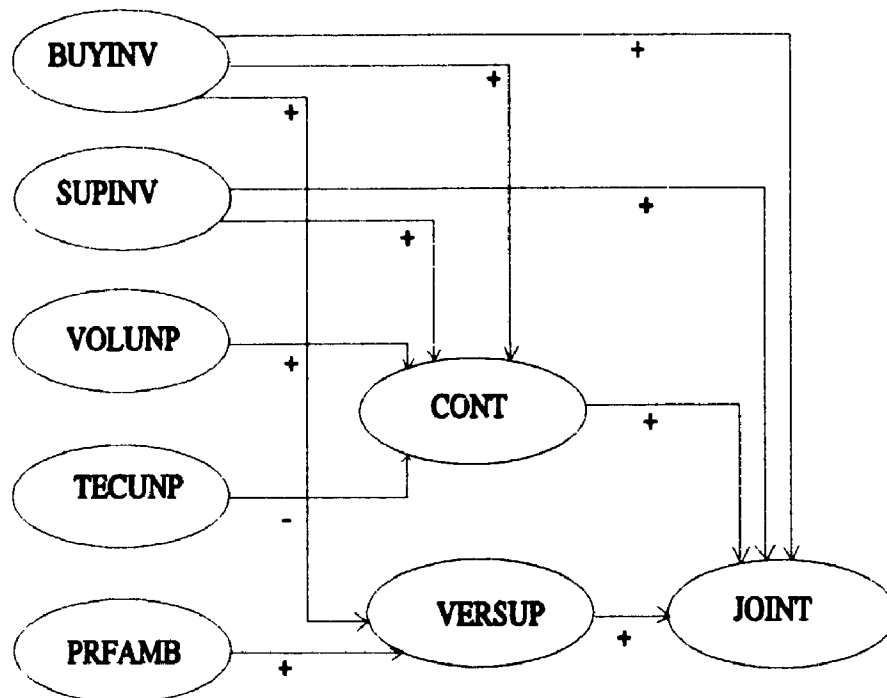
Fundamentally, transaction cost analysis is concerned with developing satisfactory safeguards; that is, organizing transactions to "safeguard them against the hazards of opportunism" (Williamson 1985, p. 32). The principal safeguard identified was vertical integration. Stinchcombe (1985) argued that these same safeguards could be achieved through market-based contractual agreements that simulated hierarchical elements. Heide and John argued that transaction-specific investments created dependence, which could be thought of as the degree of replaceability of the exchange partner. They proposed that agencies would try to reduce this dependence on the manufacturer by engaging in bonding behavior with their customers.

Transaction specific investments were defined as investments made by the agency (human and physical, tangible and intangible) to support exchange and which were specialized to a particular exchange relationship. **Offsetting investments** were dependence-balancing investments made by the agency, in this case closer customer bonds. These create switching costs for the manufacturer. **Replaceability** was the degree to which the agency could replace the income from selling the manufacturer's products, and is a measure of the agency's

dependence on the manufacturer. Performance was a negatively scaled measure of the ratio between field selling costs for a particular manufacturer's product line and the agency's commission income for that same line. As this ratio increases, the agency's return relative to costs diminishes.

Heide and John also included some additional variables, to assess their effect on performance. These variables included the number of exchange partners and exchange concentration (fraction of sales from largest manufacturer), both thought to be theoretically important. As well, 14 other product line and market related measures, such as price, quality, and competition were included as it was thought they could affect performance and should therefore be controlled. An empirical test of the model found support for the proposed relationships.

A second model was developed by Heide and John (1990), and presented joint action as a key aspect of buyer-supplier closeness (see Figure 2.6). They drew largely on transaction cost theory as the basis for investigating three dimensions of original equipment manufacturer (OEM)-supplier relationships: joint action, expected continuity, and verification efforts. Joint action was defined as the degree of interpenetration of organizational boundaries (cf. Guetzkow 1966; Laumann, Galaskiewicz, and Marsden 1978), and in industrial purchasing situations, this can occur over a large number of activities



BUYINV - buyer investments
 SUPINV - supplier investments
 VOLUNP - volume unpredictability
 TECUNP - technological unpredictability
 PRFAMB - performance ambiguity
 CONT - continuity
 VERSUP - supplier verification
 JOINT - joint action

Figure 2.6. Relationships in Model

Source: Heide and John (1990)

including value analysis and cost targeting (Dowst 1988), tool development and product design (Drozdowski 1986), long-term planning (Spekman 1988), and the design of quality control and delivery systems (Treleven 1987). **Continuity** was defined as the perception of the bilateral expectation of future interactions, a major aspect of shifts toward closer exchange relationships (cf. Jackson 1985; Joskow 1987; Spekman 1988). **Verification** was defined as supplier qualification, or the ex ante verification of the supplier's performance ability.

Heide and John hypothesized that greater continuity expectations and increased verification efforts by the buyer would lead to higher levels of joint action. Specific investments made by suppliers and buyers would lead to increased levels of joint action and increased expectations of continuity, while only the latter would lead to increased supplier verification efforts. The authors also isolated three different types of uncertainty: volume unpredictability, technological unpredictability, and performance ambiguity. They hypothesized that volume unpredictability would be positively related to expectations of continuity, and technological unpredictability would be positively related to supplier verification efforts.

While Heide and John did not specifically measure dependence, it is implicit in their research that transaction specific investments create dependence between exchange

participants. Both parties will only make these investments when there is an expected relationship continuity, as the cost of these investments must often be recovered over an extended time. In an effort to protect their investments, buyers will increase supplier verification efforts. As well, both parties will increase their levels of joint action.

Heide and John used a single-informant study because they claimed it was not possible to identify more than one informant with sufficient knowledge concerning the constructs of interest. In their empirical test of the model, only two proposed causal paths were not confirmed. Volume unpredictability and the buyer's investment in specific assets were not found to have an effect on expectations of continuity.

CONCLUSIONS FROM POWER AND CONFLICT THEORY AND DEPENDENCE THEORY

Much of the research on channel relationships has focused on power and conflict. Dependence has been relatively neglected, but it should be an important construct in the explanation of buyer-seller relationships. Relationship participants only interact to the extent there is dependence between them, and this dependence promises to offer important insights into the structure of interactions (e.g., hierarchical transactions versus market-mediated transactions)

and the interaction processes (e.g., cooperation and conflict).

The political economy framework will be reviewed next. This framework was developed concurrent with, and independent of the IMP Group interaction model. It was proposed as a unifying framework for the disparate channels research that predated it. The development of this framework took place during that period when a shift in emphasis in channel research was made from power and conflict to the study of more cooperative relationships. This research has largely drawn on social exchange theory, and following a description of the political economy framework, this newer channel research will be reviewed.

POLITICAL ECONOMY APPROACH

The political economy framework developed by Stern and Reve (1980) and Achrol, Reve, and Stern (1983) will be discussed in this section. This framework was developed independent of the IMP Group interaction model, but they are quite compatible. In fact, there is considerable similarity in the variables considered for inclusion by each.

One of the arguments given for the development of the political economy framework was the fragmented nature of channels research which had basically been conducted from

either an economic or behavioral approach. The former approach was grounded in microeconomic theory and industrial organizational analysis, and focused on channel design, costs, and functional differentiation (cf. Bucklin 1966; Bucklin 1973; Bucklin and Carman 1974; Cox, Goodman, and Fichandler 1965). The latter approach was grounded largely in social psychological theory, and focused on power and conflict (see Gaski 1984 for an excellent review of the research in this area).

Stern and Reve (1980) argued these approaches should be integrated as they are complementary, one dealing with economic "outputs," and the other dealing with behavioral "processes." They proposed the political economy approach to the study of social systems (cf. Benson 1975; Wamsley and Zald 1973, 1976; Zald 1970a, 1970b) as a promising framework to identify and dimensionalize the main variables that influence the total field of channel interaction, including channel structure and behavior. The political economy approach "views a social system as comprising interacting sets of major economic and sociopolitical forces which affect collective behavior and performance" (Stern and Reve 1980, p. 53). Their framework is shown in Figure 2.7.

There are two major systems, the internal political economy and the external political economy. The former focuses on channel structuring and functioning, and the latter

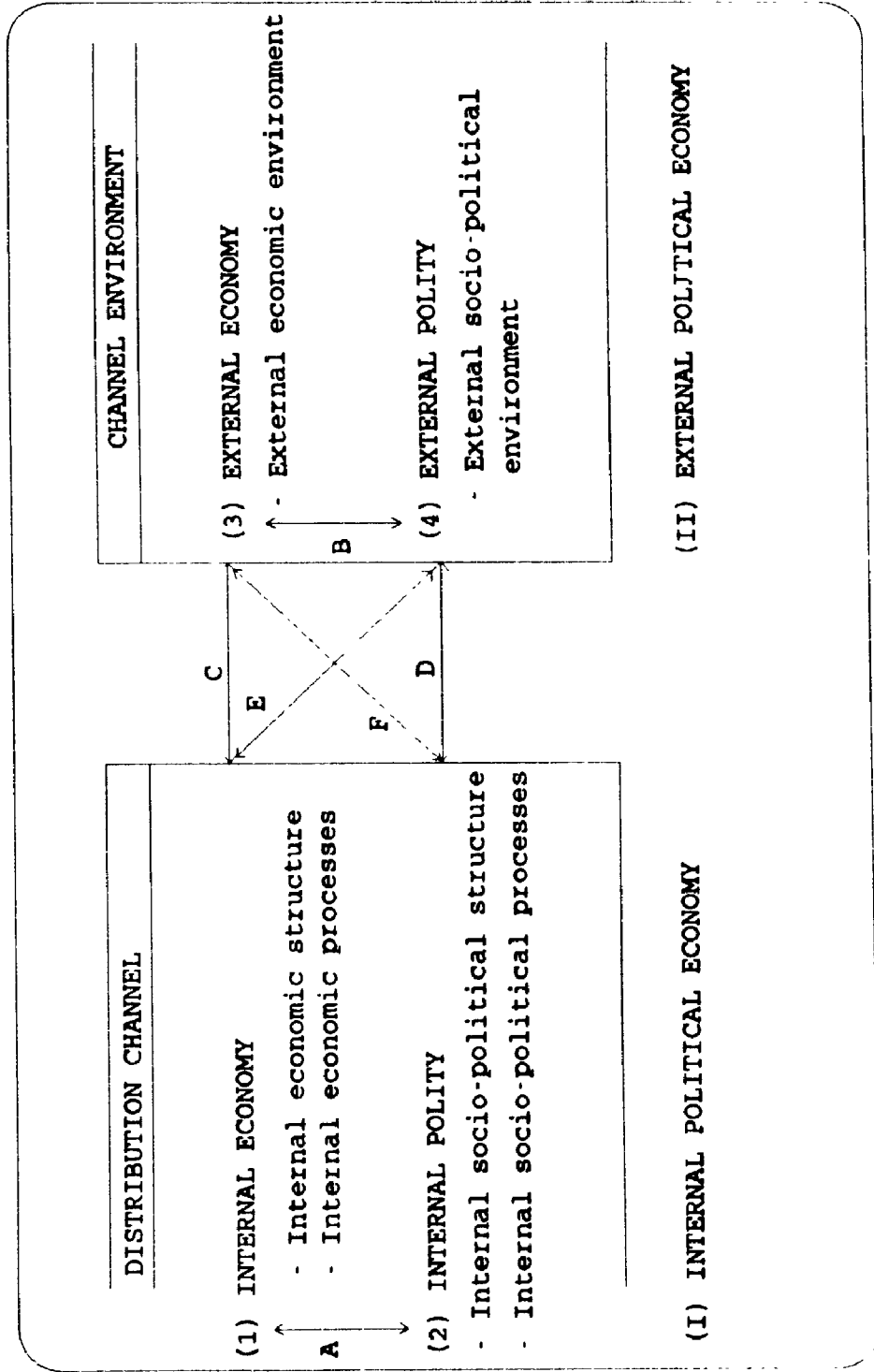


Figure 2.7. A Political Economy Framework For Distribution Analysis

Source: Stern and Reve (1980)

focuses on the channel's task environment. Both systems are divided into an economy and a polity. The major relationships that need to be explored are indicated by arrows.

The Internal Political Economy

According to the political economy framework, a marketing channel dyad can be analyzed in terms of its internal economy and polity. The internal economy refers to the internal economic structure and processes. The internal polity refers to the internal sociopolitical structure and processes. These four components have been defined by Achrol, Reve, and Stern (1983, p. 55):

The internal economic structure is described by the type of transactional form linking two channel members, i.e., the vertical economic arrangements within any given dyad, ranging from market mediated to hierarchical transactions.

The internal economic processes refer to the nature of the decision mechanisms employed to determine terms of trade among the members of the dyad, covering impersonal and routine decision making, bargaining, and centralized planning processes.

The internal sociopolitical structure is defined by the pattern of power-dependence relations which exist between any two channel members, ranging from minimal power, through balanced power, to imbalanced and centralized power.

The internal sociopolitical processes are described in terms of the dominant sentiments (e.g., cooperation and/or conflict) within the dyad.

Stern and Reve (1980) briefly described both the internal and external political economies. They then developed

propositions with regard to the internal political economy, showed how the internal economy and polity are inseparably linked, and argued that the two systems should not be studied independently. Achrol, Reve, and Stern (1983) developed an environmental framework that could be used to analyze the environment of a marketing channel dyad. This framework complemented the earlier framework, and will be discussed in the next section on the external political economy.

The External Political Economy

While Stern and Reve (1980) identified the external political economy and discussed how it might interact with the internal political economy, it was Achrol, Reve, and Stern (1983) who proposed a framework to look at the external environment of a marketing channel dyad (see Figure 2.8). According to Achrol, Reve, and Stern (1983, p. 56), their framework rests on six basic tenets:

1. Two-party or "dyadic" exchange represents the fundamental unit of analysis.
2. The environment of a focal dyad can be sectioned into primary and secondary task environments and a macro environment.
3. The primary and secondary task environments of a focal dyad can be partitioned into input, output, competitive, and regulatory sectors.
4. The original political economy framework can be directly applied to studying interactions between focal dyads and their primary task environments.

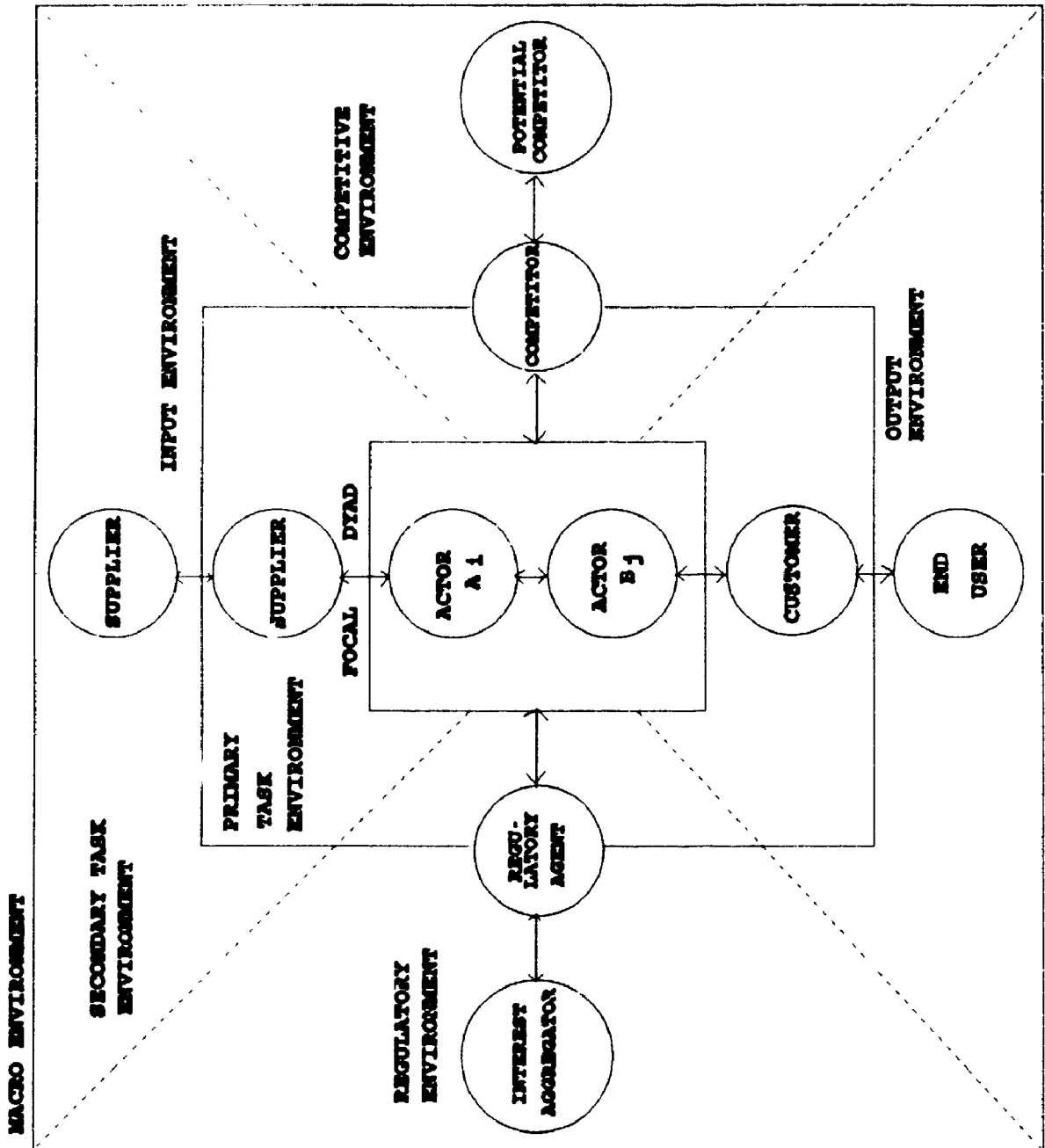


Figure 2.8. Environment of Marketing Channel Dyads
 Source: Achrol, Reve, and Stern (1983)

5. The secondary task environment can best be described in terms of certain "qualitative" dimensions which impact dyadic exchange.
6. Macro environmental influences manifest themselves through developments in a focal dyad's secondary task environment.

The focal dyad is at the center of the framework. Achrol, Reve, and Stern (1983) adopted the dyadic perspective (see Evans 1963). They saw the transaction as the fundamental activity of the marketing channel, where transaction was defined as the act of exchange between two economic units. This perspective focuses on the relationship between the two transacting parties, rather than on the individual parties or the channel as a whole. They recognized that the study of channel relationships should eventually be investigated through network analysis instead of dyads, but they also argued that focusing on dyadic exchange would permit research in channel relationships to advance farther and faster. They also pointed out that focusing on the dyad as the unit of analysis does not constrain researchers from including linkages between three or more parties. The environmental framework was developed for just this reason - to allow for the consideration of extradyadic influence, such as third parties, on dyadic transactions.

Surrounding the focal dyad is the primary task environment. It is surrounded by the secondary task environment, and this is all surrounded by the macro

environment. Achrol, Reve, and Stern (1983, p. 57) defined these as:

The primary task environment - is comprised of immediate suppliers and customers of the dyad. (In some situations, regulating agencies and competitors to the channel dyad may be drawn into direct exchange relationships and thus into the primary task environment.)

The secondary task environment - is comprised of suppliers to the immediate suppliers, customers to the immediate customers, regulatory agents and interest aggregators who influence them, and direct potential competitors to the channel dyad.

The macro environment - is comprised of general social, economic, political, and technological forces which impinge on the activities in the primary and secondary task environments.

Besides segmenting the environment into primary, secondary, and macro environments, Achrol, Reve, and Stern (1983) argued that it was also useful to segment the environment in terms of the main sectors to which any channel dyad must relate. They consequently divided the primary and secondary task environments into an input sector, an output sector, a competitive sector, and a regulatory sector. Achrol, Reve, and Stern (1983, p. 58) defined these sectors as:

The input sector of the task environment of a channel dyad consists of all direct and indirect suppliers to the dyad.

The output sector consists of all direct and indirect customers of the channel dyad, both distributors and end users. (The input and output sectors refer to vertical relationships in a marketing channel sense.)

The **competitive sector** primarily captures horizontal relationships faced by the channel dyad, i.e., actual and potential competitors of the channel dyad.

The **regulatory sector** consists of regulatory groups, including governmental agencies, trade associations, interest organizations, and ad hoc groups.

Achrol, Reve, and Stern (1983) completed their article by explaining the major conceptual components of their framework, and then developed a number of propositions which illustrated how the various environmental sectors might influence the channel dyad.

CONCLUSIONS FROM THE POLITICAL ECONOMY PERSPECTIVE

The political economy framework was developed independent of the IMP Group interaction model, but they are similar in many respects. This should not be surprising as the two approaches try to identify and categorize variables which explain the same basic phenomena.

The interaction model focused on the buyer and seller, and argued that neither could be studied in isolation. The political economy framework focused on transactions between members of a focal channel dyad which could be a customer-manufacturer, customer-distributor, or manufacturer-distributor dyad. In all cases, these channel dyads could

also be conceptualized as buyer-seller or customer-supplier dyads. The political economy framework also argued that members of these dyads could not be studied in isolation.

What the interaction model referred to as the interaction process variables, the political economy framework included as internal economic structure and processes. The atmosphere in the interaction model was similar to the internal sociopolitical structure and processes in the political economy framework. The environment included in the interaction model included all elements of the environment described in the political economy model.

There are a number of contributions from the political economy approach. It argued there are interactions between the various systems and subsystems shown in the framework and therefore, we cannot hope to understand marketing channel phenomena until we understand these interactions. The approach also departed from the IMP Group approach in one major way. The IMP Group approach philosophically argued for a systems or network approach to understand marketing channel behavior. The political economy framework supported the dyadic perspective, and argued that the focal dyad should be the center of attention until it is better understood. However, the influence of extradyadic variables, such as third parties, could still be investigated within this approach.

The next approach to be reviewed is the social exchange theory approach. Social exchange theory has had a considerable impact on the study of buyer-seller relationships. This theory viewed social behavior as an economy, and was developed to explain interpersonal social exchange relations. It has been applied in models of organizational interaction, and it has received considerable support. This approach provided a basis to investigate the effects of one extradyadic influence on a focal dyad, a third party. Much of the research that has developed from social exchange theory has looked at more cooperative relationships than the earlier channels research.

SOCIAL EXCHANGE THEORY

There are a number of studies which draw on social exchange and social influence theory, including Anderson and Narus (1984, 1990), Wilson and Mummulaneni (1986, 1988), Anderson and Weitz (1989), Mummulaneni and Wilson (1991), and the Dwyer, Schurr, and Oh (1987) dynamic framework describing the process character of interaction. Each of these models will be reviewed in this section.

Anderson and Narus (1984) developed a model of distributor-manufacturer working relationships, from the distributor perspective (see Figure 2.9). Their model is grounded in what has come to be known as social exchange

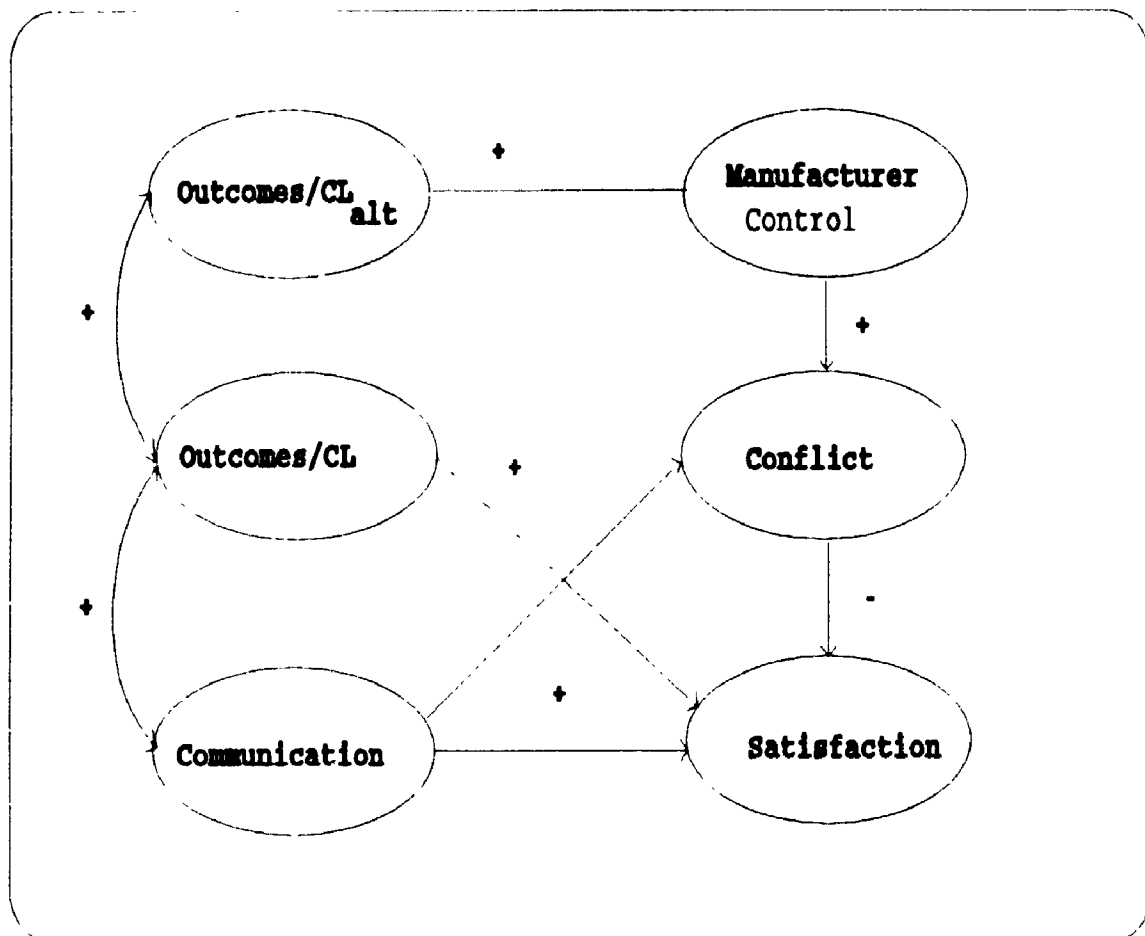


Figure 2.9. The Distributor's Perspective of the Distributor-Manufacturer Working Relationship

Source: Anderson and Narus (1984)

theory (cf. Homans 1958; Thibaut and Kelley 1959). They argued there are outcomes from social interactions, and these outcomes are evaluated against two standards, comparison level (CL) and comparison level for alternatives (CL-alt). The first standard, CL, represents the quality of outcomes a customer has come to expect from a given kind of relationship, based on past and present experience with similar relationships. The second standard, CL-alt, represents the average quality of outcomes available from the best alternative exchange relationship.

In their model, **outcomes/CL** represents an evaluation of the outcomes from a particular relationship, relative to CL. When outcomes from a particular relationship exceed expectations, satisfaction should increase. **Satisfaction** is a positive affective state, resulting from the evaluation of all aspects of a working relationship. **Outcomes/CL-alt** represents the perceived dependence of the distributor on the manufacturer. As CL-alt increases, the distributor dependence on the manufacturer decreases, and this is shown in their model as having a positive effect on **manufacturer control**. Since manufacturer control referred to the ability of the manufacturer to control distributor actions, this was really a measure of manufacturer power, and the relationship between **outcomes/CL-alt** and **manufacturer control** should have been hypothesized as negative. The data analysis confirmed this as the relationship was found to be strongly negative.

Other constructs included in their model were **conflict** and **communication**. Conflict is represented as manifest conflict, measured as the frequency and intensity of disagreements. It is proposed as an intervening construct, between manufacturer control and satisfaction, being positively related to the former, and negatively related to the latter. Communication is defined as the formal and informal sharing of information and meaning between the distributor and manufacturer. It is an exogenous construct, proposed as negatively related to conflict, and positively related to satisfaction.

Empirical analysis generally supported the model, although the communication construct had to be deleted due to measurement problems, and the satisfaction and conflict constructs had to be combined to form a single satisfaction/cooperation construct (with the measures of conflict reflected to become measures of cooperation) as the two constructs were found to lack discriminant validity. The important conclusion from this research was the support of the two constructs from social exchange theory as predictors of several behavioral constructs from the channels of distribution literature.

The Wilson and Mummulaneni (1988) model, shown in Figure 2.10, was developed from their earlier model, Wilson and Mummulaneni (1986). The model was not tested empirically, but

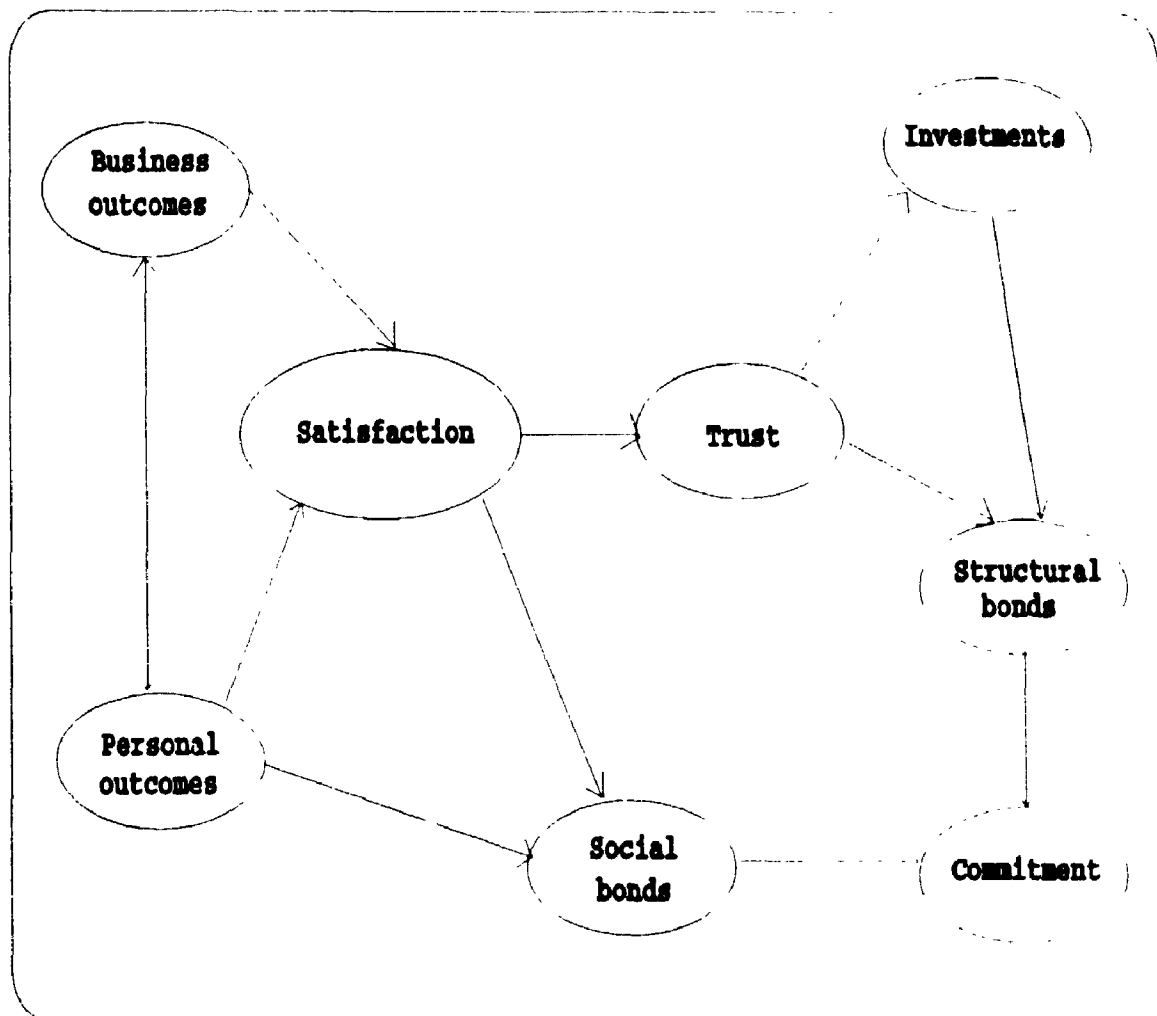


Figure 2.10. A Bonding Model of Long-Term Relationships

Source: Wilson and Mummulaneni (1988), as shown in Wilson and Moller (1988)

measurement issues were examined. The model is grounded in social exchange theory, and developed the constructs social and structural bonding, and how they relate to commitment. The authors also drew on work by Johnson (1978, 1982), McCall (1970), and Rusbult (1980, 1983) on social relationships, and on previous work by Wilson (1975, 1978) on process models of buyer-seller dyadic interaction. Other constructs included in their model were business outcomes, personal outcomes, satisfaction, trust, and investments.

Commitment was measured as the behavioral intention to remain in a relationship or the inverse probability of leaving a relationship, and was therefore a dedication to relationship continuity. **Social bonds** referred to the strength of the personal relationship between the buyer and seller, ranging from a strictly business relationship to a close, personal relationship characterized by one where relationship individuals were also characterized by a liking for the other person, a concern for the other's welfare, and a greater degree of self-disclosure. **Structural bonds** referred to those social and economic factors that create increasing interdependence as a relationship develops, including such things as dedicated investments which are irretrievable, social pressures to maintain the relationships because of the numbers and levels of people who may have become involved from both firms, and contractual agreements. **Satisfaction** was conceptualized as the difference between rewards and costs

realized in the relationship, and was measured in terms of social and economic exchange.

Mummulaneni and Wilson (1991) developed a model that used constructs from the Wilson and Mummulaneni (1988) model, but added CL-alt, an evaluation of the best alternative evaluation (see Figure 2.11). CL-alt was measured as the difference in performance between an exchange partner and the best alternative exchange partner across a salient attribute set. The model investigated how close personal relationships affected commitment, and strong empirical support was found. Social relationships led to greater commitment than just business relationships.

The Anderson and Weitz (1989) model is similar to the Anderson and Narus (1990) model (see Figure 2.12). They argued manufacturers could only gain the benefits expected from long-term relationships when channel members were convinced that relationships would last. When channel members were able to assume continuity, they would engage in behaviors supporting the marketing efforts of the manufacturer. The construct **continuity** was the main endogenous construct in the model, and it was supported by the work of Arndt (1979), Etgar (1979), Thorelli (1986), and Williamson (1985). The other constructs in their model were supported from social exchange theory (Homans 1958; Thibaut and Kelley 1959), channel theory (Robicheaux and El-Ansary 1975; Stern and Reve 1980),

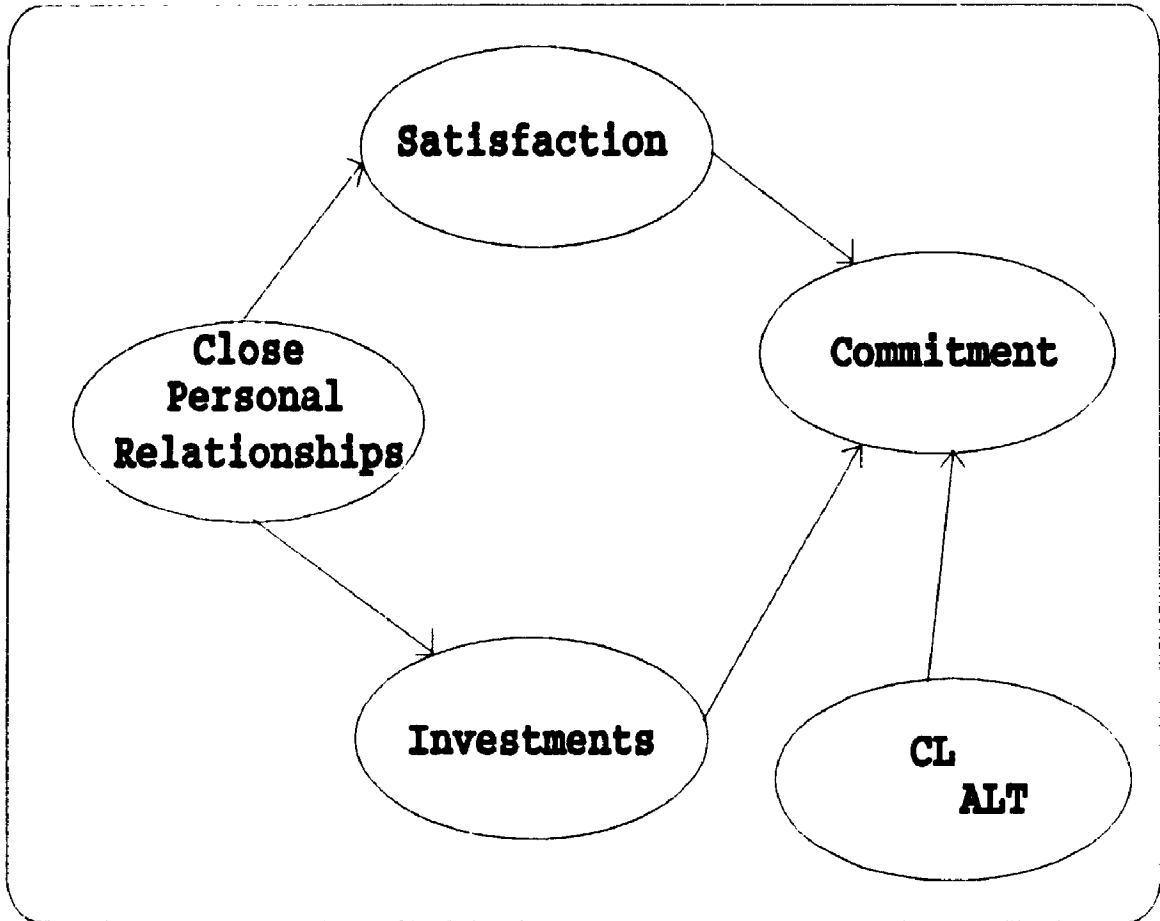


Figure 2.11. Hypothesized Effects of Close Personal Relationships

Source: Mummulaneni and Wilson (1991)

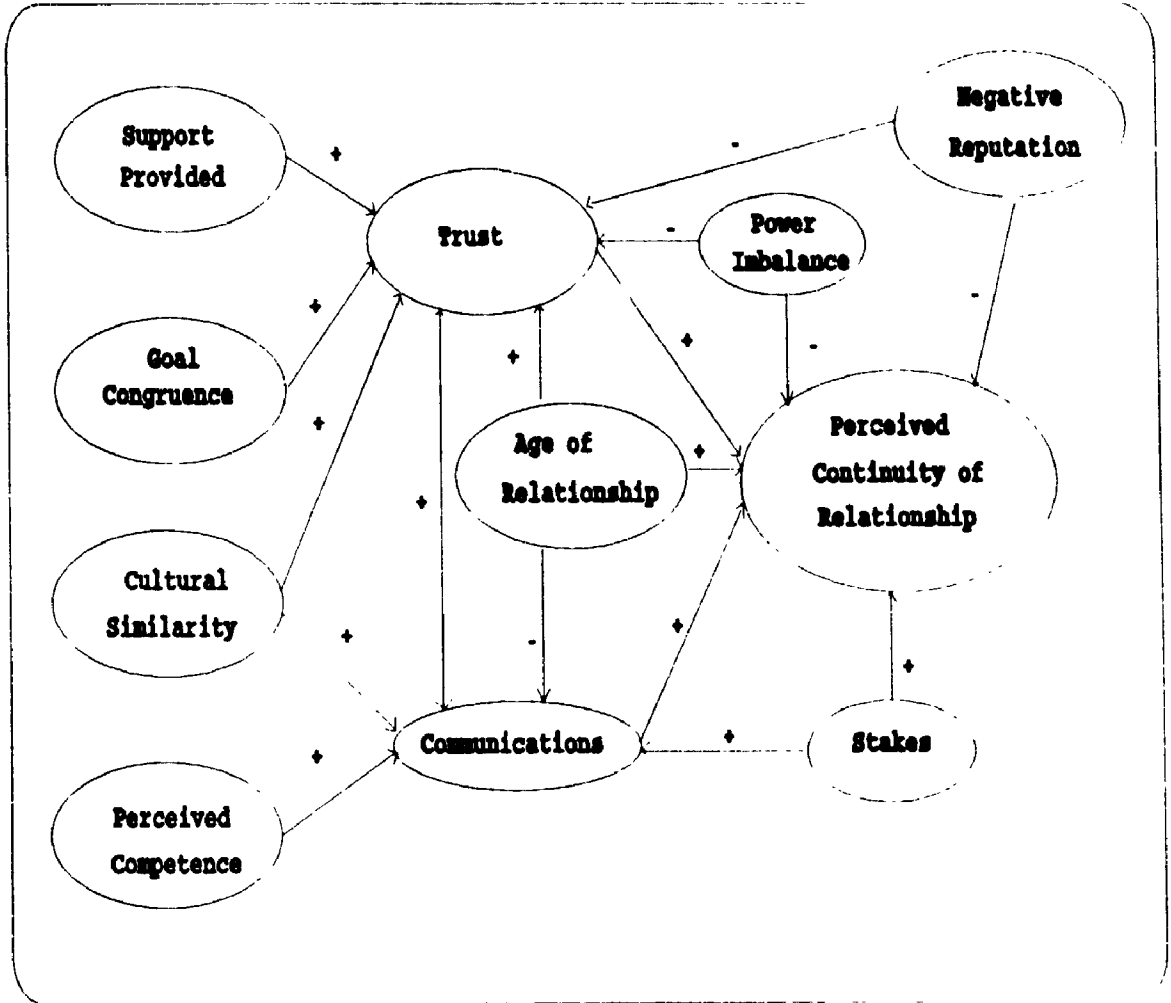


Figure 2.12. A Model of Relationship Continuity

Source: Anderson and Weitz (1989)

negotiation (Pruitt 1981), structural economics (Williamson 1985), and the relational exchange framework of Dwyer, Schurr, and Oh (1987).

They defined **trust** as "one party's belief that its needs will be fulfilled in the future by actions undertaken by the other party," a definition similar to the one used by Anderson and Narus (1990). **Power imbalance** was the ability to get one party to do something it would not otherwise do. It was directly related to the degree of dependence of one party on the other. **Communication** was the exchange of information with regard to plans, goals, and expectations. **Age of relationship** was the length of time the relationship existed. **Stake** was the importance of the outcomes from the interaction to one or both partners. **Reputation** was the market's view of the partnering behavior of the firm. These constructs were all postulated as antecedent to continuity.

Trust was also an important construct in their model. It was predicted by reputation, age of relationship, and communications (reciprocal) as previously defined, and support provided, goal congruence, and cultural similarity. **Support provided** was a measure of the resources that the manufacturer invested to improve the partnership efforts. **Goal congruence** was the degree of goal sharing between the partners. **Cultural similarity** was the physical and cultural distance between the partners in terms of values and methods.

The last endogenous construct of interest in their model was communications. It was predicted by stakes, age of relationship, trust (reciprocal), cultural similarity, and perceived competence. All but perceived competence have been previously defined. **Perceived competence** was the perception of the other's ability in their role performance.

Although there were a number of measurement problems, Anderson and Weitz concluded that there was reasonable support for their model. In particular, they found trust important in maintaining stable dyad relations.

Anderson and Narus (1990) developed a more comprehensive model of distributor-manufacturer working relationships, applicable to either perspective. This second model (see Figure 2.13) was also grounded in social exchange and interorganizational exchange theory, and was developed after a number of interviews with distributor and manufacturer managers. Some constructs had to be refined or added, and the differences will be discussed.

Relative dependence was defined as the perceived difference between a firm's dependence and its exchange partner's dependence on the working relationship. It was conceptualized in this model as CL-alt, the average quality of outcomes available from the best alternative exchange relationship. Relative dependence determines the extent to

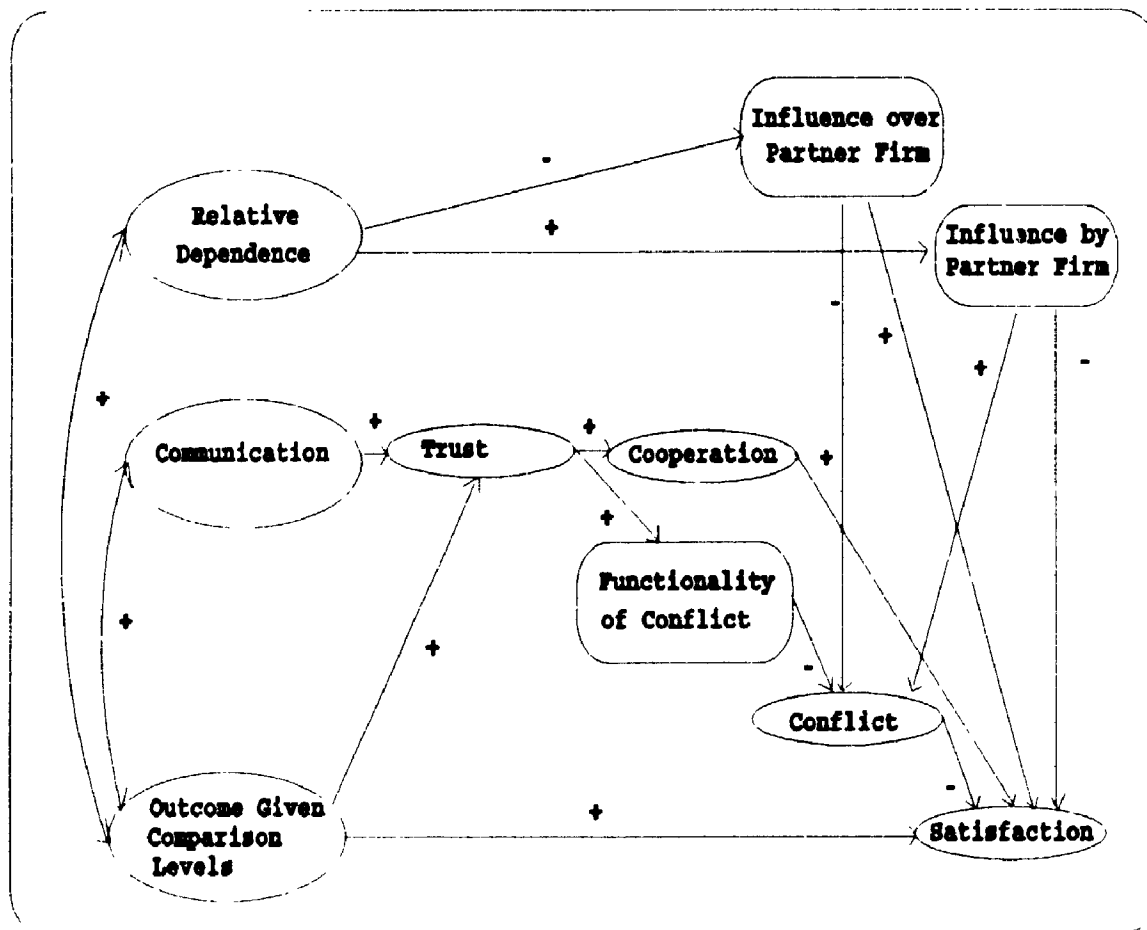


Figure 2.13. A Model of Manufacturer and Distributor Working Partnerships

Source: Anderson and Narus (1990)

which a firm will have influence over, or be influenced by, its exchange partner. **Influence over** and **influence by** the partner firm are constructs which reflect the extent to which a firm has applied power to influence partner firm action. These constructs reflect the interdependence between exchange partners.

The other constructs added to this model were trust, cooperation, and functionality of conflict. **Trust** was defined as the firm's belief that an exchange partner would take actions resulting in positive outcomes for the firm, and would not take actions resulting in negative outcomes for the firm. **Cooperation** was defined as coordinated actions taken by interdependent firms to achieve mutual outcomes, or singular outcomes with expected reciprocation. **Functionality of conflict** was defined as an evaluative appraisal of the extent to which recent conflict episodes in the relationship had been productively resolved.

This extended model is broader than the original model, and was a logical extension based on previous empirical results, theory, and field interviews. The new model was tested using multiple-informant data from both the distributor and manufacturer perspectives, and many of the proposed relationships were found to be significant. As well, five causal paths were found to exist across perspectives.

The major criticism of this research is due to the data analysis technique used. While the authors noted several good reasons for using structural equation modelling, they also recognized the suggestion of Bentler and Chou (1987) that when using models where knowledge of the variables is limited, no more than 20 variables should be used. With three or four variables per construct, this limits model size to five or six constructs. The model they tested had 10 constructs and over 40 variables.

The empirical analysis from both perspectives resulted in a respecification of the original model, reversing the causal ordering so that cooperation became antecedent to trust. Anderson and Narus supported this respecification on the grounds that respondents gave a **present state** report on trust, but reflected on recent exchange episodes when queried about cooperation. It is logical that **past** cooperation should lead to **present** trust.

While some researchers would argue that it is appropriate to change model specifications post hoc as long as the changes can be theoretically supported, there are some concerns that arise in this instance. One concern is that respecification of one part of a model often results in required changes to other parts of the model. This has occurred in this model and, although the authors noted that the change of specification between cooperation and trust resulted in the

need to make additional changes, they did not discuss the justification for those other changes. A second concern is that when a change is supported on some theoretical basis, that same basis could support additional changes to the model. The theoretical argument used to support the respecification in this model should also support a respecification of the relationship between trust and conflict. Conflict should become antecedent to trust, but it was left as originally specified.

Dwyer, Schurr, and Oh (1987) described the process of buyer-seller relationship development (see Figure 2.14). They proposed five phases, including the awareness, exploration, expansion, commitment, and dissolution phases, with a number of subprocesses operating within each phase. These subprocesses were not well defined as constructs that could be measured or operationalized.

The first phase, awareness, is the evaluation by one party that a second party is a viable exchange partner. It is facilitated largely by situational proximity. The second phase is exploration and is marked by any type of bilateral interaction. In this phase, the attraction, communication and bargaining, development and exercise of power, norm development, and expectation development subprocesses operate. Attraction is the process that begins this phase, and "results from the degree to which buyer and seller achieve - in their

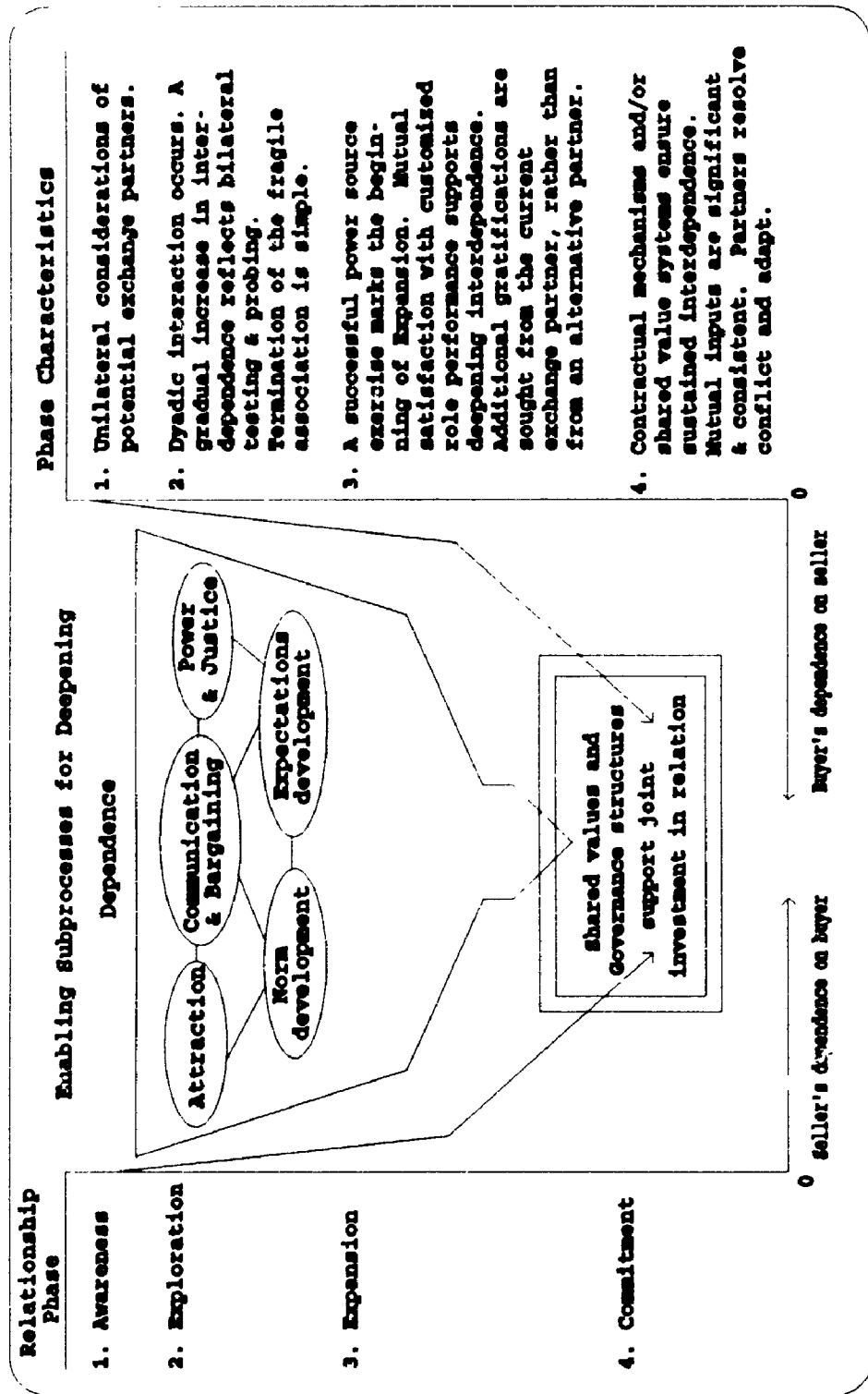


Figure 2.14. The Relationship Development Process

Source: Dwyer, Schurr, and Oh (1987)

interaction with each other - a reward-cost outcome in excess of some minimum level" (Dwyer, Schurr, and Oh 1987, p. 16). This conceptualization is the same as CL-alt from social exchange theory. Communication and bargaining are the processes where buyers and sellers negotiate their obligations, benefits (rewards), and burdens (costs). Power and justice are the processes which attempt to relate the use of power by one party, and the degree to which the second party perceives that use of power as just or unjust, that is, beneficial to their joint interests or likely to lead to conflict and dissolution. Norm development is a process where norms and behavior standards are developed to guide future interaction. Norm development begins in this phase. Finally, expectation development is a process where parties develop expectations concerning unity and trouble, and trust is seen as an important construct in understanding expectations concerning cooperation and planning.

The third phase, expansion, is similar to the preceding phase where the same five subprocesses operate. However, in this phase, the exchange partners become increasingly interdependent. The trust and satisfaction that begins to develop in the exploration phase leads to increased risk taking in the expansion phase.

In phase four, commitment, there is a recognition by both parties, explicit or implicit, that there will be relational

continuity. Loyalty develops and, while alternative exchange partners are still considered, "constant and frequent testing" ceases (Scanzoni 1979, p. 87). Three measurable criteria of commitment are inputs, durability, and consistency. **Inputs** refers to the exchange of economic, communication, and/or emotional resources. **Durability** refers to the durability of the exchange relationship over time, and is similar to the age of relationship construct in Anderson and Weitz (1989). **Consistency** refers to the consistency with which resources are input to maintain the exchange relationship.

The final phase, dissolution, is discussed briefly by Dwyer, Schurr, and Oh, but is not included in their model. It is the phase where the relationship is terminated and, since it has not been well developed in the model or paper, it will not be discussed here.

The Dwyer, Schurr, and Oh model is an improvement on the Ford model of the relationship development process. Both models, however, are quite abstract, lacking detail and obvious ways of operationalizing many of the key variables. The richness of the discussion surrounding the model development suggests ideas for research and categories for grouping phenomena, supporting theory discovery or development. The authors also suggested ways of applying the model to several managerial issues: performance metering, conflict management, and erecting exit barriers.

CONCLUSIONS FROM THE SOCIAL EXCHANGE APPROACH

Social exchange theory conceptualizes social behavior as the exchange of goods, material and non-material. Any person involved in exchange must give up some goods (costs) in exchange for other goods (rewards), and his/her behavior becomes more stable as profit (rewards minus costs) tends to a maximum. In this sense, social exchange theory sees social behavior as an economy.

Anderson and Narus (1984) was the earliest study to apply the constructs from social exchange theory, CL and CL-alt, in a channels context. In an examination of manufacturer-distributor working relationships, they found these constructs to be adequate predictors of several behavioral constructs. This work was extended by Anderson and Narus (1990), as well as the other research reviewed. These findings are important to theory development, but they are not adequate for an action orientation. To provide insights into managerial actions, these higher level constructs must be operationalized at a lower level of abstraction to see which specific aspects of outcomes account for variance explained in these behavioral constructs. Before deciding what these aspects might be, the next section will review the literature on supplier choice. A number of salient criteria have been identified by marketing and purchasing academics, as both have had a long-standing interest in purchase choice decisions.

THE SUPPLIER CHOICE LITERATURE

The supplier choice literature is concerned with supplier evaluation and selection, and most of this research has been conducted within the domain of organizational buying behavior (OBB). Mostly, buying behavior has viewed the focal objects from which a choice is made as a set of multiattribute choice objects. According to Moller (1986), the multiattribute conceptualization of organizational buying views suppliers and products or services as multiattribute objects, defined as some set of supplier, product, and salesperson attributes. These attributes form the basis of buyers' needs and define buyers' tasks. Supplier performance on these attributes determine the degree to which the supplier meets the buyers' needs, and the degree to which the buyer is able to successfully accomplish the organizational buying task.

Williams and Oumlil (1987) summarized and classified the research in the Journal of Purchasing and Materials Management over a 22-year period, from 1965 through 1986. There were 29 articles over this period that concerned supplier selection and development, the third most important category of research articles. Only pricing practices and contracts (34 articles) and inventory management (47 articles) generated more research. Research on supplier selection has been conducted by marketers as well, although their contribution has been more conceptual than empirical. The next section will discuss

the conceptual research related to supplier choice, and this will be followed with a discussion of relevant empirical literature.

Conceptual Research

Marketers have been exploring OBB for many years. Most of the conceptual work on OBB has originated with marketing academics. Marketing models which seek to explain OBB can be classified into four classes: task-oriented models, non-task-oriented models, decision-process models, and complex models (Moriarty 1983). This section will review the task-oriented models as they provide a basis for understanding the factors important in supplier evaluation and selection. It is the task performance aspect that is important to the present study as supplier selection is based on an evaluation of a supplier as capable in helping the purchasing organization achieve its purchasing goals. These goals have been defined at a very practical level to be quality, quantity, delivery, price, and service (Leenders and Blenkhorn 1988).

The earliest and simplest model has derived directly from microeconomic theory, and has been referred to as the **minimum-price model**. It is a single-attribute model which assumes a single determinant attribute, price, to be the only predictor of choice. It assumes firms will always try to minimize price to maximize profit, and therefore assumes perfect competition,

information, and substitutability, assumptions that rarely hold.

By expanding the definition of lowest price to include opportunity costs for low quality, delivery, service, and other nonprice variables, an early multiattribute model was developed. It has been referred to as the **lowest-total-cost model**. While it considers more attributes than just price, this model also suffers from the same limitations as the lowest-price model.

The behavioral sciences have contributed to the development of two additional models, the **rational-buyer model** and the **source-loyalty model**. The former, introduced by Copeland (1924), is conceptually similar to the lowest-total-cost model. It assumes that buyers rationally evaluate all alternatives before making a choice that is expected to maximize expected profits. Its weakness is the assumption of rationality. The latter, a more appealing model, recognizes the importance of source loyalty on buying behavior. According to Webster and Wind (1972, p. 15):

There are a number of reasons why this is a reasonably good model. First, it recognizes that much organizational buying is routine decision making. Second, it is consistent with the observation that purchasing managers are busy people who try to establish relationships with vendors that are likely to be self-perpetuating and easily maintained. Third, it is consistent with the notion of "satisfaction" as an alternative to maximization of behavior.

Another simple but useful task-oriented model is the **Buyclass model** (Robinson, Faris, and Wind 1967). This model identified different buying situations, including new task, modified rebuy, and straight rebuy situations, which differed in terms of the newness of the problem, the amount of information required, and the number of alternatives considered. Lehmann and O'Shaughnessy (1974) added a product dimension to Buyclass, defining four categories of product purchases: routine order, procedural problem, performance problem, and political problem products. Moriarty and Galper (1978) added product categories to Buyclass, developing the two-dimensional buying classification system shown in Figure 2.15. This conceptualization greatly improved the usefulness of Buyclass because it recognized that a number of important factors could vary by product category, including the level of expenditure and financial risk, the size and structure of the buying centre, and the complexity and content of the decision-making process.

While all these models are classed as simple task-oriented models, the Choffray and Lilien (1978, 1980) **industrial market-response model** would be classed as a complex model. The model consists of three sections: the controllable variables, the decision process, and the external measures, and four submodels: the awareness model, the acceptance model, the individual-evaluation model, and the group-decision model. The awareness submodel generates the

INDUSTRIAL BUYING BEHAVIOR			
Product Categories	Buying Categories		
	New Task	Modified Rebuy	Straight Rebuy
Raw Materials			
Components			
Capital Equipment			
Supply Items			

Figure 2.15. Two-Dimensional Buying Classification System

Source: Moriarty and Galper (1978)

evoked set, a list of suppliers that come to mind as potential sources for a particular product or service. The acceptance submodel screens the evoked set according to some set of evaluative criteria, and produces a feasible set, those suppliers which meet organization standards. This feasible set is then tested against individual preferences and, through various interaction patterns, group decisions are formed.

There are other conceptual models of OBB, but none that can be considered task-oriented. A good review of these conceptual models can be found in Moriarty (1983). The next section will review some of the empirical research in marketing related to supplier choice and evaluation. While the conceptual work has been profuse and rich, the empirical work has been sparse, and has shown little clear progression (Moriarty 1983).

Empirical Research

Empirical research has been more balanced, and has appeared frequently in both marketing and purchasing journals. However, the quality of the research is questionable, lagging behind both consumer behavior and conceptual OBB research (Moriarty 1983). The empirical research reviewed will focus on two issues, defining the attributes or criteria used by a buying organization for evaluating and selecting a supplier

organization and determining who within the buying organization is responsible for making the supplier choice decision.

Supplier Selection and Evaluation Criteria

The earliest study of OBB was Duncan (1966) who surveyed purchasing agents to investigate product and patronage motives for three different product categories: heavy machinery, raw materials, and supplies. Among his important findings were that more than one person influenced the majority of decisions, at least for purchases of heavy equipment and raw materials. Rational and emotional factors influenced industrial purchasers and, although rational factors were more important, many purchases were made on a nonrational basis due to habit. Quality, price, and service were the most important attributes, with confidence in price stability a good general influencer.

Parke (1972) surveyed purchasing agents and found that whether marketers should emphasize product attributes depended largely on whether the purchasing agent perceived the product as generic or differentiated. He found that price, product specifications, and delivery were all important in a generic product decision. He also found the buying decision was influenced by certain company-specific attributes, including

previous performance, cooperation on orders of unusual size, reputation, geographic proximity, and breadth of product line.

Rao and Kiser (1980) found that reliable delivery, quality, and fairness/honesty to be three important attributes for the purchase of both "standard" and "special" products. They found delivery reliability important, as buyers were usually blamed for supplier delivery failure. Hakansson and Wootz (1975) surveyed purchasing agents and found that price was more important than quality, and supplier location was also an important attribute.

These studies suggest the supplier attributes that are important as evaluative criteria used by buying organizations for supplier choice decisions. The attributes most often used appear to be price, quality, service, inventory, location, the salesperson, and reputation. One problem with these studies is that they have all surveyed a single participant, the purchasing agent. They have been attacked on methodological grounds because it seems unlikely that single participant studies can capture the complexity of industrial purchasing where multiple-person buying centres are usually involved in the selection decision. There are a number of studies in OBB which have investigated the influence of the purchasing agent within the buying centre, and which have demonstrated the need to consider more than one participant in many OBB research contexts. This research will now be reviewed.

Influence in the Supplier Selection Decision

Weigand (1966) found that purchasing agents viewed their involvement in all aspects of the buying task greater than was attributed to them by other executives, suggesting that purchasing agents are not as influential as they believe. Brand (1972) extended this study and found that all participants in a purchasing decision viewed themselves as more influential than they were viewed by other participants. He concluded that general management and technical personnel were perceived as equal or more important than purchasing management in most decision stages for new buys, modified buys, and routine repurchases.

Grashof and Thomas (1976) found all participants rated themselves more important than other participants, and these perceptions of influence did not vary considerably across decision phases. Cooley, Jackson, and Ostrom (1977) found that perceived influence differed greatly across decision phases. Patchen (1974) found that the number of persons listed as most influential increased almost as rapidly as the number of informants, and concluded people do not agree who was most influential in the decision process. Silk and Kalwani (1982) supported the other findings, decision participants agree who participates, but disagree on the relative influence of decision participants.

Johnston (1979) investigated purchase decisions for industrial services and capital equipment. He found that the latter involved more vertical and horizontal levels within the organization, more individuals as decision influencers, and more communication. However, the purchasing agent's centrality did not differ between the two types of purchase decisions.

While these studies all suggest it is inappropriate to survey a single respondent, there are some studies which suggest that single respondents may be appropriate under some circumstances. The study by Duncan (1966), reviewed in the previous section, suggested that multiple influencers were more likely when the purchase decision involved raw materials or heavy equipment, rather than supplies. Patton, Puto, and King (1986) found that individual decisions predominated in modified rebuy supplier selection decisions, but they failed to investigate the new buy and straight rebuy situations. Heide and John (1990) used a single informant, and argued that there are times when identifying a second good informant is not possible.

To conclude with regard to the appropriate number of respondents, the final decision may depend on the product class being investigated and the buyclass involved. In some instances, only one good informant may be identifiable, and this may be the determinant.

CONCLUSIONS FROM THE MULTIATTRIBUTE CHOICE APPROACH

The multiattribute choice approach offers some promise to help investigate the issue of buyer-seller exchange partner choice, particularly from the buyer perspective. The research suggests that a number of criteria or attributes are involved when making a supplier choice decision. A major problem with this research is that it focuses on specific purchase or patronage decisions. How supplier performance on these criteria affect the supplier's attractiveness for a partnering relationship has not previously been investigated. It would seem, if these criteria are important in determining initial supplier choice, supplier performance against these criteria over time should determine the customer's satisfaction with the relationship, the amount of trust which the customer has of the supplier, and the attractiveness of the supplier for a partnering relationship, from the customer perspective.

Most of the research has also shown that these criteria can vary in importance depending on the characteristics of the product class being considered. This suggests two alternative approaches for investigation. One approach would be to collect data across a broad range of product classes and investigate the moderating effects of product class. A second approach would be to hold product class constant for all respondents and investigate the effects of these criteria within a single product class. The second approach will be

implemented in this study. The effects of supplier performance with respect to these criteria will be investigated in the context of maintenance, repair, and operating (MRO) supplies. This decision is defended due to the importance of this product class, and the limited amount of research on this product class. A further consideration is the number of product groups within this single product class, such as welding supplies, stationery supplies, small hand tools, hydraulic parts and equipment, electric hand tools, fasteners, and pipe and tube fittings. Rather than investigate more than one product class, it is considered more important to investigate more than one product group. It is important to see whether any findings with regard to one product group can be generalized to another product group, or whether product group moderates various relationships in the research model.

Another concern identified from past research is that supplier evaluation and selection can be affected by the position/s of the person/s making the supplier selection decision. Most of the research has investigated supplier evaluation and selection decisions from the perspective of a single participant, usually the purchasing agent. Research has shown that the purchasing agent is only one, and often not the most influential, member of the buying centre. However, a decision to use a single key informant was made with respect to the present study.

This decision is defended on several grounds. First, the study by Duncan (1966) has suggested that single decision makers may have more influence in the purchase of supplies. Second, single decision makers may have more influence when the purchase decision is a modified rebuy (Patton, Puto, and King 1985). Although this context is not really a modified rebuy situation, it does have a number of similarities. First, the number of alternative suppliers considered is not usually larger than that set with which the customer already has experience. Second, the information required to make the supplier selection decision is usually limited to information which the customer has gained through previous experience with those suppliers. Third, it is not clear that a second key informant would contribute to our knowledge of supplier evaluation and choice for a partnering relationship. A second informant might simply increase measurement error. It is highly probable that different people filling different roles within a customer organization will place importance on different supplier selection criteria. They will also have different experiences with any particular supplier, so they will evaluate supplier performance differently across criteria. It is argued that, within the context of possible partnering relationships, the person filling the purchasing role is the most important to a supplier. The buyers' influence in these supplier selection decisions will be much greater than in a context of normal purchasing. When demands are made to develop closer, longer-term relationships on an

organizational level and supplier-bases get reduced, it is the person filling the purchasing role that a supplier would wish to have as a "supplier champion" within the customer organization.

SUMMARY AND CONCLUSIONS FROM THE LITERATURE REVIEWED

This discussion has tried to review several of the important and complementary approaches used to describe buyer-seller exchange relationships. One problem apparent from the review of the different research approaches is that there has been little effort to extend knowledge based on previous research. While many of the theoretical approaches are complementary and are discussed within the same research studies, researchers have taken considerable liberty with the operationalizations of their constructs, often using different operationalizations across studies. Our knowledge about buyer-seller relationships can best be improved by replicating and extending past research. In this regard, the research approaches discussed in this review will contribute to a comprehensive model of buyer-seller interaction with the hope of extending our knowledge in this area.

The IMP Group interaction approach resulted in an inductive model, and suggested that relationship atmosphere is an important determinant of satisfaction within an exchange relationship. They further suggested that the dimensions of

relationship atmosphere might be more important in determining long-term partner attractiveness than the often researched dimensions of the **offer portfolio**. The supplier selection and organizational buying literature suggested the constructs which have characteristically been considered as determinants of supplier choice, and which can be considered the **offer portfolio** dimensions. Combining the dimensions of the **offer portfolio** and the **relationship atmosphere** within a single model will allow this proposition to be tested, as well as determining the relative importance of the individual dimensions involved.

While the IMP approach argued for a systems or network perspective, the political economy framework argued that the dyadic perspective represents the fundamental unit of analysis, and we would benefit from additional research using this perspective. The dyadic perspective does not eliminate the possibility of third party extradyadic influence, and this can be incorporated using social exchange theory as a basis. The various research studies by Anderson and Narus, Anderson and Weitz, and Wilson and Mummulaneni have used social exchange theory as a theoretical basis, and they provided a number of constructs which could help define a relationship atmosphere, and suggestions for operationalizing those constructs. Further suggestions concerning relationship atmosphere constructs and their operationalizations come from channel power and conflict theory.

Many of these constructs will be used in the present study, and the model developed and proposed for this research will build on the past research reviewed, will replicate some previous findings, will extend our knowledge by investigating new relationships among constructs, and will add a considerable measure of managerial relevance by dimensionalizing some of the higher level constructs in previous research to a lower level, where the research findings will have a greater action orientation.

In Chapter 3, the conceptual model supporting this study, and the research model that will actually be tested, will be developed and discussed. Relationships among the constructs in these models will also be discussed.

Chapter 3

PARTNERING ATTRACTIVENESS:

MODELS AND HYPOTHESES

The purpose of this chapter is to describe an integrated model of buyer-seller relationships which addresses the research question introduced in Chapter 1. The first objective is to delineate the exact nature of **partnering attractiveness**, the main dependent construct in this study. At the same time, the nature of partnering relationships must be defined. Next, **satisfaction** and **trust** will be delineated as these are two important constructs proposed as antecedent to partnering attractiveness, and they will also be treated as dependent constructs in this study.

Once these constructs have been discussed, the conceptual model will be described. The research model will be developed from the conceptual model, and it is this model that will be tested in this study. The research model will be fully described as each path proposed in the research model is an hypothesis to be tested with this research.

Partnering Relationships and Partnering Attractiveness

Partnering relationships have not been clearly defined in the literature. A study by Purchasing (1988a) found that 68

percent of respondents had developed "some form of partnering relationship" with their suppliers. Nearly all references to partnering relationships simply refer to "closer, longer-term" relationships. At one extreme, these could include simple blanket order agreements or systems contracts; at the other extreme, strategic alliances and joint ventures could be included.

Heide and John (1990) used joint action as their main dependent construct to represent "closer, longer-term" relationships. Their study involved relationships between original equipment manufacturers (OEMs) and suppliers. The nature of relationships where these types of products are involved is more likely to involve joint action between relationship parties than in the context of maintenance, repair, and operating supplies (MRO) purchasing, or where the relationships are between distributors and end-customers. It is argued that the key aspect of a partnering relationship in this context is that it can only exist between two firms. As noted by DeRose (1988), customers that wish to maintain responsible and trustworthy relationship partners must not use multiple sources of supply whose markets, technology, and strategic interests conflict.

This study therefore looks at buyer-seller relationships that have been in existence and stable for some time, and where the customer has been purchasing from two or more

sources of supply on a regular basis. In that regard, **partnering attractiveness** is defined as the degree to which a customer would consider a partnering relationship with a particular distributor, and is measured as the extent to which the customer would keep that distributor as a source of supply if the customer was reducing its vendor-base. From a management perspective, it is important to know what makes a distributor attractive for a partnering relationship, before customers actually decide to develop such relationships.

Two constructs proposed as antecedents to partnering attractiveness are trust and satisfaction, with satisfaction proposed as causally antecedent to trust. These two constructs will be defined, and their relationship to partnering attractiveness and to each other will be discussed.

Trust

Trust is proposed to be directly related to partnering attractiveness. In this study, trust is defined as the customer firm's belief that a supplier firm will perform actions that will result in positive outcomes (rewards) for the customer firm, as well as not take unexpected actions that would result in negative outcomes (costs) for the customer firm (cf. Anderson and Narus 1986, 1990). The customer must be able to confidently depend on the distributor to fulfil its role responsibly. To the extent the customer can trust the

distributor in this regard, the distributor will be viewed as more attractive for a partnering relationship.

Satisfaction

Satisfaction is also proposed to be directly related to partnering attractiveness. In this study, satisfaction is defined as "a positive affective state resulting from the appraisal of all aspects of a firm's working relationship with another firm" (Anderson and Narus 1984, p. 66). Satisfaction has been the dependent construct in many interorganizational exchange models (cf. Anderson and Narus 1984, 1990; Frazier 1983; Frazier, Spekman and O'Neal 1988), and Anderson and Narus (1990) argue that it may also be more predictive of future actions. Gladstein (1984) found satisfaction led to long-term continuation of relationships. In the present model, it is proposed as the customer's satisfaction with a distributor increases, the more attractive that distributor will be viewed for a partnering relationship.

Satisfaction is also proposed to be an antecedent of trust. There has been little research involving the relationship between trust and satisfaction. Anderson and Narus (1990) proposed trust would lead to satisfaction. They confirmed this in their analysis of working relationships from the manufacturer perspective, but failed to find any

relationship between the two constructs when the data from the distributor perspective were analyzed. Wilson and Mummalaneni (1986) developed a conceptual model which proposed the opposite, satisfaction as an antecedent to trust. They did not empirically investigate this relationship. The present model proposes the same causal direction. That is, it is proposed as the customer's satisfaction with a supplier increases, the customer's trust of that supplier will increase.

The basis for this proposition is that both satisfaction and trust develop over time. Satisfaction, as previously defined, is an outcome from the evaluation of all aspects of a working relationship with a supplier. It is therefore conceptually rooted in the past and present. Trust, as previously defined, is a belief relating to future actions. While the bases for trust might also be rooted in the past, there is an implied future orientation. Iteratively, satisfaction with a supplier leads to some initial trusting behavior. If the outcome from that initial behavior is positive, satisfaction increases, resulting in an increase in trust, and an increase in the likelihood of future trusting behavior. If the outcome from that initial behavior is negative, satisfaction decreases, resulting in a decrease in trust, and a decrease in the likelihood of future trusting behavior.

Now that the main dependent constructs in the study have been delineated, the conceptual model will be discussed. This model will provide the theoretical bases for predicting satisfaction, trust, and partnering attractiveness.

The Conceptual Model

There are two higher-order constructs proposed as antecedent to the main dependent constructs in this study (see Figure 3.1). The first is the **offer portfolio**, and the second is the **relationship atmosphere**. These will now be discussed.

The Offer Portfolio

The first higher-order construct is referred to as the **offer portfolio**, a term borrowed and adapted from Hakansson (1982). The dimensions of the offer portfolio include the things which suppliers "offer" to help buyers achieve their needs related to the purchasing task. The product, supplier, and salesperson attributes that make up the offer portfolio come from the supplier choice literature. These attributes include **product quality, inventory management, salesperson, location, service, price, and reputation**.

Supplier performance on these attributes determines the degree to which the buyer is able to accomplish the organizational buying task. Therefore, as the supplier

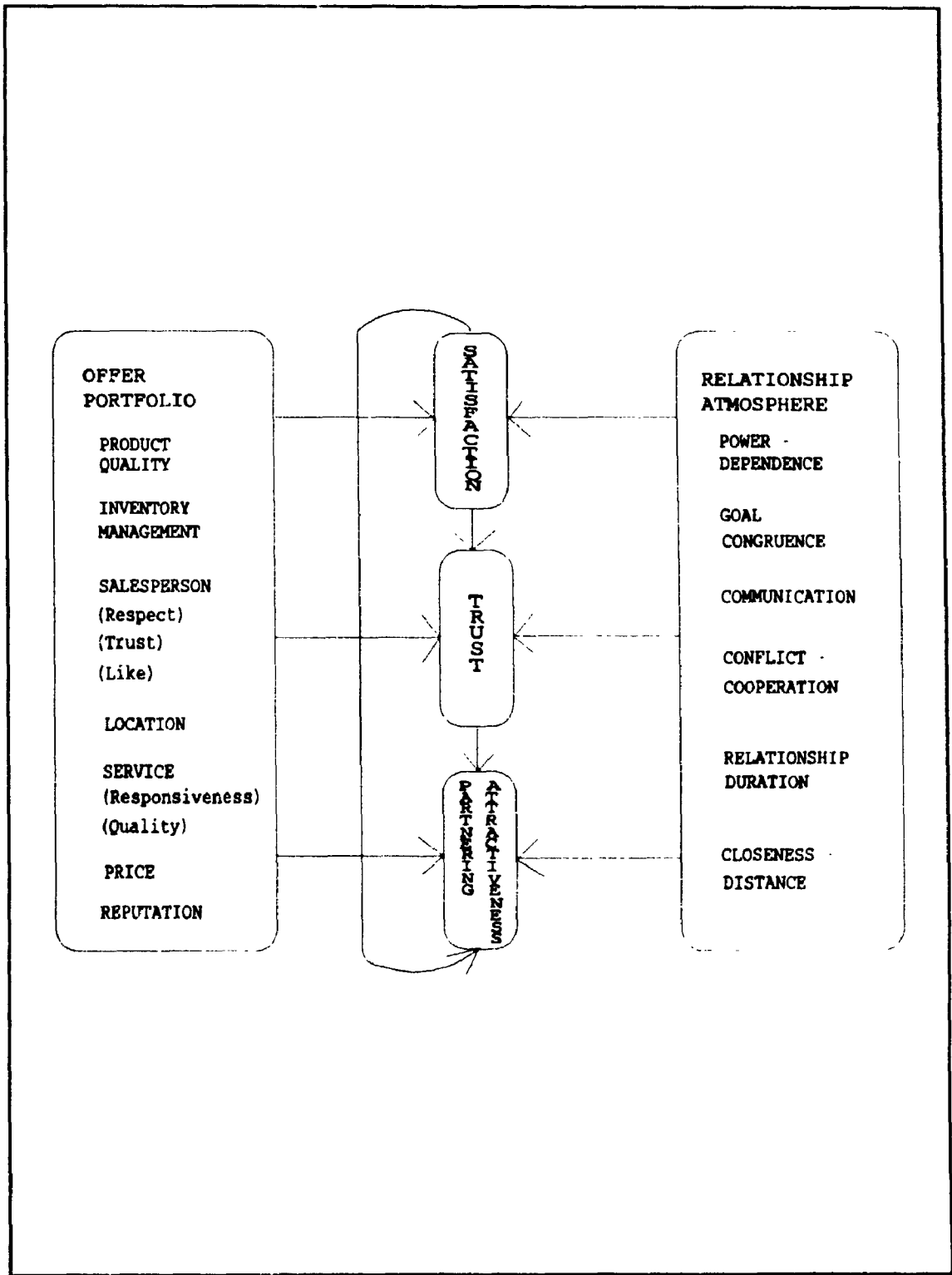


Figure 3.1 Conceptual Model of Partnering Attractiveness

improves its performance on the dimensions of the offer portfolio, customer satisfaction will increase, the customer trust of the supplier will increase, and the partnering attractiveness of the supplier will increase.

The Relationship Atmosphere

The second higher-order construct is referred to as the **relationship atmosphere**, a term also borrowed and adapted from Hakansson (1982). Hakansson argued that relationship atmosphere is a complex construct, not yet fully conceptualized or operationalized. He did suggest several dimensions, including power-dependence, cooperation-conflict, and closeness-distance. These are included as dimensions of the relationship atmosphere, along with several other constructs identified from channel relationship theory. The final constructs include **customer dependence, distributor dependence, goal congruence, communication, conflict, cooperation, relationship duration, and social closeness**. As the relationship atmosphere surrounding any buyer-seller relationship improves, the amount of satisfaction and trust in the relationship should increase, and the partnering attractiveness of both parties should increase.

An important issue that had to be addressed at this stage in the research was whether the **offer portfolio** or **relationship atmosphere** constructs might have a direct effect

on **partnering attractiveness**, or whether their effects would only be indirect through **satisfaction** and **trust**. It was necessary to make this decision before the research model was developed. It was decided to develop the research model with proposed direct paths from these constructs to **partnering attractiveness**.

This decision is defended for several reasons. First, while the multiattribute attitude model would predict only indirect effects, it seemed intuitively appealing that some constructs might have a direct effect over and above any indirect effects through **satisfaction** and **trust**. For example, **price** could be such an important criterion in determining long-term supplier selection that it might become more important in the context of developing **partnering relationships** than it is in contributing to **satisfaction** and **trust** in ongoing relationships. The same argument could be made for other supplier selection criteria so that, in effect, it becomes an empirical issue as to whether such effects exist. More will be said about this when the data analyses are discussed.

A second reason for including direct paths to **partnering attractiveness** from constructs other than **satisfaction** and **trust** is that one purpose of this research was to develop a model combining knowledge from two distinct literature sources. A comparison of submodels examining only the

constructs from each literature source would be interesting at this stage of the research to see whether it is performance on task-related criteria or relationship constructs which better predict **partnering attractiveness**. If there are no direct effects from constructs from either side of the model, this becomes a meaningless question as the prediction of **partnering attractiveness** would be identical with either side of the model since the only paths to **partnering attractiveness** would come from **satisfaction** and **trust**. Again, this becomes an empirical issue and will be discussed further when the data analyses are discussed.

The conceptual model behind this research has been described in this section. Next, the research model will be described. This is the model that will be tested in this study. The constructs that have been identified in this section will be further discussed in the following section, and their relationships to the main dependent constructs and among themselves will be described.

The Research Model

In this section, the research model will be described (see Figure 3.2). The main dependent constructs and the relationships among them are as previously defined in the discussion of the conceptual model. The difference between the conceptual model and research model results because of the

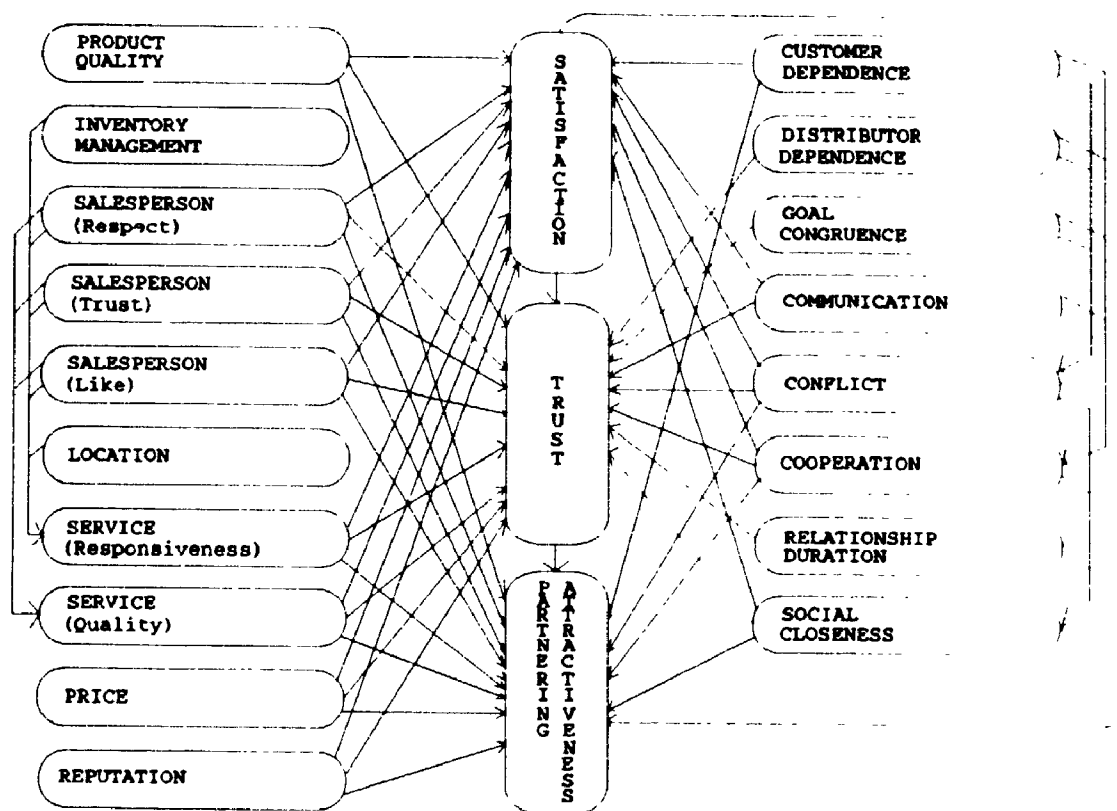


Figure 3.2 Research Model of Partnering Attractiveness

need to reduce the two higher-order exogenous constructs from the conceptual model (**offer portfolio** and **relationship atmosphere**) into lower-order constructs that can then be operationalized. The constructs included in the offer portfolio are the things which the supplier manages in an effort to help the customer firm achieve its purchasing objectives. The constructs included in the relationship atmosphere are the things which relate to the atmosphere surrounding the buyer-seller working relationship. These groups of constructs will be discussed separately in the sections that follow. The rationale and hypotheses linking these lower-order constructs both directly and indirectly to the main dependent constructs will be discussed.

The Offer Portfolio

The offer portfolio constructs will be discussed first. These constructs include **product quality (PQUAL)**, **inventory management (IMGMT)**, **the salesperson (SLSP)**, **service (SERV)**, **location (LOC)**, **price (PRICE)**, and **reputation (REP)**. These are all dimensions of the supplier offering which are managed by the supplier in an effort to help the customer firm meet its purchasing objectives. Most of these are unidimensional constructs; however, salesperson and service comprise several dimensions, and these dimensions will be discussed shortly as the model is discussed.

Product Quality (PQUAL)

The first dimension of importance to any customer is product quality. O'Connor (1985) found quality was the most salient attribute for buyers of all product categories he investigated - original equipment manufacturers (OEM), maintenance, repair, and operating supplies (MRO), and office products and systems. A more recent survey conducted by Purchasing (1987a) found that product quality was an important criterion for buyers of office products and supplies.

At Maytag, Dean M. Ward, Director of Purchases said:

Our three main considerations in choosing vendors are quality, price, and service - in that order. Quality is always number one. We also want to know how competitive a company is in the marketplace, and how well it will respond to problems (see Drozdowski 1987a, P. 58).

These words were basically echoed by competitor Marv Carney, Vice-President of Materials at Raytheon (Amana). In making vendor selections there, purchasing considers quality first, then price and other factors (Drozdowski 1987b).

It is proposed that as a supplier's performance in relation to product quality improves, satisfaction with that supplier will increase, as will trust of that supplier, and that supplier's partnering attractiveness.

Inventory Management (IMGMT)

There are many different aspects to inventory management that can affect the customer's evaluation of the supplier, including inventory breadth, depth, and quantity. Breadth is important because a supplier that has inventory breadth can supply a number of associated products to the customer, reducing the possible necessity of placing several orders with several suppliers. Depth is important because it ensures the supplier can better match the customer's desired price and quality needs, and provides the supplier with the capability of substitution, thereby reducing the number of shipments that may be required to fill an order, or the time needed to complete an order. Quantity is important because it ensures a minimum of shipments to the customer, and reduces the possibility of stockouts or long deliveries.

While these are distinct dimensions of inventory management, a general benefit that the customer derives in all instances is timely delivery of ordered goods, with a minimum of inconvenience due to many shipments. It is therefore proposed that a general measure of inventory management practices is important, and inventory management will have an indirect effect on satisfaction, trust, and partnering attractiveness through its effect on service (responsiveness). It is proposed that as a supplier's performance in relation to

inventory management improves, the supplier's performance in relation to service (responsiveness) will also improve.

Salesperson (SLSP)

One aspect of a supplier firm that is proposed as important when that firm is being evaluated by a buyer is the salesperson. Of all members of the supplier firm, the salesperson has more contact with the buying firm than any other member, and the dyadic relationship that exists between the salesperson and the buyer is central to the purchase/sales process. The process requires a great deal of social interaction, and through this social interaction, each member of the dyad develops an impression of the other member, themselves, the other person's organization, and their own organization. These various impressions help establish the boundaries of the purchasing/selling interaction that exist within the dyad.

When customers evaluate salespeople, they evaluate them on several distinct dimensions, including the respect they have for them, how much they trust them, and whether or not they like them. For this reason, the salesperson is conceptualized as three distinct dimensions, **salesperson (respect)**, **salesperson (trust)**, and **salesperson (like)**. These dimensions of salesperson will be briefly discussed.

Salesperson (respect). This dimension of the salesperson reflects the salesperson's professionalism and ability. Salespeople who are confident, competent, self-reliant, and have stable judgement gain customer respect. As well, salespeople who wish to gain customer respect should also be knowledgeable about the products they sell, have some technical ability with regard to their products so they can solve customer problems, know about their customers' businesses and their customers' needs, and have well-prepared sales presentations.

Salesperson (trust). Salespeople who are honest, dependable, who call on a regular basis, and who follow through on their promises are salespeople who gain customer trust. They should also be seen to have the customer's best interests at heart, be willing to expedite rush orders when the customer has a particular urgency, and make suggestions that save the customer money.

Salesperson (like). Salespeople who are liked tend to be friendly, courteous, enthusiastic, and able to listen to their customers. They also provide the customer with new ideas or products to consider instead of just making routine, repetitive sales calls.

It is proposed that salesperson (respect), salesperson (trust), and salesperson (like) will have a positive effect on

satisfaction, trust, and partnering attractiveness. Further, because the salesperson is so central to the buyer-seller relationship, it is also proposed that salesperson (respect), salesperson (trust), and salesperson (like) will each have an indirect effect through both service (responsiveness) and service (quality).

Location (LOC)

Location has been found to have a strong effect on store choice in consumer markets, and it is also important to the industrial purchaser. However, when we think of location as a factor in industrial supplier choice, we must distinguish between the potential trading area and the immediate trading area. Anderson (1985a) claimed that for systems contracts, some purchasers would draw a circle on a map with themselves at the centre and a radius of 50 or 100 miles. Only suppliers within the circumference can be considered the immediate trading area; the area outside the circumference is called the potential trading area.

Anderson (1985b) argued that location is critical when considering a systems contract. As the distance between the supplier and customer increases, the customer must increase inventory. This applies for all purchases, not just those on systems contracts. While purchasers may consider suppliers from the potential trading area, suppliers in the immediate

trading area have a distinct advantage. With their closer proximity to the customer, their service is enhanced.

O'Connor (1985) found supplier proximity was ranked ninth and tenth for office products and systems, and MRO buyers respectively. This low rating for the importance of location may be due to the fact that suppliers for the most of these products are probably located within the immediate trading area of a firm. Within that area, location may be less important; however, there can still be differences in suppliers' abilities to deliver quickly when orders are placed. A better way to conceptualize location for many products is therefore not geographical distance, but time distance. As time distance decreases, supplier delivery performance will increase, and this will positively affect the customer's perception of the supplier's service (responsiveness).

Location is therefore proposed to have an indirect effect on satisfaction, trust, and partnering attractiveness through its effect on service (responsiveness).

Service (SERV)

O'Connor (1985) found that as a supplier selection criteria, service was ranked third by MRO products buyers, sixth by OEM products buyers, and fifth through seventh by

office products and systems buyers for product service, delivery service, and sales service respectively. A more recent survey conducted by Purchasing (1987a) suggested that service might be the most important selection criterion for buyers of office products and supplies.

Like salesperson, service has more than a single dimension. In this study, it is represented by two constructs, **service (responsiveness)** and **service (quality)**. The former refers to such aspects as how quickly the supplier responds to service requests and makes product deliveries, how timely the supplier provides service in relation to promises made, and how quickly the supplier corrects errors it makes, whether accounting or shipping errors. The latter refers to the supplier's willingness, courteousness, knowledge, and accuracy in providing service.

It is proposed that service (responsiveness) and service (quality) will have a positive effect on satisfaction, trust, and partnering attractiveness.

Price (PRICE)

Duncan (1966) found price to be one of the most important attributes evaluated by buyers when making a supplier choice decision. Price was found to be the second most important criterion for supplier selection for MRO products and office

products and systems, but was ranked fifth (and tied with delivery) by OEM products buyers (O'Connor 1985). Drozdowski (1987a; 1987b) quoted Dean M. Ward of Maytag and Marv Carney of Raytheon (Amana) who placed price as the second most important criterion for supplier selection, immediately after product quality.

It is proposed that as a supplier's performance in relation to price improves, satisfaction with that supplier will increase, as will trust of that supplier, and that supplier's partnering attractiveness.

Reputation (REP)

Anderson and Weitz (1989) used negative reputation as a construct in their model, and found it was negatively related to both trust and perceived continuity of relationship. Reputation may be more important when supplier evaluation or choice must be made in the absence of actual experience. The relationships investigated in this study have existed for some time, and the customer will have had sufficient experience with any supplier so that reputation may not be an important construct; however, this is an empirical question and will be decided based on the data collected in this study. For this reason, reputation is included in this model, and it is proposed to have a positive effect on satisfaction, trust, and partnering attractiveness.

The constructs which comprise the offer portfolio have been reviewed in this section, along with the rationale and hypotheses linking these constructs both directly and indirectly to the main dependent constructs in the study. Next, the constructs which comprise the relationship atmosphere will be discussed.

The Relationship Atmosphere

The constructs which comprise the relationship atmosphere will now be discussed. These constructs include customer dependence, distributor dependence, goal congruence, communication, conflict, cooperation, relationship duration, and social closeness. These are all proposed dimensions of the atmosphere which surrounds buyer-supplier relationships. These dimensions will now be discussed, along with the rationale and hypotheses linking these constructs both directly and indirectly to the main dependent constructs in the research model.

Customer Dependence (CUSDEP)

In this study, customer dependence is conceptualized similar to outcomes given comparison level for alternatives (CL-alt) (cf. Anderson and Narus 1984; Kelley and Thibaut 1978). A customer is more dependent on a distributor when there are few good distributors for the same products, when

the distributor is an important supplier, and when the customer believes it would be difficult to replace the distributor.

It is proposed that as the customer's perceived dependence increases, the customer's satisfaction with the relationship will decrease. While this hypothesis seems intuitively appealing, it has not been found in any of the channel literature reviewed by Gaski (1984), and there is no indication this relationship has been directly tested.

There is no relationship proposed between the customer's perceived dependence and trust. It could be argued that as the customer's dependence increases, trust should decrease. However, the view taken here is that this would only apply to the extent that the supplier was aware of the customer's dependence, and consequently was able to take advantage of that dependence. In most cases, even if dependence is fairly high, customers attempt to conceal their dependence from suppliers.

Mummulaneni and Wilson (1991) found that commitment increased as investments in a relationship increased, and Wilson and Mummalaneni (1988) proposed that both structural and social bonds would lead to increased commitment. When one party in a relationship makes investments in that relationship, dependence increases. It is proposed that the

customer's perceived dependence is positively related to partnering attractiveness. The more dependent the customer is on a particular supplier, the more the customer is likely to evaluate that supplier as attractive for a partnering relationship.

It is further proposed in this research model that customer dependence will be negatively related to conflict, and positively related to cooperation. The more dependent a customer feels in a relationship, the more important that relationship will be to the customer, and the customer will be motivated to make the relationship as cooperative as possible. This will also require that conflict be minimized in the relationship.

Distributor Dependence (DISDEP)

In this study, distributor dependence is conceptualized as the extent to which the customer perceives it is important and not easily replaceable by the distributor. The customer's perception of distributor dependence is not proposed to have an effect on the customer's satisfaction, nor on partnering attractiveness. However, it is proposed that as the perceived distributor dependence increases, the customer will trust the distributor more. The more dependent the distributor is in a relationship, the more concern will be shown to ensure dependable role performance, and the less likely the

distributor will take any action which might jeopardize the relationship.

It is proposed in this research model that distributor dependence will be negatively related to conflict, and positively related to cooperation. The more dependent a distributor feels in a relationship, the more important that relationship will be to the distributor, and the distributor will be motivated to make the relationship as cooperative as possible. This will also require that conflict be minimized in the relationship.

Goal Congruence (GCONG)

Stern and El-Ansary (1982) argued that disagreement over goals was one of the most pervasive problems in channel management. They further argued that such disagreement caused conflict while, when there was agreement, trust could develop in a relationship. Anderson and Weitz (1989) investigated goal congruence and they found it positively related to trust in their study.

In this study, goal congruence refers to the perception that it is possible for both parties in an exchange relationship to achieve their goals simultaneously. The opposite view is that one party can only achieve its goals by reducing the goal outcomes for the second party. It is

proposed in this model that the perception of goal congruence will lead to higher levels of trust in the relationship. It is further proposed that the perception of goal congruence will lead to less conflict, and more cooperation in the relationship.

Communication (COMM)

Communication, in this study, refers to the formal and informal sharing of timely information between firms (cf. Anderson and Narus 1984, 1990). This definition centers on the efficacy of information exchange rather than the quantity or frequency of information exchange.

Communication is an important part of any exchange relationship, and the nature of the communication that exists between exchange partners is an important part of the relationship atmosphere. It is an aspect that will be considered when a relationship is evaluated, and as the evaluation of communication within a relationship improves, satisfaction with the relationship should increase. It is proposed that communication has a direct and positive relationship to satisfaction.

Researchers have not agreed on the direction of the causal relationship between communication and trust. Dwyer, Schurr, and Oh (1987) suggested that trust leads to

communication. Anderson, Lodish, and Weitz (1987) suggested that communication leads to trust. Anderson and Narus (1986) agreed, and viewed communication as a necessary antecedent of trust. Anderson and Narus (1990) found empirical support for communication leading to trust, with cooperation as an intervening construct. This relationship was found when the data from either the manufacturer or the distributor perspective were analyzed. This study accepts the views held by supported by Anderson and Narus (1986, 1990). However, it is proposed that communication has both a direct effect on trust, and an indirect effect through cooperation.

conflict (CONF)

In this study, conflict is conceptualized as the overall level of disagreement in a relationship, expressed as the frequency, duration, and intensity of such disagreements. A claimed negative relationship was found between conflict and satisfaction by Rosenberg and Stern (1971). In a study of dealers, distributors, and manufacturers of household durables, they found as one channel member's dissatisfaction with another's performance increased, so did the amount of conflict between them. They postulated a causal role for conflict. However, Gaski (1984) argued there was no basis for making a causal inference as it was just as plausible to suggest that their findings supported a satisfaction-conflict causal link.

Wilkinson (1981) also found a negative relationship between conflict and satisfaction. His study was criticized by Gaski (1984) on a number of issues, including small sample size and weak analysis. He did, however, appear to have good measures of conflict and satisfaction, even though Gaski criticized his study on the basis of poor measures. Gaski's criticism may have been more in respect to other constructs.

Anderson and Narus (1990) hypothesized conflict would be negatively related to satisfaction, regardless of whether the distributor or manufacturer perspective of working relationships was studied. They found support for a strong negative relationship when the data from the manufacturer perspective were analyzed.

The relationship between conflict and trust has received little empirical attention. Anderson and Narus (1990) hypothesized as trust increased in a relationship, conflict would decrease. Again, they found support for a strong negative relationship when the data from the manufacturer perspective were analyzed. However, it could as easily be argued that as conflict increases in a relationship, trust decreases. It is this argument that is proposed here, and the justification is the same as used by Anderson and Narus to explain the respecification of the cooperation-trust relationship in their model (which will be discussed shortly). It is proposed, then, conflict is negatively antecedent to

trust because, when respondents are asked about their perceptions of their firm's trust in a working relationship, they give a **present state** report. In contrast, respondent reports on conflict implicitly tap **past** conflict. When asked about their perception about their firm's conflict with a partner firm, respondents would think about recent past experiences when the two firms had worked together. This would make past conflict antecedent to present trust in the relationship.

It is also proposed that conflict in a working relationship will be negatively related to partnering attractiveness. When asked to respond concerning the attractiveness of a supplier firm for a partnering relationship, informants will reflect on recent past experiences with the supplier firm and, to the extent that conflict has existed in the relationship, partnering attractiveness will be lower.

To summarize the relationships between conflict and the main dependent constructs, it is proposed that the level of conflict in a working relationship is negatively related to satisfaction, trust, and partnering attractiveness.

It is possible to have both conflict and cooperation in a working relationship. In highly cooperative relationships, conflict may exist and may be constructive. However, when there is frequent, intense, and long-lasting conflict in a

relationship, it is likely there will be reduced cooperation. It is proposed that as conflict in a relationship increases, the amount of cooperation in the relationship should decrease. Finally, it is also proposed that as conflict in a working relationship increases, social closeness will decrease. Relationships that are characterized by frequent, intense, and long-lasting conflict will not foster social bonds between relationship members.

Cooperation (COOP)

Cooperation in this study refers to the extent to which parties in a working relationship help each other and coordinate their actions. In a laboratory experiment, Dwyer (1980) showed that cooperation and satisfaction were highly correlated. Gaski (1984) argued that this finding could be attacked on the grounds that causal ordering could be in either direction. Anderson and Narus (1990) hypothesized that cooperation would be positively related to satisfaction, regardless of whether the distributor or manufacturer perspective of working relationships was studied. They found support for a strong positive indirect relationship when the data from the manufacturer firm perspective were analyzed, cooperation being related to satisfaction through trust.

In the present study, it is proposed that cooperation will lead to satisfaction. When respondents are asked about

the level of present satisfaction in their working relationship with a supplier firm, they will reflect on the amount of cooperation experienced in recent working experiences with that firm, and with higher levels of perceived cooperation, there will be higher levels of satisfaction.

The relationship between cooperation and trust has received little empirical attention. Anderson and Narus (1990) hypothesized as trust increased in a relationship, cooperation would increase. Their data forced them to respecify their model as they found empirical support for cooperation leading to trust. This specification held regardless of whether the data from the manufacturer or distributor perspective were analyzed. They supported the respecification on the grounds that when respondents are asked about their perceptions of their firm's trust in a working relationship, they give a present state report. In contrast, respondents reports on cooperation implicitly tap past cooperation. When asked about their perception of cooperation with a partner firm, respondents would think about recent past experiences when the two firms had worked together. This would make past cooperation antecedent to present trust in the relationship. It is this specification that is proposed in the present model, cooperation in a relationship leads to trust in that relationship.

It is also proposed that cooperation in a working relationship will be positively related to partnering attractiveness. When asked to respond concerning the attractiveness of a supplier firm for a partnering relationship, informants will reflect on recent past experiences with the supplier firm and, to the extent that cooperation has existed in the relationship, partnering attractiveness will be increased.

To summarize the relationships between cooperation and the main dependent constructs, it is proposed that as the level of cooperation in a working relationship increases, so will satisfaction, trust, and partnering attractiveness.

Cooperation is also proposed to be positively related to social closeness. Relationships that are highly cooperative facilitate the establishment of social bonds between interacting parties.

Relationship Duration (RELDUR)

A number of researchers have argued that trust develops over time (e.g., Magrath and Hardy 1989), and therefore, we would expect that as relationship duration increases, so would the level of trust in the relationship. This is proposed in the present research model; however, it is also proposed that relationship duration is associated with social closeness.

Homans (1958) suggested that we tend to like the people we interact with, so that the more we interact with someone, the closer we are likely to feel toward that person. If this is the case, then relationship duration should lead to social closeness, and its effect on trust might be largely through its effect on social closeness.

Social Closeness (SOCALO)

Social closeness is a measure of the degree to which close personal relationships have developed between people in firms that have had a working relationship for some time. Mummulaneni and Wilson (1991) proposed that close personal relationships would lead to satisfaction in a working relationship. It is proposed that where there is a high degree of social closeness, or where social bonds have been established in a working relationship, there should be more satisfaction in the relationship.

Where positive interpersonal relationships exist, there should also be higher levels of trust (Magrath and Hardy 1989). Finally, Wilson and Mummulaneni (1988) proposed that social bonds would lead to commitment. It is therefore proposed that as social closeness increases, both trust and the partnering attractiveness of a distributor should also increase.

To summarize the relationships between social closeness and the main dependent constructs, it is proposed that as social closeness in a working relationship increases, so will satisfaction, trust, and partnering attractiveness.

In Chapter 3, the conceptual model and the research model that will be tested in this study have been described. The main dependent constructs have been defined along with the antecedent constructs, and the relationships among the various constructs have been delineated. Research design issues and field research procedures, along with the data analysis technique, PLS, will be discussed in Chapter 4.

Chapter 4

RESEARCH DESIGN

The purpose of this chapter is to describe the research methodology, including: 1) the mail questionnaire approach used for data collection, 2) the particular product class investigated, 3) the sampling frame, size, and method, 4) the use of key informants as respondents 5) the survey instrument development and pretest, 6) field research procedures, 7) data editing and file preparation, and 8) the Partial Least Squares methodology used to examine the causal models and test the research hypotheses.

Data Collection Method

The basis of this research was a cross-sectional mail survey of customers of industrial distributors. The surveys were addressed to purchasing decision-makers in each organization, and were designed to assess each person's perception of the distributor's offer portfolio, and the relationship atmosphere surrounding the customer-distributor working relationship. The main purpose of the study was to predict the partnering attractiveness of the distributor, from the customer perspective.

A mail survey was thought to be the most effective and efficient way to gather data for this research. The purpose of the questionnaire was to "tap" the customer's perception of the distributor on a number of salient criteria related to the purchase decision, and to assess the customer's perception of the customer-distributor working relationship that existed at that time. The mail questionnaire allowed respondents to answer a battery of similar questions designed to measure each construct. Since the number of total questions was quite large, a further advantage was that respondents could complete the survey at their convenience. This allowed more thoughtful reflection on the questions asked, and saved considerable interviewer time that would otherwise have been necessary if the questionnaires were completed by either personal or telephone interviews. All potential respondents were initially contacted by telephone to be certain they met certain criteria (to be discussed later) for inclusion in the survey sample. It was hoped this would influence response rate, increase respondents' commitment to the task, and save postage that would be wasted on questionnaires that might otherwise not be returned.

Research Context

The purpose of this research was to study the partnering attractiveness of industrial distributors, from the customer perspective. One possible approach would be to randomly

sample customers and have them evaluate one or more industrial distributors from where they purchased goods. This approach had several disadvantages. First, data would be collected across a broad range of product classes, and it is possible product class could moderate the relationships investigated in the model. Second, there would be no way to control the stage of the relationship between the customer and the different distributors they evaluated. It is possible that the stage of the relationship might also moderate the relationships in the model.

A solution to both problems would be to define the stage of the relationship and specify the product class, holding both constant across respondents. This is similar to the approach used by Moriarty (1983), who had customers complete questionnaires only if they were involved in the purchase of a specific product. A disadvantage of this approach is that it does not provide variation in the product class, and the moderating effects of product class cannot be investigated. However, it is this latter approach that was used for this study, and is defended for two reasons. First, the product class investigated in this study is sufficiently important to warrant close examination. Second, there are a number of product groups within this product class, and these product groups are sufficiently different that they could moderate the relationships in the model. These two arguments will now be expanded.

The product class of interest in this research was **maintenance, repair, and operating supplies (MRO)**. This product class has not generated as much research attention as some other product classes; however, it is very important as far as most purchasing departments are concerned. A study by Morgan (1986) found that 94.3 percent of purchasing departments tracked dollars spent on MRO supplies, and 79.3 percent tracked the acquisition costs of these goods. MRO supplies were found to account for 17.5 percent of all purchases, and 26.2 percent of all purchase acquisition costs. Given these facts, it is argued that the study of MRO purchasing deserves more attention.

One problem with studying MRO supplies is that these supplies include a number of different **product groups**, from stationery supplies and small hand tools, to welding supplies and fluid power equipment. There are a number of differences with regard to these product groups in terms of customer buying behavior, and it is argued it would be more valuable to look at several product groups within this product class, rather than several product classes.

The specific product groups investigated in this research were stationery and office supplies, and welding supplies and equipment. These two product groups were chosen for a number of reasons. The majority of sales for both product groups are handled through distributors; 84 percent for stationery and

office supplies, and 91 percent for welding supplies and equipment (Morgan 1986). At the same time, a high percentage of the purchases of both product groups were classified as MRO purchases; 92 percent for stationery, and 70 percent for welding supplies.

There are other advantages to investigating these two product groups. They are often bought from alternative sources of supply, but seldom from more than two sources (personal interviews). The buy-cycle for these products is relatively short so that customers place frequent orders with suppliers. This means where alternative sources of supply are used, customers have frequent and recent experience with two or more distributors. With both product groups, there is a perceived trend toward partnering from both purchasing and sales people, and this means distributors will be losing accounts for these products (personal interviews). Finally, sales of these product groups are often made by a number of firms directly competing with each other within any particular geographic area.

Research Sample

Only customer organizations that had ongoing working relationships with two or more competing distributors were included in the research sample. Because of the nature of the dependent construct, **partnering attractiveness**, it was not

possible to include data from companies that used single sources of supply for these product groups. Therefore, it would not be appropriate to generalize the findings from this study to such buyer-seller relationships, and these relationships accounted for a large proportion of all buyer-seller relationships for these particular product groups. Of 394 companies contacted regarding the purchasing of stationery and office supplies, 120 either did not buy locally or used a single source of supply. Of 469 companies contacted regarding the purchasing of welding supplies and equipment, 244 reported they bought from only one distributor.

For the purpose of this study, an ongoing working relationship was defined as one which had been in existence for a minimum of one year, and where the customer had placed at least two orders with the distributor over that time. It was also required that the respondents for the customer organizations held their positions within their respective organizations for the previous year. These conditions were necessary to ensure there was an ongoing working relationship between the customer and distributor organizations, and the respondent from the customer organization had sufficient knowledge of the distributor firms and the interorganizational relationships to evaluate them.

Customers were required to evaluate two customer-distributor working relationships. Where one distributor

supplied the customer with a higher percentage of their dollar purchases, that distributor was designated a **primary supplier**, and the relationship that existed between the customer and that distributor was designated a **primary relationship**. The distributor that supplied the customer with a lower percentage of their dollar purchases was designated a **secondary supplier**, and the relationship that existed between the customer and that distributor was designated a **secondary relationship**. In some instances, customers evaluated two distributors that supplied them with an equal percentage of their dollar purchases. In these instances, the distributors were not designated as either primary or secondary suppliers, and the relationships that existed between the customer and those distributors were not designated as either primary or secondary relationships.

In order to identify potential customer organizations for inclusion in the research sample, a large distributor of stationery supplies and a large distributor of welding supplies from the London, Ontario area were approached, and they agreed to cooperate in this research. Each distributor provided a complete list of accounts with which they had an ongoing working relationship, and the key contact person at each account who was responsible for the purchase of the particular product group sold by that distributor. These lists were supplemented with additional potential customers from the telephone directory (Yellow Pages), and from several

industrial business directories. The key purchasing person within each customer organization was then contacted by telephone and questioned concerning the company purchases of stationery or welding supplies. If it was determined that they were eligible to complete the questionnaire, they were asked if they would do so.

From the stationery supplies customers, a total of 209 responses were received, each responding on two customer-distributor relationships for a total of 418 relationships. The resulting sample did not represent a true random sample, but could best be described as a convenience sample. This, however, is still adequate to test theoretical propositions (Phillips 1982).

From the welding supplies customers, the total number of responses was too small, even after all potential customers who met the criteria for inclusion in the sample were contacted. It was decided to enlarge the geographical area from which the sample was drawn to include Kitchener-Waterloo and the surrounding townships. Two of the five welding supplies distributors in the Kitchener-Waterloo area provided lists of accounts they thought met the criteria for inclusion in the sample, and these lists were again supplemented by additional potential customers identified from telephone directories (Yellow Pages) and several industrial business directories. The resulting sample of 141 responses (282

relationships) would be best described as a census of customers between Guelph and Brantford (eastward) and London and St.Thomas (westward) that met the criteria for inclusion in the research sample.

Sample Size

Partial Least Squares (PLS) was used to examine the causal model and test the research hypotheses in this study. PLS is a regression based structural equations approach which uses ordinary least squares (OLS) estimators. A general rule-of-thumb concerning sample size with OLS regression suggests that 10 cases be included for each predictor variable in the regression model (Pfaffenberger and Patterson 1987). Tabachnick and Fidell (1989) recommended 20 times more cases than predictor variables, but also claimed that five times was acceptable as a bare minimum. These general rules-of-thumb have been applied to PLS models. For example, Barclay (1986) suggested that 10 cases be included for every manifest (observable) variable measuring the most complex latent (unobservable) construct in the model. However, this rule-of-thumb might be more appropriate for simple models only. For the models investigated in this study, the most complex construct had only nine manifest predictors, but the most complex regression in the model involved the 17 latent constructs predicting trust. To apply the rules-of-thumb to this study, the sample size would therefore need to be 85 as

a bare minimum, with a preference for 170 cases or more, that being 10 cases for every latent (unobservable) construct used as a predictor in the most complex regression within the model. Increased confidence in the stability of the regression coefficients calculated by PLS would result from larger sample sizes.

Key Informants

One of the major issues in organizational research is the use of key informants to provide information when the unit of analysis is either the organization, or the relationship between organizations. **Key informants** are individuals chosen to report on aspects of an organization or organizational relationship because of their special status within an organization, or their presumed knowledge about the subject of inquiry. In marketing, the majority of studies have been conducted using a single key informant to report on organizational characteristics or relationships, and questions arise as to the reliability and validity of measures collected from a single source (Campbell and Fiske 1959; Phillips 1980). For example, organizations have an organizational structure (Blau and Schoenherr 1971), maintain distinct product portfolios (Day 1977), pursue unique marketing strategies (Buzzell, Gale, and Sultan 1975), and establish power-dependence relationships with other organizations in their environments (Pfeffer and Salancik 1978). How reliable and

valid are measures provided by single key informants relating to these organizational characteristics or interorganizational relationships? This question has recently been addressed by a number of researchers who have used multiple key informants for this purpose.

Phillips (1981) used multiple key informants within a single organization, and adapted measurements from previous single-informant investigations relating to (1) channel member power-dependence relations and (2) characteristics of an organization's product portfolio. Phillips found poor validity on almost all measures, and concluded there were both random and systematic sources of measurement error in the data. Random error was attributed to the complex social judgements made by the key informants concerning the organizational characteristics. These judgements may have placed unrealistic demands on the respondents. Systematic error was attributed to positional biases or knowledge deficiencies associated with each respondent. This is understandable, given it is unlikely two informants within a single organization will have had the same experiences with any particular distributor, or with the set of other suppliers they will use to form an evaluation of that particular distributor.

A potential problem, when two informants are used and the measurements of their perceptions fail to show convergent

validity, is what to do with the measures from both informants. To average them might simply decrease the validity of the responses. The solution implemented in this study was to revert to a single key informant within each organization. This decision was made on several grounds. First, it was previously suggested that the buyer within an organization has more influence when purchases are made for MRO supplies, and when modified rebuy situations arise. Second, sales managers from the distributor firms and purchasing people from the customer firms agreed there is generally a single person who could be considered a key person responsible for supplier selection and purchase decisions at each account. Heide and John (1990) have used this as the reason to use a single key informant in their study. Third, it is argued that in an environment of reducing vendor-bases, the buyer or purchasing person will have greater influence on deciding which suppliers to maintain or with which to develop partnering relationships.

A second type of multiple informant study involves the use of informants from both sides of a channel dyad. John and Reve (1982) measured several structural dimensions of interorganizational relationships (interactions, formalization, and centralization), and several dimensions of dyadic sentiments (goal compatibility, domain consensus, evaluation of accomplishment, and norms of exchange). They found key informants across firms provided reliable and valid

measures concerning the structural form of the interorganizational relationship, but these same respondents' measures relating to the sentiment constructs failed to show adequate convergent and discriminant validity. They attributed the divergence to "real" differences in perception between the respondents across the channel dyad in relation to these constructs. In the present study, it is argued that it is not appropriate to collect data across the customer-distributor dyad. The main endogenous constructs of interest in this study are satisfaction with, trust of, and partnering attractiveness of the distributor firm, and these relate directly to the customer firm's behavior. It is perceptions within the customer firm concerning the distributor and the customer-distributor working relationship that will determine the customer's behavior toward the distributor.

SURVEY INSTRUMENT DEVELOPMENT AND PRETEST

Dillman (1978), Pressley (1980), and Alreck and Settle (1985) were used to help in the development of the survey instrument. Two main objectives considered throughout the design process were the need to collect valid and reliable data, and the need to achieve an acceptable response rate.

Dillman's Total Design Method "identifies each aspect of the survey process that may affect either the quality or quantity of response and tries to shape each of them in such

a way that the best possible responses are obtained" (p. 12). Responding to survey instruments is viewed as a "social exchange," requiring that the respondent's costs be minimized, rewards maximized, and trust established that those rewards will be delivered.

Several issues that had to be resolved during the design process included question placement, question formats and instrument length. These issues potentially affect the response rate and data quality, and Andrews (1982) pointed out that there is usually a trade-off between the two.

Question Placement

Dillman (1978) proposed that items measuring the same construct be placed together, allowing respondents to develop cognitive ties between responses as this would help increase response rate. An alternative argument is that placing items together will increase response bias, and they should therefore be dispersed throughout the instrument, possibly with several different instruments having response items rotated or randomly placed. This would help improve data quality.

The survey instrument used in this study followed both procedures. Product quality, inventory management, salesperson, location, service, and price constructs were

measured with items that were generally grouped by construct. Reasons for grouping the items included: 1) although items measured the same construct, they were sufficiently different that they would not encourage a response-set, or the tendency to answer all items with a single response; 2) as industrial marketing surveys generally have low response rates, the concern was in favour of improving the survey response rate by making the response task easier for the respondent; 3) most industrial survey instruments follow this procedure; and 4) since questions measuring the same construct usually use the same semantic anchors, this helps reduce the physical size of the questionnaire, and improves appearance.

For all other constructs, the items were randomly dispersed so that no two measures of any construct appeared next to each other. With these items, there was a concern that if they were grouped by construct, response-sets might be established and the validity of the measures would be reduced. These constructs were measured by a smaller number of items per construct, and the wording of the items that measured these latter constructs was often more similar than the wording of the items that measured the former constructs.

Question Format

There were two concerns that needed to be addressed when question format was considered, the question style and the

number of response alternatives. Most questions were measured with a Likert-type scale, widely used in marketing research and easy for respondents to understand and complete (cf. Kassarian and Nakanishi 1967, Menezes and Elbert 1979). To prevent "left hand" or "right hand" bias, many of the scale items were negatively stated as suggested by Nunnally (1978, p. 658-672). These items were reverse-coded before data analyses so that lower numbers always reflected "less agreement," and higher numbers always reflected "more agreement."

With the Likert-type measures, seven response alternatives were used for each scale item. The reasons for this choice were well articulated by Cox (1980, p. 420), who found:

- 1) Scales with two or three response alternatives are generally inadequate in that they are incapable of transmitting very much information and they tend to frustrate and stifle respondents.
- 2) The marginal returns from using more than nine response alternatives are minimal and efforts for improving the measurement instrument should be directed toward more productive areas.
- 3) An odd rather than an even number of response alternatives is preferable under circumstances in which the respondent can legitimately adopt a neutral position. Overuse of the neutral category by respondents can generally be avoided by providing them with an adequate number of response alternatives.
- 4) Even a few response alternatives may be too many for the respondent if comprehensible

instructions and labelling of response alternatives are not included to enable the respondent to conceptualize and respond in spatial terms.

Seven (plus or minus two) was also found to be the span of short-term memory (Miller 1956). Respondents should have had no difficulty with seven response categories as this was not only within their short-term memory span, but these questions were all labelled with the same or similar anchors at the ends of the response scales. Cronbach (1950) also warned against increasing the number of response alternatives. Increasing response alternatives can increase the reliability of a subject-centred scale, but can reduce the scale's validity by facilitating response-sets, or the tendency to respond identically to a larger set of questions.

Instrument Length

Another concern was with instrument length. Dillman (1978) suggested that response rates decreased when survey instruments were longer than 10 pages. Baumgartner and Heberlein (1984) suggested that more research was needed, but "the evidence to date seems to indicate that the modest negative effect of length on final response rate can be overcome if other procedures, such as follow-up contacts or incentives, are also used" (p. 70).

Because of the number of constructs investigated in this research model, the need for a minimum of three measures for latent constructs, and the need for respondents to rate two alternative suppliers, instrument length was a potential problem. This was compounded by the fact that a number of questions were "piggy-backed" on this instrument to collect data to support additional research. Given the cost in both dollars and time to collect the data for this research, it was thought appropriate to add additional items that could later be used in conjunction with these research questions to support additional analyses.

A number of additional steps were taken to reduce any threat to response rate and data quality that the length of the questionnaire might cause. First, the instrument was pre-tested to minimize the length necessary to measure all constructs adequately, and to modify any items that might make the survey difficult for the respondent. The size of the pre-test sample did not allow a statistical test of the measurement model, but did identify a construct that could have been inadequately measured, and two items which were unnecessarily difficult and were replaced with a single, more appropriate item.

Second, the instrument was pre-tested to ensure that respondents would have no difficulty or concern with the task of rating two distributors on the same instrument. Placing

the two distributors on the same instrument would increase the size of the single instrument, but would make the task considerably easier and faster than if the respondent was asked to complete two separate surveys, one for each distributor. It was also necessary to ensure that respondents did not mind the distributors being named on the instrument. An advantage might be more valid responses as respondents were continually focused on particular distributors, and were asked to rate them together so that comparisons could be made. A disadvantage would result if respondents felt uncomfortable doing this as they then might have a tendency to rate both distributors identically.

Third, endorsement was solicited from the Purchasing Management Association of Canada (PMAC). Permission was granted to use the PMAC logo on all correspondence related to this research. The logo was used on the cover of the survey instrument (see Appendix A.1), and on the covering letter that was sent with the instrument (see Appendix A.2). Baumgartner and Heberlein (1984) claimed that members of special interest groups would often answer survey instruments twenty pages in length when the survey was sponsored by the group, and when salient questions were asked. The University of Western Ontario logo was also prominently displayed on all envelopes and letterheads as other researchers found that surveys sponsored by universities often had greater response rates than similar surveys sponsored by commercial research firms.

It was hoped that the joint endorsement would increase the commitment to respond to the survey, regardless of instrument length.

Operationalization of Constructs

This section will describe the operationalization of latent constructs (unobservables) into manifest variables (observables). These manifest variables are the items on the questionnaire. Many items were developed especially for this study, while others were developed or adapted from previous research. The items used in this research will now be discussed.

Offer Portfolio Constructs

The offer portfolio constructs were mainly operationalized with measures originally developed for this research. The exceptions were the dimensions for salesperson, where the measures were adapted from Swan, Rink, Kiser, and Martin (1984) and Williams and Semenerio (1985). For the other constructs, no previous research was found where they had been measured by multiple items. The items measuring these constructs are shown in Table 4.1.

Table 4.1 Manifest Variables Measuring Offer Portfolio Constructs

<u>Constructs</u>	<u>Variables</u>
PRODUCT QUALITY	
PQUAL1	The products sold by this supplier <u>do not</u> always conform to our standards.
PQUAL2	We often have to call for repair service on products we buy from this supplier.
PQUAL3	The products sold by this supplier are all from very reputable manufacturers.
PQUAL4	The products sold by this supplier are all very reliable products.
PQUAL5	The products sold by this supplier are all very durable products.
PQUAL6	The products sold by this supplier always perform as we expect them to.
PQUAL7	We sometimes have to reject goods and return them to this supplier.
INVENTORY MANAGEMENT	
IMGMT1	This supplier has a sufficient stock of the items we order from them so they seldom have to make partial shipments.
IMGMT2	This supplier has a very broad range of products so we can get any stationery or office supplies we need from them.
IMGMT3	This supplier carries many similar products and can make substitutions when they don't have the exact product we want in their inventory.
IMGMT4	This supplier often makes partial shipments which result in backorders and extra work for us.
IMGMT5	This supplier manages their inventory very poorly.
IMGMT6	This supplier has a very good supply of parts to service the products they sell.
SALESPERSON (Respect)	
	The salesperson who calls on us:
SCOMP	is very competent.
SKNOW	knows a lot about the products they sell.
STECH	is able to provide technical assistance when needed.
SJUDG	shows stability of judgement.
SSFREL	is very self-reliant.

/continued

SNEEDS knows a lot about our company and its needs.
 SCONFID has a lot of confidence.
 SPREP always has a well prepared sales presentation.

SALESPERSON (Trust)

The salesperson who calls on us:

STRUST is a person we can really trust.
 SINTERE has our best interests at heart.
 SHONEST is very honest.
 SDEPEND is not very dependable.
 SEXPED is willing to expedite rush orders for us when we urgently need them.
 SRELIAB is very reliable.
 SPROMIS follows through on all promises.
 SSAVE often makes suggestions that save us money.
 SREGU calls on a regular basis.

SALESPERSON (Like)

The salesperson who calls on us:

SCOURT is not very courteous.
 SFRIEND is very friendly.
 SLIST really knows how to listen.
 SIDEAS often provides us with new ideas or products to consider.
 SLIKE is not very likeable.
 SIMAG shows a lot of enthusiasm in applying products to our needs.

SERVICE (Responsiveness)

SERV1 This supplier is excellent at honouring the warranty on products they sell.
 SERV2 This supplier does not respond very quickly to our requests for service.
 SERV3 This supplier always provides service when it is promised.
 SERV4 We get very quick delivery when we order from this supplier.
 SERV5 This supplier is very quick to correct its shipping errors.
 SERV6 This supplier is very quick to correct its accounting errors.

SERVICE (Quality)

SERV7 When this supplier provides service, it is done correctly the first time.

/continued

SERV8 The service people from this supplier are very knowledgeable about the service they provide.
SERV9 The service people from this supplier are able to solve all our service problems.
SERV10 The quality of any service work done by this supplier is very good.
SERV11 Service from this supplier is always provided very willingly.
SERV12 Service from this supplier is always provided very courteously.

PRICE

PRICE1 This supplier has very competitive prices on the products they sell.
PRICE2 The prices charged for repair service from this supplier are very competitive.
PRICE3 This supplier gives us volume discounts for many products we buy from them.
PRICE4 The prices we are charged by this supplier could be much lower.
PRICE5 We often buy specially discounted products from this supplier.

LOCATION

LOC1 It would be very easy for us to pick up shipments from this supplier if we wanted to.
LOC2 We often visit this supplier and select our supplies while there.
LOC3 This supplier is not located very conveniently to us in terms of distance from our office.

REPUTATION

REP1 Aside from any good or bad experience we have had with this supplier, we believe they have a very good reputation among all the other companies they do business with.
REP2 Aside from any good or bad experience we have had with this supplier, we believe they would not be rated very highly by other companies they do business with.
REP3 Aside from any good or bad experience we have had with this supplier, we believe they are very well respected by all the other companies they do business with.

Relationship Atmosphere Constructs

The measures for the **relationship atmosphere** constructs were mainly adapted from Anderson and Narus (1990). Exceptions included **goal congruence** and **social closeness**. The measures for these constructs were originally developed for this research. The measures of **relationship duration** were also developed specifically for this research, and were not measured with a seven-point Likert-type scale. The items measuring these constructs are shown in Table 4.2.

Dependent Constructs

The first two dependent constructs, **satisfaction** and **trust**, were measured with items adapted from Narus and Anderson (1990). The main dependent construct, **partnering attractiveness** was measured with items specifically developed for this research. One of the items measuring this construct required respondents to divide 100 points among two competing distributors based on the probability that they would choose that distributor for a partnering relationship. The response to this item was then rescaled so the response was measured on the same seven-point scale as the other items. The items measuring these constructs are shown in Table 4.3.

**Table 4.2 Manifest Variables Measuring Relationship
Atmosphere Constructs**

<u>Constructs</u>	<u>Variables</u>
CUSTOMER DEPENDENCE	
CUSDEP1	If we had to, we could easily replace this supplier.
CUSDEP2	There are many suppliers of stationery and office supplies which are as good as this one.
CUSDEP3	This supplier is one of our most important suppliers.
DISTRIBUTOR DEPENDENCE	
DISDEP1	This supplier has many customers who are as important as we are so they really <u>would not</u> care if we stopped buying from them.
DISDEP2	If we stopped buying from this supplier tomorrow, they could easily replace us.
DISDEP3	We are a very important customer for this supplier.
GOAL CONGRUENCE	
GCONG1	We believe it is <u>not possible</u> for our firm and this supplier to fully achieve each of our goals at the same time.
GCONG2	In order for this supplier to fully achieve its goals in our working relationship, we <u>would not</u> be able to fully achieve our goals.
GCONG3	It is possible for our firm and this supplier to both get what we/they want from our relationship.
COMMUNICATION	
COMM1	The quality of communications between this supplier and our firm is excellent.
COMM2	There is excellent communications between our firms so there are never any surprises that might be harmful to our working relationship.
COMM3	This supplier always lets our firm know of any unexpected problems which might affect their overall performance.
COMM4	This supplier <u>never</u> warns us in advance about important changes they make which affect our working relationship.

/continued

CONFLICT

- CONF1 This supplier and our firm are always arguing about something.
- CONF2 The working relationship between our firm and this supplier can best be characterized as one where there is a lot of conflict.
- CONF3 This supplier and our firm have significant arguments in our working relationship.

COOPERATION

- COOP1 This supplier helps out our firm in whatever ways we ask.
- COOP2 Our firm helps out this supplier in whatever ways it asks.
- COOP3 This supplier and our firm actively work together as partners.
- COOP4 The working relationship between our firm and this supplier can be characterized as one where there is a lot of mutual cooperation.

RELATIONSHIP DURATION

- YEARS How many years has your firm been doing business with this supplier? _____
- ORDERS How many orders per year does your firm place with this supplier? (NOTE: If you have a yearly order or contract with this supplier, please give the number of releases you issue each year.) _____

SOCIAL CLOSENESS

- SOCCL01 The relationship that exists between this supplier and our firm can best be described as a strict working relationship with no social component.
- SOCCL02 The relationship that exists between our firm and this supplier can best be described as one that is very friendly.
- SOCCL03 Over the times our firms have had a working relationship, a strong social relationship has developed between the two firms.
- SOCCL04 If I wanted to end our relationship with this supplier, I would very likely have social pressure placed on me from others in the company not to end the relationship.

Table 4.3 Manifest Variables Measuring Satisfaction, Trust, and Partnering Attractiveness

<u>Constructs</u>	<u>Variables</u>
SATISFACTION	
SATIS1	We really like to do business with this supplier.
SATIS2	When we consider the working relationship we have with this supplier, we would conclude we are very satisfied.
SATIS3	Our working relationship with this supplier has been an unhappy one.
TRUST	
TRUST1	We have to keep a close watch on everything this supplier does.
TRUST2	This supplier is one firm that stands by its word.
TRUST3	Based on our past and present experience with this supplier, we would characterize our level of trust for them as very high.
TRUST4	We believe this supplier will always behave honourably in their business dealings with us.
PARTNERING ATTRACTIVENESS	
PA1	If our firm decided to purchase <u>all</u> its stationery and office supplies from a single source, we would choose this supplier.
PA2	If we <u>had to reduce</u> the number of suppliers we buy from by 30 percent over the next six months, we would likely <u>stop buying</u> from this supplier.
PA3	If your firm <u>had to choose</u> only one of these suppliers for all of your stationery and office supplies, what is the probability your firm would choose each of them as that supplier? (NOTE that the total should equal 100 percent.)

Pretest

The pretest was conducted in several phases. Pretests are required in survey research to refine the survey instrument prior to initiating a full-scale survey. Pretests serve to address such issues as question clarity, appropriateness of response formats, ease of completing the questionnaire due to definitions and instructions, reactions to questionnaire length and content, and the appropriateness of incentives.

Phase one of the pretest involved reactions from other doctoral students and faculty involved in organizational buying or purchasing research. Phase two involved members of the PMAC, who were felt to be knowledgeable in the field. Because of their endorsement, it was thought necessary to have them review the instrument prior to a full-scale survey. Phase three consisted of administering the questionnaire to nine purchasing people in London, Ontario, six who purchased stationery and office supplies and three who purchased welding supplies and equipment. These purchasing people had a broad range of experience, and came from a number of different industries. They completed the questionnaire in the presence of the researcher, and were queried about the process after they completed the task. First, they were asked about instrument length. The shortest time to complete the survey was 28 minutes and the longest time was 44 minutes, with the

average being about 35 minutes. None of the respondents felt the instrument was too long. Second, respondents were asked whether they had any difficulty answering questions relating so directly to competing distributors on the same questionnaire. None of the respondents had a concern, and an analysis of their responses indicated that there would be considerable variability in how they rated the competing distributors. Third, respondents were asked about the difficulty of the task, and whether they thought the questions were meaningful. Several respondents thought that there were similar questions dispersed throughout the questionnaire. However, they thought the instrument was easy to complete with the exception of two questions near the end of the instrument that asked for dollar values of all purchases for the past year, and dollar values of purchases for the particular product group for the past year. Several respondents said they did not know or would only be taking a guess. The purpose of these questions was to assess the importance of the product group to the organization by seeing what percentage of the total purchases that product group represented. It was decided to replace these two questions with a single question that simply asked respondents how important the product group was on a seven-point, Likert-type scale.

Finally, the data from the nine completed surveys were analyzed to see if there were any apparent problems. After calculating Cronbach's alpha for all of the scales, there was

some concern that trust might not be adequately measured with the original three measures used for the pre-test. As a result, a fourth measure was added to the final instrument. It was decided the changes were inconsequential enough to proceed with the full-scale survey with the noted changes.

The actual procedures that were followed to implement the survey research will be discussed in the next section.

FIELD RESEARCH

This stage in the survey research began with the final instrument, and ended with the collection of data, and the preparation for and entry of that data into useable data files for further analyses. Dillman (1978, p. 12) stressed the importance of this phase as "the failure of surveys to produce satisfactory results occurs as often from poor administration as from poor design."

The main objective of this stage of the research project was to achieve the best possible response rate without sacrificing data quality. Response rate depends on both questionnaire design and survey implementation procedures. (Data quality depends mainly on questionnaire design.) There is a considerable amount of ambiguity surrounding the best possible administrative procedures to follow in survey implementation, largely because many of the ideas purported to

be important are experientially based, lacking strong research support. Ambiguity has also been enhanced by a number of proposed procedures which have been found to be important in some studies, and unimportant in others. A number of decisions had to be made with regard to administrative procedures in this survey. These decisions are supported on the basis of previous findings, or on the basis of the researcher's judgement. The following procedures were implemented.

Potential respondents were contacted by telephone and were asked whether they were buying products from a particular product group from two or more competing distributors, and if they had placed a minimum of two orders with each distributor over the past year. They were also asked whether they held their present position in their organization for the past year. Those who responded positively to all questions were then asked to participate in the survey. They were advised of the research purpose, and that the research was strictly confidential, endorsed by both the University of Western Ontario and the Purchasing Management Association of Canada. All were promised a management summary of the research findings if they participated in the survey. If they indicated their willingness to respond, they were mailed a survey questionnaire within four days of the initial phone conversation.

The questionnaires were mailed with a covering letter, individually addressed to the potential respondents. High quality paper was used for the letterhead and the outgoing envelope had the University of Western Ontario logo printed on it. Commemorative stamps were placed on the outgoing envelopes to help distinguish them from "junk" mail, and to personalize them to some degree. Some researchers have argued that response rates were higher if commemorative stamps were used (versus regular stamps), or if regular stamps were used (versus machine postage); however, Baumgartner and Heberlein (1984) argued that the issue regarding the class of postage stamp that leads to the best response rate has not been fully established. It was thought that at worst, the commemorative stamp would have no effect, while at best, it might improve the response rate.

Potential respondents also received a pre-stamped, pre-addressed return envelope. Jobber (1986) argued there was support for not providing return postage, as return envelopes with no stamps were equally effective as stamped return envelopes in industrial mail surveys. Barclay (1986), in a focus group interview, found that several participants felt return postage would not enhance response rates. Later, in an assessment of reasons for non-response to a mail survey, he failed to find a single instance where not having postage on the return envelope was given as a reason.

The reason for providing return postage for this study was due to the fact that many of the respondents worked for smaller companies and might not be in a position of authority where they were comfortable in putting an unstamped envelope through the company mail, especially one addressed to a university. The return postage on these envelopes was also \$0.80 due to the size and weight of the questionnaires. Any potential respondent uncomfortable about the postage could simply throw the questionnaire away. Due to the cost of printing and mailing out the questionnaires, and the concern with maximizing response rate, it was decided not to take a chance by sending out surveys with unstamped return envelopes.

The covering letter sent with each questionnaire:

- i) described the purpose of the study,
- ii) emphasized the endorsement of the study by both the University of Western Ontario and the Purchasing Management Association of Canada,
- iii) emphasized the relevance of the study to the respondent and the importance of the study results to both the purchasing and marketing professions,
- iv) stressed the confidentiality of the replies and justified the numbering on the questionnaires,
- v) described the ease of responding and how fellow purchasing personnel had found the questionnaire interesting during pretests,
- vi) promised a management summary for anyone interested as an incentive to respond,
- vii) pointed out the return envelope, and
- viii) urged the respondent to complete the questionnaire in timely order and to return it immediately upon completion.

Because all questionnaires were numbered, it was easy to keep track of respondents as they replied. The numbering of the questionnaires was justified to recipients because: 1) it would enable the researcher to track those respondents who wished a management summary of the research results, and 2) it would assist in eliminating unnecessary follow-ups. Baumgartner and Heberlein (1984) argued that follow-ups had a very strong effect in improving response rates. With this survey, people who had not replied within four weeks were contacted by phone. This helped emphasize the importance of the survey, and also eliminated the need to send a second mailing unless the potential respondent indicated the first one had not arrived, or had been subsequently lost.

The field research procedures included several ideas which were thought to be very important when implementing industrial mail surveys. Baumgartner and Heberlein (1984) argued that salient surveys get higher responses. Every opportunity was taken to stress the salience of this research to the purchasing profession, both in telephone conversations and in written correspondence. Value to the purchasing profession was thought to be particularly important to purchasing respondents. Purchasing personnel have been attempting to enhance their image within their own firms and in the eyes of other professionals; the formation of the Purchasing Management Association of Canada was one important step in this regard.

Every opportunity was taken to express the endorsement of the Purchasing Management Association of Canada, and of the University of Western Ontario. These endorsements were communicated verbally in telephone conversations with potential respondents, and by written correspondence when the questionnaires were sent to those respondents who agreed to participate.

The promise of a management summary was thought to be very important. Michaels (1983) found that the management report was the most desired incentive among respondents from a similar population. The management summary was written to provide a brief summary of the empirical results, followed by a discussion of how these results could be important to purchasing professionals.

Nonrespondent Survey

Prior to the implementation of the survey questionnaire, a plan was developed to conduct a telephone survey of nonrespondents. The purpose of a nonrespondent survey is to assess nonresponse bias by comparing respondents to nonrespondents, and to determine the reasons for nonresponse.

Usually, a questionnaire is developed that consists of a subset of questions from the original questionnaire, and which requires a minimum of effort from a sample of

nonrespondents. With regard to question selection, a number of criteria are important. Questions are usually selected which:

- i) are reliable measures of the dependent construct(s) in the study as these are the key construct(s) in the research,
- ii) are reliable measures of the key constructs which predict a significant amount of the variance in the dependent construct(s),
- iii) have relatively large or small standard deviations to see if nonresponse bias would be detected in means and also in variances, and
- iv) capture individual and organizational demographics to permit profile comparisons.

In this study, a nonresponse survey was planned, but was not implemented. Reasons for not implementing the survey will be discussed in Chapter 5.

DATA EDITING AND FILE PREPARATION

Each questionnaire was personally reviewed and coded for data entry. Data was typed into SPSSX data files by the researcher.

Missing Data

Two important tasks undertaken during the editing phase were to assess the suitability of completed questionnaires for analysis, and to decide what to do with missing data. While many research studies are affected by missing data, the type

of research analysis used in this study is particularly problematic when missing data are present. First, if casewise deletion is used, the potential exists to severely reduce sample size. A considerable amount of survey information may be lost if a single question on the survey is not answered. If pairwise deletion is used, a maximum amount of information is used in the data analysis; however, there are other considerations. Missing data create difficulties in the construction of indices and factor scores. With pairwise deletion, missing data also cause inconsistent sample sizes in data analyses. Finally, jackknifing will be used in conjunction with PLS (discussed in a subsequent section) to assess the statistical significance of path coefficients in the proposed structural equation model. Jackknifing requires a complete data matrix, and cannot be run with missing data.

Where there were limited problems with particular questionnaires, missing values based on other information was used. If there were responses for items measuring the same construct as the missing item, for a given case, the missing item was assigned the average value of the other responses associated with the same construct. When this was not possible, the average of all responses to that item from all cases became the imputed value. This approach is consistent with Barclay (1986, p. 219) who argued that the "benefit of this approach is that it takes advantage of information unique to the case before resorting to the use of the mean from other

cases." There are other methods for handling missing values (cf. Warwick and Lininger 1975), but these approaches are either not appropriate in the context of index construction or jackknifing, or are too time consuming and complex.

A few further comments are necessary concerning the quality of the data collected for this study. With regard to the stationery supplies data, 418 customer-distributor relationships were evaluated, and there were a total of 95 measures across the 22 constructs in the model. This makes a total of 39,710 model-related measures in the data set.

For 35 relationships, measures of the salesperson constructs were recorded as missing data, and the mean for each of the measures across all respondents was substituted. The reasons were either that the respondent failed to evaluate the salesperson, the respondent indicated that distributor salespeople did not call on the company, or the respondent indicated that the salesperson made less than two sales calls during the previous year. In those latter instances, it was thought that the respondent's evaluation of the salesperson might be less valid. For 12 relationships, the service constructs were recorded as missing data, and the mean for each measure across all respondents was substituted. This was done when respondents failed to respond to at least 9 of the 12 measures of service. In all other instances, missing values were assigned an average value from the other measures

of a construct, within subjects. The total number of items for which this was done was only 89 measures; 13 measures relating to salesperson, 33 measures relating to service, 40 measures relating to price (and all PRICE2), and only 3 other measures. The reason for the high nonresponse to PRICE2 was probably because many respondents may have been unable to evaluate the distributor on that basis if they had little or no experience with repair service.

With regard to the welding supplies data, 282 customer-distributor relationships were evaluated, and there were a total of 95 measures across the 22 constructs in the model. This makes a total of 26,790 model-related measures in the data set.

There was not a single case where the measures of a construct had to be coded with the average response across all respondents. This indicates that the salesperson and service constructs might be more important in the context of welding supplies and equipment purchases. Further, there was a single item where a missing value was assigned an average value from the other measures of a construct, made by the same respondent. This indicates that completing the survey might have been taken much more seriously by these respondents than by the respondents for the stationery supplies data. This is not surprising since many of the respondents were professional purchasing people, and many were PMAC members.

A final note concerning missing values has to do with other measures in the survey that were not model-related. Almost all questionnaires were otherwise complete when they were returned with the following exceptions: two respondents did not answer how many years the customer-distributor relationship had been in effect, two respondents did not answer how many orders they placed per year with the distributor, one respondent did not designate whether the organization was a branch office or the entire Canadian company, seven respondents did not give their title, six respondents did not give their age, and three respondents did not give their sex. In all instances, these values were completed by being followed up by telephone.

In summary, it is thought that data quality is quite good in this study. Care was taken by collecting information that was as complete as possible and in creating data files. The small amount of missing data, and the nature of that missing data does not raise concern with data quality.

Data File Entry

Data were entered directly from the precoded survey questionnaires into two SPSSX data files, one for data relating to distributors of stationery and office supplies and one for data relating to distributors of welding supplies and equipment. The input was visually checked to ensure that each

case was consistent in number and length of data lines, and all responses fell within valid ranges. Items were reverse-scored where necessary.

A final step was to run diagnostics on both data files to ensure all cases and variables were being read and tabulated correctly by SPSSX. The outcome from this process was two clean data files, both amenable to further data analysis. The technique to be used for this further data analysis will be discussed next.

DATA ANALYSIS TECHNIQUE - PARTIAL LEAST SQUARES

The data analysis technique chosen for this research was Partial Least Squares (PLS), one approach to the analysis of structural equation models. PLS, a regression-based technique rooted in path analysis (Pedhazur 1982, Wold 1985), has emerged as one approach to what Fornell (1982, 1984) referred to as a second generation of multivariate analysis. Second generation methodology emphasizes theory building or development by combining a priori knowledge derived from theory, previous empirical research, and/or research design with empirical analysis. According to Fornell (1984, p. 4),

The essence of research methodology is to advance understanding by combining theoretical knowledge with empirical knowledge....

Specifically, second generation methods combine theoretical and empirical knowledge by (1) modelling errors in observation (measurement or nonsampling error), (2) incorporating both

theoretical (unobservable) and empirical (observable) variables into the analysis, (3) confronting theory with data (hypothesis testing), and by (4) combining theory and data (theory building).

Joreskog and Sorbom's LISREL programs have perhaps made the most important contribution to the spread of these techniques throughout the social sciences (cf. Joreskog and Sorbom 1986a, 1986b, 1988), as have the many publications by Joreskog (cf. Joreskog 1967, 1969, 1970, 1971, 1973, 1974, 1977, 1978, 1979a, 1979b, 1979c, 1979d, 1982) and his collaborators (cf. Joreskog and Goldberger 1972, 1975; Joreskog and Wold 1982). PLS, while less popular in the literature, has been used in research in a number of disciplines (Fornell and Bookstein 1982). In marketing, previous research incorporating structural equation analysis with PLS includes Jagpal (1981), Fornell and Bookstein (1982), Fornell and Robinson (1983), Barclay (1986), and Lau (1990). As these two approaches to the analysis of structural equation models have different estimation objectives and underlying assumptions, they are often appropriate for different research problems. LISREL has been extensively used, but has been criticized as not always the most appropriate program for analyzing the research problem for which it was implemented (Fornell 1983, Barclay 1986). Before explaining the PLS methodology, the next section will discuss the differences between PLS and LISREL so that a justification can be made for using PLS in this research context.

PLS versus LISREL

PLS and LISREL were the two approaches to structural equation modelling considered for this research problem. The decision to use PLS was made after comparing the two approaches on three important dimensions; the stage of theory development, the objectives of each approach, and the data requirements.

LISREL is most suited to research problems where there exists strong a priori theory; where latent constructs are indeterminate in the factor analytic tradition. PLS is more appropriate where theoretical knowledge is weak or tentative (Fornell 1983); where latent constructs are defined as in principal components analysis. PLS has been described by Lohmoller (1982, p. 7) as "more close to the data, more explorative, more data analytic." Thus, LISREL can be considered more appropriate for theory testing, while PLS can be considered more appropriate for theory development. The structural equation model in this research is more exploratory in nature, making PLS more appropriate for this study.

The objective of LISREL is to estimate model parameters such that the differences between the observed sample covariances and the covariances predicted from the model are minimized (Bollen 1989). That is, the objective is model fit. There are a number of summary statistics to assess fit,

including the chi-square statistic, the normed fit index (Bentler and Bonnet 1980), the goodness of fit index and the adjusted goodness of fit index (Joreskog and Sorbom 1986b), and the adjusted normed fit index (Bollen 1989). The objective of PLS is the explanation of variance via ordinary least squares (OLS) estimators; that is, the minimization of residual variance in the model. This makes PLS more predictive as it is capable of identifying a subset of relatively more important predictor constructs from a set of proposed causal constructs. Since the objective of this research is to explain variance by identifying important predictors of partnering attractiveness, PLS is a more appropriate methodology.

With regard to data requirements, most LISREL implementations have used maximum likelihood estimators, and this requires intervally-scaled, multivariate normal data. The maximum likelihood method also requires large sample sizes. PLS makes minimal demands with regard to measurement scales, the distribution of residuals, or sample sizes. As PLS does not involve a statistical model, assumptions regarding the scales of measurement need not be made. Nominal, ordinal, and interval-scaled measurements are permissible (Fornell and Bookstein 1982). The fixed-point estimation of PLS is distribution-free (Wold 1982). Lohmoller (1982) demonstrated that PLS can be implemented with small sample sizes. PLS can utilize small sample sizes because the

iterative algorithm behind the method estimates model parameters and loadings in small subsets, with subsequent iterations providing successive approximations for the estimates, subset by subset, until selected convergence criteria are met (Fornell and Bookstein 1982, Barclay 1986). This subset estimation process consists of nothing more complex than simple and multiple regressions so that the sample size required should be no greater than required to support the most complex multiple regression in the process. In most instances, the most complex regression will involve the construct with the most indicators, with those indicators being predictors of that construct (Barclay 1986). In the present research, the most complex regression will involve the 17 constructs hypothesized as predictors of trust. Using the general rule of thumb of 10 cases per predictor, the sample size requirement would be ten times the number of predictors of trust. However, to increase confidence in the stability of the estimated path coefficients in the model, this value was taken as a minimum, and effort was made to increase the sample size for both product groups.

In fairness to LISREL, there are certain circumstances where maximum likelihood estimators can be considered robust, reducing the concern with this issue (Boomsa 1982, Dijkstra 1983). Also, LISREL VI and LISREL VII can be implemented with estimators other than maximum likelihood (Bollen 1989). However, when all things were considered, it was decided to

implement the analyses in this study using PLS rather than LISREL.

Before leaving this section, there is a final issue which suggests PLS would be more appropriate in this research context. LISREL often breaks down when it has to estimate a large number of parameters, while there is no upper limit to the size of the model in PLS (Wold 1982). Further, PLS has a reputation for "instant estimation." A model having 102 manifest variables and 23 latent constructs was able to achieve convergence in 200 seconds of computer time (Bartl, Unverdorben and Lohmoller 1981). When the model was run with LISREL, it completed only four iterations after 30 minutes and was aborted.

In summary, this section has justified the use of PLS for analyzing the structural equation model in this research. The early stage of theory development, the objective of explaining variance in the partnering attractiveness construct, and concerns with the data requirements, sample size, and model size all argue for the implementation of PLS versus LISREL. The next section will discuss PLS models.

PLS MODELS

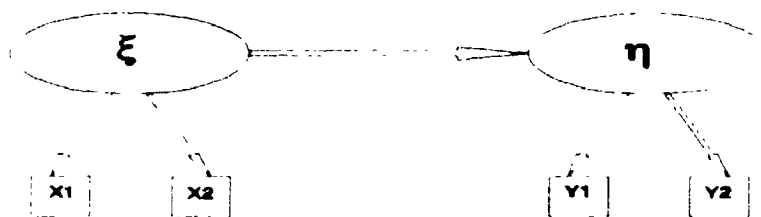
A PLS model consists of two submodels, a structural model which represents the direct and indirect nonobservational

relationships between the latent constructs, and a measurement model which represents the epistemic relationships between the manifest variables and the latent constructs they represent. The structural model can be represented as:

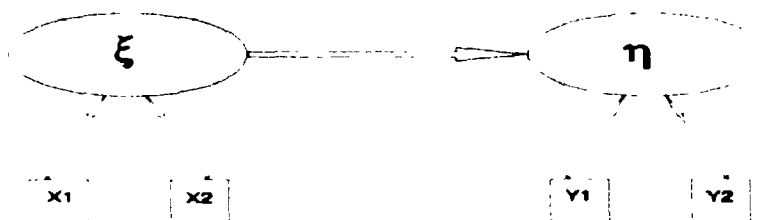
$$\eta = \beta \eta + \Gamma \xi + \zeta$$

where η is a $(m \times 1)$ column vector representing m endogenous latent constructs; ξ is a $(n \times 1)$ column vector of n exogenous constructs; β is a $(m \times m)$ matrix of coefficients relating endogenous constructs among themselves; Γ is a $(m \times n)$ matrix of coefficients relating exogenous and endogenous constructs; and ζ is a $(m \times 1)$ column vector of residuals representing errors in equations.

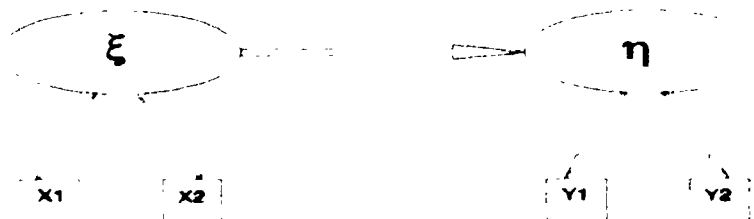
The measurement model represents the relationships between the manifest variables and the latent constructs they represent. The epistemic relationships between constructs and their measures describe the link between theory and data and can be specified in two ways. The epistemic relationships, known as "rules of correspondence" in philosophy of science and as "auxiliary theory" in sociology, are **reflective** when the measures are seen as reflecting the latent constructs of interest (see Figure 4.1, Mode A). That is, the latent constructs are viewed as giving rise to something that is observed. This conceptualization is found in true score theory in psychometrics and is operationalized via factor analysis (Fornell 1982). Constructs such as "personality" are



Mode A: Reflective Indicators



Mode B: Formative Indicators



Mode C: Formative Indicators for the exogenous construct; Reflective Indicators for the endogenous construct

Figure 4.1. Reflective and Formative Indicator Modes

(Source: Fornell and Bookstein 1982, p. 441)

typically viewed as underlying factors that give rise to the observed measures with which they are associated. Reflective indicators are most suited to studies where the objective is to account for observed variances (Fornell and Bookstein 1982). With reflective indicators, the residual variances in the measurement equations are minimized. When reflective indicators are used, the measurement model can be represented as:

$$\begin{array}{r} \bar{y} = \lambda \bar{\eta} + \epsilon \\ - \quad -\gamma \quad - \quad - \\ \bar{x} = \lambda \bar{\xi} + \delta \\ - \quad -x \quad - \quad - \end{array}$$

where $\bar{\eta}$ and $\bar{\xi}$ are as defined earlier; \bar{y} is a $(p \times 1)$ column vector of p measures of the endogenous constructs; \bar{x} is a $(q \times 1)$ column vector of q measures of the exogenous constructs; λ_y is a $(p \times m)$ matrix of factor loadings or simple correlations between the measures and their respective endogenous constructs (assuming measures are uniquely associated with only one construct); λ_x is a $(q \times n)$ matrix of factor loadings of measures on their respective exogenous constructs; ϵ and δ are $(p \times 1)$ and $(q \times 1)$ column vectors of endogenous and exogenous errors in measurement respectively.

The epistemic relationships are formative when the latent constructs are viewed as being formed by a linear combination of the manifest variables (see Figure 4.1, Mode B). The constructs are fully defined as in principal components

analysis (Barclay 1986). Constructs such as "socioeconomic status" are typically viewed as defined by the indicators with which they are associated. Formative indicators are most suited to studies where the objective is the explanation of latent variance in the structural model, as they have greater explanatory power (Fornell and Bookstein 1982). With formative indicators, the residual variances in the structural model are minimized. When formative indicators are used, the measurement model can be represented as:

$$\begin{aligned} \eta &= \pi_y \gamma + \nu \\ - & \quad -\gamma \quad - \quad -\gamma \\ \xi &= \pi_x x + \nu \\ - & \quad -x \quad - \quad -x \end{aligned}$$

where η , ξ , γ , and x are as defined earlier; π_y is a $(m \times p)$ matrix of regression weights for endogenous constructs; π_x is a $(n \times q)$ matrix of regression weights for the exogenous constructs; ν_y and ν_x are $(m \times 1)$ and $(n \times 1)$ column vectors of inner residual scores respectively which are assumed to be zero when it comes to estimation.

Formative and reflective indicators can be used within a single model. For instance, if the objective is to explain variance in the manifest criterion variables by way of the latent constructs, the measures of the exogenous construct should be formative, and those of the endogenous construct should be reflective. This is termed mixed-mode estimation (see Figure 4.1, Mode C).

The choice between reflective and formative measures involves three major considerations: the study objective, theory, and empirical contingencies (Fornell and Bookstein 1982). Since the objective of this research is to explain variance in the partnering attractiveness construct, this would argue for the use of formative indicators. However, indicator mode is also shaped by the substantive theory behind the model: the way in which the latent constructs are conceptualized. There are some constructs in this model which could arguably be conceptualized as reflective. Finally, the choice of indicator mode involves a consideration of empirical contingencies. When formative measures are used, sample size and multicollinearity among the measures affect the stability of the indicator coefficients, which in this mode are based on multiple regressions. When reflective measures are used, indicator coefficients are based on simple regressions so that multicollinearity is not an issue. When there is high multicollinearity but it is still desired to explain variance in the structural model, it is possible to use formative indicators, but use loadings rather than regression weights for interpretation (Fornell and Bookstein 1982). Decisions with respect to whether the constructs are formative or reflective will be deferred until Chapter 5 when the measurement model will be discussed.

MODEL ASSESSMENT IN PLS

The first step in model assessment with PLS is to assess the measurement model. When the measurement model is weak, it should be revised before assessing the structural model.

Measurement Model

The objective of measurement model assessment is to examine construct validity, the extent to which the measures of a construct actually measure what they are purported to measure. Two important dimensions of construct validity are 1) convergent validity, including reliability, and 2) discriminant validity.

Reliability and convergent validity are assessed by examining 1) the reliability of each measure, 2) the internal consistency or composite reliability of each construct, and 3) the average variance extracted by each construct. Fornell and Larcker (1981) defined the reliability of a measure as:

$$\rho_y = \frac{\lambda_y^2}{\lambda_y^2 + \text{var}(\epsilon_y)}$$

where λ_y is the factor loading of y on its associated construct, and ϵ_y is the measurement error. The reliability of a measure is simply its squared loading, when the variables are standardized.

Fornell and Larcker (1981) defined the internal consistency of a construct as:

$$\rho_{\eta} = \frac{\left(\sum_{i=1}^p \lambda_{y_i}\right)^2}{\left(\sum_{i=1}^p \lambda_{y_i}\right)^2 + \sum_{i=1}^p \text{var}(\epsilon_i)}$$

where y_i , $i = 1, 2, 3, \dots, p$ are the multiple measures of a construct, and ϵ_i , $i = 1, 2, 3, \dots, p$ are the associated errors in measurement. This measure of internal consistency is similar to Cronbach's alpha (Cronbach 1951) except Cronbach's alpha assumes a priori that each measure of a construct contributes equally to the construct. That is, the loadings (λ_{y_i}) of the measures on their associated constructs are set to unity (Barclay 1986). This measure of internal consistency is more general than Cronbach's alpha (Bagozzi 1981).

Fornell and Larcker (1981) proposed that the average variance shared between a construct and its measures be evaluated. This can be calculated by:

$$\rho_{vc(\eta)} = \frac{\sum_{i=1}^p \lambda_{y_i}}{\sum_{i=1}^p \lambda_{y_i}^2 + \sum_{i=1}^p \text{var}(\epsilon_i)}$$

which, when the variables are standardized, reduces to the mean of the squared loadings of the p measures of construct η . If the average variance extracted is less than 0.50, the variance captured by the construct (η) is less than the variance due to measurement error, and the validity of the individual measures (y_i), as well as the construct (η), is questionable (Fornell and Larcker 1981). The average variance extracted is a more conservative measure than the measure of internal consistency because, with the latter measure, it is possible to conclude that a construct has adequate convergent validity, even though more than 50 percent of its variance is due to error (Fornell and Larcker 1981).

Discriminant validity is an assessment of the extent to which a construct differs from other constructs in a model. One criterion required to satisfy this constraint is that the correlation between any two constructs must be significantly different from unity. A second criterion is that all measures should have higher loadings on the constructs they are purported to measure than on any other constructs in the model. A final criterion, specified by Fornell and Larcker (1981) and Fornell, Tellis and Zinkhan (1982), is that the variance shared between any two constructs in the model should be less than the variance shared between either of those two constructs and their respective measures. With standardized variables, the variance shared between any two constructs is

equal to the squared correlation between the two constructs. This requirement can be expressed as:

$$\rho_{vc}(\xi_j) > R_{jk}^2$$

$$\rho_{vc}(\eta_j) > R_{jk}^2$$

where R_{jk}^2 is the variance shared between the construct ξ_j or η_j and any other construct ξ_k or η_k in the model.

Discriminant validity will be assessed within this framework as suggested by Fornell and Larcker (1981).

Structural Model

An assessment of the structural model is an assessment of nomological validity or "the degree to which predictions from a formal theoretical network containing concepts of interest are confirmed" (Bagozzi 1981). This assessment involves an examination of the explained variation in the endogenous constructs, the sign and size of the coefficients relating constructs to each other, and the significance of these coefficients (Fornell and Robinson 1983).

Fornell, Tellis and Zinkhan (1982) proposed a measure of nomological validity, $R_{\eta/\xi}^2$, measured as the average squared multiple correlation between each endogenous construct (η) and all of the exogenous constructs (ξ) in the model. This measure, referred to as a redundancy measure, can be evaluated

for statistical significance by using Miller's (1975) F-test with $(n \times m)$ and $(N - n - 1)$ degrees of freedom; where N is the sample size, m is the number of dependent constructs, and n is the number of independent constructs. The redundancy measure of particular interest in this research will be that for partnering attractiveness, as this is the focus of the research. However, redundancy measures will also be evaluated for satisfaction and trust. A major problem with redundancy measures is that they assume all constructs in the model have been well specified in terms of their respective measures. The objective of this model is not to predict a large portion of the variance in some of the intervening constructs such as service and social closeness, and therefore, an overall redundancy measure between the constructs might be misleading as an assessment of nomological validity.

As the objective of this research is to explain variance, predictive ability is important in assessing the model and for supporting the tenability of the theory behind the model. This will be assessed by R^2 , the explained variance in the important endogenous constructs: satisfaction, trust, and partnering attractiveness.

Hypotheses testing will consist of examining the sign, size, and significance of the path coefficients in the structural model. Traditional statistical tests require certain restrictive assumptions, including independence of

observations and intervally-scaled, multivariate normal data. To avoid these assumptions, a distribution-free, non-parametric jackknifing technique will be used (Fenwick 1979). Jackknifing is a technique which involves the calculation of sample statistics based on the complete sample of observations, and on several subsamples that overlap in the observations they contain. Specifically, the sample is divided into several subsamples of size n . One subsample of size n is removed and path coefficients and related statistics are computed by PLS. This subsample is replaced and a succeeding subsample is removed, the procedure being repeated until all subsamples have been removed once from the analysis. The t -statistics are then calculated by dividing the mean of the path coefficients by the corresponding standard errors. Fornell and Barclay (1983) developed a program which allows the jackknifing technique to be implemented in conjunction with the PLS program. Although the standard errors calculated with the jackknifing program may be larger or smaller than the traditional standard errors, they do tend to be less biased, or more conservative (Fenwick 1979, Achen 1982).

To examine the relative importance of each exogenous and intervening construct on partnering attractiveness, the total effects (direct and indirect) of each of these constructs will be examined. Even if the direct effect of a construct on partnering attractiveness is small, the total effect may be substantial if the indirect effects are considered.

Overall Model

An assessment of the overall model is an attempt to assess the measurement and structural models together. In PLS, there is no summary statistic with which the overall model can be evaluated.

Lohmoller (1981) suggested that a total model could be judged satisfactory if the redundancy coefficient for the overall model is high enough. Since the focus of this research is on partnering attractiveness, the redundancy measure associated with that construct will be examined as a quasi-indicator of overall model appropriateness. This redundancy measure will be calculated as the average variance extracted in the partnering attractiveness construct by its measures, multiplied by the variance explained in that construct by the exogenous constructs (that is, $R^2 \cdot \rho_{vc(\eta)}$). The statistical significance of that redundancy measure can be evaluated by Miller's F-test with q and $(N - q - 1)$ degrees of freedom (Fornell and Larcker 1981); where N is the sample size and q is the number of measures of the dependent construct.

Summary

The research methodology used in this study has been described in this chapter, including the mail questionnaire

approach that was implemented, data collection issues, field research procedures, and data editing and file preparation. The Partial Least Squares methodology used to examine the proposed research models was also described. In Chapter 5, the data analyses and research results will be discussed.

Chapter 5

ANALYSIS AND DISCUSSION OF RESULTS

The purpose of this chapter is to discuss the data analyses and research results, including: 1) the survey response rate, 2) the suitability of the key informants as respondents, 3) the organizations included in the research sample, 4) the beliefs of informants concerning selected supplier selection criteria, 5) nonrespondents, and 6) the PLS analyses of the research model using the stationery supplies and the welding supplies data sets.

Survey Response Rate

The response rate to this survey was much higher than anticipated and supports the interest of respondents in the survey, and the quality of the data from respondents. A summary of the number of companies contacted, surveys mailed, surveys returned, and the survey response rate for both data sets is shown in Table 5.1.

Of the 214 surveys returned concerning purchasing of stationery supplies, 209 were useable. Four surveys were returned with only one distributor evaluated, and one survey had too much missing data. Of the 156 surveys returned concerning purchasing of welding supplies, 141 were usable.

Table 5.1 Summary of Surveys Mailed and Returned

	<u>Stationery Supplies</u>	<u>Welding Supplies</u>
Number of companies contacted	394	469
Companies that single-sourced or did not buy locally	<u>120</u>	<u>244</u>
Companies that met sample requirements	274 ^a	225 ^a
Number of companies that refused to participate	<u>5</u>	<u>4</u>
Number of surveys that were mailed out	269	221
Total number of surveys returned	214	156
Number of survey that had to be discarded	5	15
Number of useable surveys	209 ^b	141 ^b
Response rate = b/a	76.3 %	62.7 %

Twelve surveys were returned with only one distributor evaluated, one was returned with a letter of apology because they were government funded and thought they were not allowed to complete the survey due to concerns about freedom of information, one was returned with too much missing data, and one was returned several months after being sent out (and after the data had been analyzed).

Instrument length appears to have had little effect on response rates as the questionnaires were 28 pages long. In Chapter 4, a number of techniques were discussed for improving response rates to mail surveys, and these were all implemented in this study. A factor which may have contributed to the high response rate in this study was the fact that all potential respondents were qualified by telephone, and were then asked to commit to participation before being mailed a questionnaire.

Descriptive Statistics

The suitability of the key informants will be discussed in this section, along with a description of the companies included in the research, and some of the beliefs held by the informants with regard to supplier selection criteria.

This survey made use of key informants to respond concerning the relationships between their companies and the

distributor firms where they purchased supplies. Among the questions that were asked of key informants in this study were how long they worked for their present company, how long they held their current positions, and how many years of purchasing experience they had. With regard to the particular product group on which they reported, they were asked how much of the actual purchasing they did, how much influence they had in the supplier selection decision at their location, and how much influence they would have in the choice of a single supplier if their company decided to use a single source of supply. Data were also collected with regard to the age and sex of respondents. Summary responses for these questions appear in Table 5.2.

The average length of time key informants spent in their current positions and their average number of years purchasing experience suggest they were suitable as respondents in the context of this research. This is further supported by the high percentage of purchasing for these product groups that they do, and the high percentage of influence they reported for supplier selection. The informants also reported they would have considerable influence in supplier selection if their company was to begin using a single source of supply for these product groups.

Other questions concerning the suitability of these key informants as respondents in this research context were

Table 5.2 Profiles of Key Informants; Mean Responses (and Standard Deviations)

	<u>Stationery Supplies</u>	<u>Welding Supplies</u>
Number of years at present company	7.13 (6.11)	10.25 (7.74)
Number of years in current position	5.12 (5.08)	7.19 (5.82)
Number of years purchasing experience	8.85 (6.67)	11.37 (7.89)
Percent of product class purchased by informant	85.41 (24.11)	84.82 (24.07)
Percent influence in supplier selection by informant	87.93 (19.45)	86.79 (18.52)
Influence of informant in choice of single supplier if customer was to decide on single source of supply	6.00 ¹ (1.28)	6.04 ¹ (1.34)
TITLE of informant:		
Company Officer	13	39
General Manager	3	12
Controller	9	-
Purchasing Agent/Manager	16	24
Buyer	18	28
Office Manager/Supervisor	82	2
Secretary/Receptionist	36	0
Accounting Clerk	29	0
Production Manager/Supervisor	0	36
Other	<u>3</u>	<u>0</u>
TOTAL	209	141
Informant AGE	37.60 (9.84)	40.48 (9.35)
SEX of informant:		
Percent Male (actual)	23.92 (50)	90.08 (127)
Percent Female (actual)	76.08 (159)	9.93 (14)

¹7-point, Likert-type scale, where 1 = VERY LITTLE and 7 = VERY MUCH

focused on their experience with the distributors they evaluated. Informants were asked about the number of years their firm had been buying from each distributor, the number of orders placed with each distributor on an annual basis, the number of sales calls each distributor salesperson made to the customer annually, and the percentage of annual purchases for the particular product group that came from each distributor. Summary responses for these questions appear in Table 5.3.

These firms have had ongoing working relationships for quite a few years. The average number of orders per year given to the distributors, and the average number of sales calls per year made by the distributor salespeople suggest that the informants had sufficient experience with the distributor firms and salespeople to evaluate them for this research. The high percentage of purchases from both primary and secondary suppliers also suggests the informants were suitable to evaluate both distributors. The average importance rating for these product groups shows them to be important to the customers, and this means the relationships with these distributors should also be important.

As well as knowledge about the informants, knowledge about their companies is important in assessing the research sample. Descriptive statistics include the type and size of the reporting companies, and whether they were branch offices or the entire Canadian company. With regard to company size,

Table 5.3 Profile of Customer-Distributor Relationships; Mean Responses (and Standard Deviations)

	<u>Stationery Supplies</u>	<u>Welding Supplies</u>
Number of years firms have had a relationship	8.77 (7.30)	10.04 (7.89)
Number of orders placed with distributor per year	33.14 (60.05)	56.30 (99.95)
Number of sales calls per year by salesperson	13.12 (15.96)	10.43 (14.15)
Percentage of purchases from primary supplier	46.71 (29.01)	47.67 (28.22)
Percentage of purchases from secondary supplier	37.03 (28.09)	40.92 (27.64)
Percentage of purchases from other suppliers	16.22 (19.04)	11.38 (17.03)
Importance of the product group compared to all purchases	5.26 ¹ (1.69)	5.61 ¹ (1.57)

¹7-point, Likert-type scale, where 1 = VERY UNIMPORTANT and 7 = VERY IMPORTANT

two measures were taken. The first measure asked for the number of employees, an objective measure of company size. The second measure asked for a perceptual rating of size on a five-point scale ranging from VERY LARGE to VERY SMALL. A perceptual measure may be more valid in some instances as the relationship between the number of employees and company size may differ by industry. For example, a 10-person office may be a large law office, but a small accounting office. Summary responses for these questions appear in Table 5.4.

The companies represented in this research sample were mostly SMALL to MEDIUM size, although both VERY SMALL and LARGE companies were also included. These companies represented a wide variety of industries. The average number of employees per company is misleading in both data sets. The very high standard deviations suggest that the average is high because of a few companies that have a very large number of employees. When the five companies with the largest number of employees are not included in the stationery supplies data, the average number of employees becomes 60.35, nearly a 30 percent reduction. When the five companies with the largest number of employees are not included in the welding supplies data, the average number of employees becomes 81.15, over a 40 percent reduction.

Besides collecting descriptive information regarding the key informants, their companies, and the relationships with

Table 5.4 Profile of Companies Included in the Research Sample

	<u>Stationery Supplies</u>	<u>Welding Supplies</u>
TYPE of company; actual number (and percent):		
Pulp and Paper, Mining, Petroleum, Forest Products, Agriculture	8 (3.8)	4 (2.8)
Transportation, Communications, Storage, Accommodation, Utility	9 (4.3)	8 (5.7)
Banking, Insurance, Real Estate, Law Office, Accounting Firm	40 (19.1)	0
Construction, Building, Related Businesses	16 (7.7)	35 (24.8)
Industrial Manufacturer	38 (18.2)	72 (51.1)
Consumer Manufacturer	10 (4.8)	7 (5.0)
Sales Office	37 (17.7)	0
Social Service, Public Sector	29 (13.9)	0
Food Services, Hotel	5 (2.4)	0
R & D, Engineering	5 (2.4)	0
Service and Repair Shops	0	7 (5.0)
Other	5 (2.4)	8 (5.7)
 Number of employees	 85.70 (176.30)	 137.85 (377.63)
Organization Size: actual number (and percent):		
VERY LARGE	3 (1.4)	1 (0.7)
LARGE	18 (8.6)	18 (12.8)
MEDIUM	94 (45.0)	46 (32.6)
SMALL	70 (33.5)	61 (43.3)
VERY SMALL	24 (11.5)	15 (10.6)
 Number (and percent) that were branch offices:	 101 (48.3)	 23 (16.3)
Number (and percent) that were the entire Canadian company:	 108 (51.7)	 118 (83.7)

the distributors, some information was collected regarding the informants' beliefs about selected supplier selection criteria. These beliefs will be discussed next.

Informant Beliefs on Supplier Selection Criteria

Informants were asked several questions concerning the importance of having alternative suppliers, the importance of developing good supplier relationships, and the importance of various supplier selection criteria, including product quality, service, price, and the salesperson. One of the major contributions of this research is the systems view of **satisfaction, trust, and partnering attractiveness**. There has been much previous research that has asked respondents to rate or rank supplier selection criteria, and there has been a considerable number of trade press articles which have focused on the importance of these criteria. By asking informants to rate these selection criteria, a comparison can be made between their ranking of the criteria and the relative ability of these criteria to predict the dependent constructs in the research model. Summary responses for these questions appear in Table 5.5.

Informants strongly agreed that it was important to maintain two suppliers for important product groups. They also strongly agreed it was important to establish good working relationships with their suppliers. A surprising

Table 5.5 Informant Beliefs of Various Supplier Selection Criteria; Mean Responses (and Standard Deviations)

	<u>Stationery Supplies</u>	<u>Welding Supplies</u>
Importance of maintaining two sources of supply	6.12 (1.27)	6.06 (1.41)
Belief alternative suppliers help keep each other honest	5.57 (1.49)	6.01 (1.32)
Importance of good working relationships with suppliers	6.28 (.87)	6.33 (.94)
Importance of <u>price</u> as a purchase criterion	5.10 (1.36)	4.08 (1.73)
Importance of <u>service</u> as a purchase criterion	5.29 (1.24)	5.36 (1.29)
Importance of <u>product quality</u> as a purchase criterion	5.77 (1.11)	5.96 (1.05)
Importance of <u>the salesperson</u> as a purchase criterion	4.01 (1.59)	3.57 (1.57)

finding was that the average rating for the supplier selection criteria had the same ranking in both data sets. That ranking, from most to least important, was product quality, service, price, and the salesperson.

In summary, this section has described the key informants who were respondents in this survey and the organizations in which they were employed. It is argued that these informants had sufficient experience with their own company, with purchasing in general, and with their distributors, to act as respondents in this survey. Some beliefs of informants concerning selected supplier selection criteria were also summarized. The next section will discuss the survey nonrespondents.

Nonrespondents

A nonrespondent survey was planned, and the importance and purpose of such a survey was discussed in Chapter 4 as this is a methodological issue in survey research. However, a nonrespondent survey was not implemented, and that decision will now be discussed.

The first concern with implementing a nonrespondent survey was the small number of nonrespondents. With the stationery supplies data set, there were only 55 nonrespondents. Of that number, two claimed they returned the

survey but it was not received. One nonrespondent called when he received the survey to explain that it could not be done because his company had a fire which created over a million dollars damage and there was just too much confusion to think about the survey at that time. One nonrespondent was fired from his position, and one lost her position as her company went into receivership a few days after the questionnaire was mailed. With the welding supplies data set, there were only 65 nonrespondents. Of that number, three were laid off due to economic conditions, and one claimed the survey was completed and returned although it was not received.

All of the other nonrespondents were contacted by telephone approximately four weeks after the initial mailing. In every instance, they stated they intended to do the survey but had been very busy and would get to it soon. Of those who responded to the survey, only 11 surveys were received after the telephone follow-up (3 concerning stationery supplies, and 8 concerning welding supplies), and this suggested that a second follow-up would not be effective.

A second concern was selecting items for inclusion in the nonrespondent survey that measured the dependent constructs or important predictor constructs. Those who responded to the survey would have completed a 28 page survey which included 95 items for the research model. Nonrespondents would be asked to respond to a small subset of items, and would probably

respond differently because of the changed context in which the questions were asked. For example, asking about a single **partnering attractiveness** item after 10 previous items may not get the same response as it would after asking about all the items that might be predictors of **partnering attractiveness**. Further, respondents to the survey would have rated two competing distributors on each item. This task would be more difficult to do by telephone, and the variability might be reduced as nonrespondents would be asked in a personal interview to rate two competing distributors. In that context, informants might be more likely to rate both distributors with the same response. An additional concern was that respondents would rate primary and secondary distributors differently, so the survey to nonrespondents would have to identify primary and secondary respondents before nonrespondents were asked to rate each of them. Considering these factors, the nonrespondent survey would be required to be quite lengthy.

In summary, it was thought that comparing nonrespondents to respondents would be invalid. Further, the survey achieved a very high response rate, and there was no reason to suspect that respondents differed from nonrespondents with respect to experience, organization size, or any other descriptive measure. With this in mind, the PLS methodology and the causal model developed for this study will now be discussed.

PLS ANALYSIS

The first step in assessing a PLS causal model is to assess and refine the measurement model. When this has been done, it is then possible to assess and draw conclusions from the path coefficients calculated for the structural model. The reason for the two-step procedure is that a poor measurement model can distort the parameters of the structural model. The assessment and refinement of the measurement model will be discussed in the following section.

The Measurement Model

The assessment and refinement of the measurement model requires an assessment of both convergent validity (including reliability) and discriminant validity.

One important decision with PLS is whether the epistemic relationships between constructs and their associated measures should be modeled as formative or reflective (Fornell 1984). As noted in Chapter 4 of this study, there are several considerations that determine the choice between these two types of relationships.

The purpose of this research is to explain latent variance in the three main endogenous constructs;

satisfaction, trust, and partnering attractiveness, and this would argue for formative indicators for antecedent constructs. Formative indicators are also suggested when the researcher has little knowledge concerning the dimensionality of constructs, or when the reliability and validity of the constructs have not been previously assessed. When formative indicators are used, constructs are fully formed or defined by their associated indicators. This allows data to play a more significant role when theory has not been well developed, and is more useful in earlier stages of research.

Table 5.6 summarizes the measurement model, showing the latent constructs, their measures, and the epistemic relationships proposed to exist between these constructs and their measures. With regard to the offer portfolio side of the model, all epistemic relationships are proposed as formative. These constructs have been measured specifically for this research, and it seems appropriate to use the measures of these constructs to define the constructs. With regard to the relationship atmosphere side of the model, most epistemic relationships are proposed as reflective. These are more "psychological" in nature, and it seems more appropriate to suggest that these constructs are reflected in their respective measures. Further, most of these constructs have been used in previous research, and there is evidence that they have adequate reliability and validity. Exceptions include goal congruence and social closeness. These two

Table 5.6 The Measurement Model

<u>Construct</u>	<u>Number of Empirical Indicators</u>	<u>Measure Mnemonics</u>	<u>Epistemic Relationships</u>
Quality	7	PQUAL1 to PQUAL7	Formative
Inventory Management	6	IMGMT1 to IMGMT6	Formative
Salesperson (Respect)	8	SCOMP, SKNOW, STECH, SJUDG, SSFREL, SNEEDS, SCONFID, SPREP	Formative
Salesperson (Trust)	9	STRUST, SINTERE, SHONEST, SDEPEND, SEXPED, SRELIAB, SPROMIS, SSAVE, SREGU	Formative
Salesperson (Like)	6	SFRIEND, SLIKE, SLIST, SIDEAS SCOURT, SIMAG	Formative
Location	3	LOC1 to LOC3	Formative
Service (Responsiveness)	6	SERV1 to SERV6	Formative
Service (Conformance)	6	SERV7 to SERV12	Formative
Price	5	PRICE1 to PRICE5	Formative
Reputation	3	REP1 to REP3	Formative

/continued

Customer Dependence	3	CUSDEP1 to CUSDEP3	Reflective
Distributor Dependence	3	DISDEP1 to DISDEP3	Reflective
Goal Congruence	3	GCONG1 to GCONG3	Formative
Communication	4	COMM1 to COMM4	Reflective
Conflict	3	CONF1 to CONF3	Reflective
Cooperation	4	COOP1 to COOP4	Reflective
Relationship Duration	1	YEARS	Reflective
Social Closeness	4	SOCCL01 to SOCCL04	Formative
Satisfaction	3	SATIS1 to SATIS3	Reflective
Trust	4	TRUST1 to TRUST4	Reflective
Partnering Attractiveness	3	PA1 to PA3	Formative

constructs have been developed for this research, and they have been modeled with formative measures.

With regard to the three main constructs of interest in this study, **satisfaction** and **trust** have been modeled with reflective indicators as they are seen as being reflected in their respective measures, and because of previous research which suggests they have adequate reliability and validity. **Partnering attractiveness**, the main endogenous construct of interest, has been modeled with formative indicators. This is a new construct not previously used in any research, so it has unknown reliability and validity. Further, since the purpose of this research is to maximize latent variance explained in this construct, it was decided that the construct should be fully defined by its measures.

Convergent validity will now be assessed, and the measurement model will be revised so that it has good convergent validity. Then, discriminant validity will be assessed.

Convergent Validity

According to Campbell and Fiske (1959), convergent validity assesses the degree to which two or more attempts to measure the same construct agree. Typically, researchers select maximally different measurement techniques to measure

the same variable(s), and then use some variant of the multitrait-multimethod paradigm to assess the degree to which these measures converge, or provide consistency. While a researcher does not use maximally different measurement techniques within any survey-based study, Fornell and Larcker (1981) suggest three ways convergent validity can be assessed when constructs are measured within a single survey instrument: 1) item reliability, or the reliability of individual measures, 2) composite reliability, also referred to as internal consistency, and 3) the average variance extracted by each construct.

Item reliability. For an individual measure to have item reliability, at least half of the variance in the measure must be attributable to the construct, rather than error. This is the case when the loading of the measure on the construct is greater than .7, as item reliability is the square of the item's loading on its associated construct. While Carmines and Zeller (1979) recommend loadings of .8 or greater for widely established scales, the general rule of thumb is that loadings greater than .7 are acceptable.

Composite reliability. The composite reliability of a scale is based on iter-item correlations and is a measure of internal consistency, comparable to Cronbach's alpha (Cronbach 1951). Composite reliability is calculated as the squared sum of the individual item loadings divided by that squared sum of

loadings plus the sum of the error variances for the measures. Nunnally (1978) suggested that for exploratory research, values greater than .7 should be adequate.

Average variance extracted. The average variance extracted by a construct is the preferred measure of convergent validity, and is more conservative than the composite reliability (Fornell and Larcker 1981). It is calculated as the average of the squared individual item loadings for all measures of a construct, and should exceed .5 as values lower than this indicate that the amount of variance captured by the construct is not as great as the amount of variance due to error.

Table B.1 in Appendix B displays the three measures of convergent validity as assessed for the original measurement model. When problems are identified with the measurement model, it is necessary to decide whether or not to revise the model. There are no established rules. The decisions are based on how close the measures are to the suggested psychometric standards, and on the research objectives. There generally exists a trade-off between maximizing reliability and validity on one hand, and maximizing the variance captured by a latent construct on the other. In the early stages of research, it is more acceptable to relax the requirements for reliability and validity slightly in order to increase understanding. When the research objective is to develop

measurement scales or to more rigidly test theory, higher levels of reliability and validity are required (Nunnally 1978).

The process of revising the measurement model was iterative, since changes made to any scale affect the loadings of indicators for different constructs. After numerous revisions to the measurement model, a final measurement model was developed which was believed adequate for the purposes of this study. All changes made to the original measurement model are suggested from the measures reported in Table B.1 in Appendix B, and the rationale for these changes follows.

Several measures of the product quality construct appeared to have low item reliability, and the average variance extracted for the measures was only .50 for the stationery supplies data and .47 for the welding supplies data. Two possible explanations exist. First, the three items with low item reliability were all worded in such a way that agreement with them would mean giving the distributor a negative evaluation, and respondents might have displayed a bias in the way they responded to negative versus positive items. Second, these measures could be measuring a separate construct. These measures appear to measure **conformance**, where the other four measures appear to measure **performance**. It was decided to split this construct into two new constructs; **product quality (conformance)**, measured by PQUAL1,

PQUAL2, and PQUAL7, and product quality (performance), measured by PQUAL3, PQUAL4, PQUAL5, and PQUAL6.

For inventory management, three measures had factor loadings lower than .7 in both data sets. It was decided to drop these measures as the remaining measures had good item reliability and appeared to measure the construct as originally intended.

The measures of salesperson (respect) appeared to have adequate item reliability. Composite reliabilities and average variances extracted were all good. The most questionable measures were STECH and SPREP, but these were retained as it was decided that they were important to the construct.

Three measures had low item reliability for the salesperson (trust) construct, and these were sufficiently low that retaining them could not be supported. These were SDEPEND, SSAVE, and SREGU, and they were all dropped. Dropping these items would also improve the average variances extracted, which were only marginally acceptable for this construct with both data sets.

For location, only a single measure achieved adequate item reliability for the construct within each data set, and it was a different item in each instance. Assessment was

further complicated by the fact that LOC2 had a negative loading with the stationery supply data set, making it impossible to calculate composite reliability or average variance extracted. An attempt was made to see if it was possible to retain two measures for the construct as this would be preferable to a single measure. However, in the final analysis, it was decided that this construct should be measured with a single measure, LOC3. This measure was chosen as it most closely measured what was intended to be measured by the construct, the convenience of the distributor location relative to the customer location.

Two measures of **service (responsiveness)** had low item reliability, SERV2 and SERV5. The problem with SERV2 could be its negative wording. In any event, it was decided that both measures should be dropped because of their low item reliability, and because of the marginally adequate average variances extracted for the construct.

For **service (conformance)**, there were high composite reliabilities and good average variances extracted. All of the measures had adequate item reliability except SERV9, but it was decided to retain this measure as it was only slightly lower than suggested, and it was thought that the extent to which distributor service people are able to solve all the customer's service problems was an important part of the construct.

Two measures of price had low item reliability and were dropped. These were PRICE4 and PRICE5. Again, agreeing with one of these items, PRICE4, would require a negative evaluation of the distributor. The measures of average variance extracted were also low for both data sets, but would improve if these measures were dropped. It was decided to drop these measures from the model.

Several of the next constructs were retained as measured in the original measurement model. These constructs included reputation, customer dependence, distributor dependence, goal congruence, conflict, and cooperation. In all instances, the composite reliabilities were good, and the measures of average variance extracted were more than adequate. The only measure that might be questionable on the basis of item reliability was CUSDEP2, a measure of customer dependence. CUSDEP2 had adequate item reliability in one data set but not in the other. The item was thought to be important to the measurement of customer dependence, and it was decided to retain it.

Communication was measured with four indicators. COMM4 was negatively worded, and this might account for its low item reliability in both data sets. It was decided to drop this measure.

Relationship duration was measured with a single indicator, **ORDERS**. It was originally intended that this construct be measured as the number of years that a relationship existed between the customer and the distributor. Initial investigation determined that **relationship duration** measured as time had very poor predictive power in relation to either **social closeness** or **trust**. After reflection, it was decided to try a measure of the number of orders placed per year with the distributor as a measure of **relationship duration**. **Relationship duration** measured as time might not be as valid as **relationship duration** measured as transactions. It is possible that **social closeness** and **trust** develop over a number of transactions rather than over time, and only over time to the extent that the number of transactions increases. At first, an interaction term was tried; however, **YEARS X ORDERS** had only slightly better predictive ability than **YEARS**. Next, both measures were used as individual measures of **relationship duration**, and formative epistemic relationships were used. The factor weights, which showed the contribution each measure made to the construct (when defined by formative indicators), showed that the construct was essentially defined by the single measure **ORDERS**. Hence, **YEARS** was dropped, and it was decided the construct should be measured by the single indicator **ORDERS**.

For **social closeness**, it first appeared that there was a single good indicator, **SOCCL02**. However, this indicator was

the fourth added to the construct when the operationalization was done, and it was the one thought to be least important to the definition of the construct. Further, the other three measures appeared to have similar loadings both within and across data sets. It was therefore decided to drop SOCCLO2, and retain the other measures.

Satisfaction was measured with three indicators, all with adequate item reliability. The scale had high composite reliabilities and the measures of average variance extracted were also high. No changes were made to this construct.

For **trust**, TRUST1 had low item reliability with both data sets. This item was dropped. During the pretest, there were indications that this measure might perform poorly. As a result, TRUST4 was added as a measure of the construct, and it had very good item reliability in the final data sets.

Partnering attractiveness was measured with three indicators. This construct showed excellent convergent validity across all measures, and was not changed.

Table B.2 in Appendix B displays the three measures of convergent validity as assessed for the final measurement model. All composite reliabilities, and all measures of average variance extracted are good. There are some instances where item reliabilities are less than .7; however, these

items have been defended as important measures that should be retained. There are only two measures where item reliabilities are less than .6, PQUAL7 in the stationery supplies data set, and PRICE3 in the welding supplies data set.

These were retained for several reasons. First, every attempt was made to measure each construct with a minimum of three indicators as, otherwise, the composite reliability of the constructs could not be assessed. Second, these measures had adequate item reliability within one data set, and it was preferred to have identical measurement models so that comparisons could be made between the structural models across data sets. Finally, these were all measures of formative constructs, and it was felt they contributed important meaning to their respective constructs.

In summary, the final measurement model is thought to have adequate convergent validity for the purposes of this study. Discriminant validity will now be assessed.

Discriminant Validity

Discriminant validity in the context of causal modelling measures the extent to which any particular construct differs from other constructs in the model. Fornell, Tellis, and

Zinkhan (1982) suggested three measures of discriminant validity which could be applied in a PLS framework.

One measure of discriminant validity is that correlations between constructs be significantly different from unity. Otherwise, it would not be possible to conclude that different constructs were being measured. Tables B.3 and B.4 in Appendix B display correlation matrices of latent constructs for the stationery supplies and welding supplies data sets respectively.

The highest correlations were between salesperson (respect) and salesperson (trust), between service (responsiveness) and service (quality), and between satisfaction and trust, where the correlations ranged between .79 and .87. However, these were all significantly less than unity, and discriminant validity was judged acceptable on this criterion.

A second criterion is that any indicator load higher on its associated construct than on any other construct in the model. This criterion was tested within PLS by examining the factor structure matrix, which was a matrix of the loadings of all indicators on all constructs. These matrices are shown in Tables B.5 and B.6 of Appendix B for the stationery supplies and welding supplies data sets, respectively. All measures satisfied this criterion; however, there were two measures

which loaded almost as highly on a second construct so that it might be argued they load equally on two constructs. These measures were SRELIAB and SPROMIS, with loadings of .79 and .72 respectively on **salesperson (trust)**, and loadings of .78 and .71 respectively on **salesperson (respect)**, both within the stationery supplies data set. As these two constructs were both related to the evaluation of the salesperson, it was not surprising to find measures that loaded highly on both of them. Further, this was not thought to be a serious problem as both constructs were exogenous. Concern would have been greater if one of the constructs was proposed as an effect of the other, or endogenous in the model. Discriminant validity was therefore accepted as adequate on this criterion.

A final criterion for discriminant validity is that the variance shared between any two constructs (the squared correlation) should be less than the variance shared between either construct and its respective measures (the average variance extracted). If poor discriminant validity was found, it would reduce confidence in causal interpretation; that is, whether there was really a cause and effect relationship between two constructs, or whether the indicators actually measured a single construct.

Tables B.7 and B.8 in Appendix B display the correlations among constructs which correspond to the 65 hypotheses, along with the average variance extracted for each of the 22 latent

constructs. The only instance where this criterion for discriminant validity was not met was between **satisfaction** and **trust**, and this occurred in both data sets. However, there was very little evidence of discriminant validity across the constructs in the model, and even in this instance, the requirement was very nearly satisfied. Discriminant validity was therefore judged adequate on this criterion.

This section examined the original measurement model and the revised measurement model, and concluded there was sufficient convergent and discriminant validity so that an assessment of the structural model could be made. The assessment of the structural model will be discussed in the following section.

The Structural Model

Once the measurement model has been assessed as adequate, the next step is to assess the structural model. This is done by looking at the sign and magnitude of path coefficients, and testing whether they are statistically significant. Path coefficients are defined as:

The fraction of the standard deviation of the dependent variable (with the appropriate sign) for which the designated factor is directly responsible, in the sense of the fraction which would be found if this factor varies to the same extent as in the observed data while all others (including the residual factors...) are constant (Wright 1934, p. 162).

That is, a path coefficient indicates the change in a dependent construct, expressed in standard deviations, that results from a one-standard-deviation change in an independent construct, holding all other independent constructs in the model constant.

Path coefficients were tested using a non-parametric technique, jackknifing. This technique, developed by Tukey (1958), promises wide applicability within marketing as discussed by Fenwick (1979). It provides the opportunity to reduce bias, perform tests of statistical significance, and assess the stability and validity of analyses without the necessity of large sample sizes.

The jackknifing procedure used for these analyses was developed by Fornell and Barclay (1983). The procedure involves removing a subsample from the data and calculating sample statistics (path coefficients) from the remaining data. The subsample is then replaced and another subsample of equal size is removed, and another set of sample statistics is calculated. This continues until all cases have been removed from the data set, and a sample of sample statistics is computed. These sample statistics are therefore calculated from several subsamples that overlap in the observations they contain. These sample values have been shown to have a distribution approaching normality (Gray and Schucany 1972), and are used in the calculation of jackknifed path

coefficients. These jackknifed path coefficients are then divided by the standard errors of the samples of path coefficients calculated from the various subsamples, and result in a t-statistic which can be interpreted for significance.

Path Coefficients and Total Effects

Table C.1 in Appendix C displays the results of tests of hypotheses for all path coefficients, and for both data sets. These results will now be discussed. Results from the two data sets will be discussed together because many of the interesting results arise where there are differences between them. Table D.1 of Appendix D displays the results of t-tests of differences between the path coefficients from the two data sets. Where path coefficients from the two data sets are discussed, the coefficient from the stationery supplies data set will always precede the one from the welding supplies data set. If not otherwise stated, the significance level of individual path coefficients is $p. < .001$. If not otherwise stated, the significance level of the t-tests of differences between the path coefficients from the two data sets is $p. < .001$.

To simplify the discussion, all causal antecedents to satisfaction, trust, and partnering attractiveness will be presented and discussed in relation to each construct, and

then a summary of results will be presented and discussed. The causal antecedents to **service (responsiveness)**, **service (quality)**, **conflict**, **cooperation**, and **social closeness** will not be discussed as these are not the focus of this research.

Additional analyses will be done to look at the moderating effects of distributor importance; i.e., whether the customer has a primary or secondary relationship with the distributor. In this study, a customer and a distributor are described as having a primary relationship when the customer buys more of a particular product group from that distributor than from any other distributor. A secondary relationship exists between a customer and any other distributor of a particular product group other than the primary distributor for that product group.

Table C.2 in Appendix C displays the results of tests of hypotheses for all path coefficients (stationery supplies data only), using the complete data set, and using data from only primary and from only secondary relationships. Table C.3 in Appendix C displays results of the same analyses with the welding supplies data set.

Table D.2 in Appendix D displays the results of t-tests of differences between the path coefficients calculated for data from primary versus secondary relationships (stationery supplies data only). Table D.3 in Appendix D displays the

results of the same analyses with the welding supplies data. When the moderating effect of relationship importance (primary versus secondary relationship) is discussed, the discussion will be limited to differences that are significantly different (again, $p. < .001$ unless otherwise stated), and that appear large enough to be substantively different.

Antecedents to Satisfaction

The first dependent construct which is the focus of this research is **satisfaction**. Fourteen direct paths were proposed from antecedent constructs to **satisfaction**, and except for **customer dependence** and **conflict**, were proposed as positively related to that construct. An examination of the direct effects, indirect effects, total effects, and correlations between **satisfaction** and its causal antecedents aids in the understanding of **satisfaction**. The results for the stationery supplies data will be presented first, followed by the results for the welding supplies data.

Stationery Supplies

For the stationery supplies data, direct effects, indirect effects, total effects, and correlations between **satisfaction** and its causal antecedents are shown in Table 5.7. Figure 5.1 shows the research model with all path coefficients.

Table 5.7

**Assessment of Structural Model:
Direct, Indirect, and Total Effects
and Correlations**

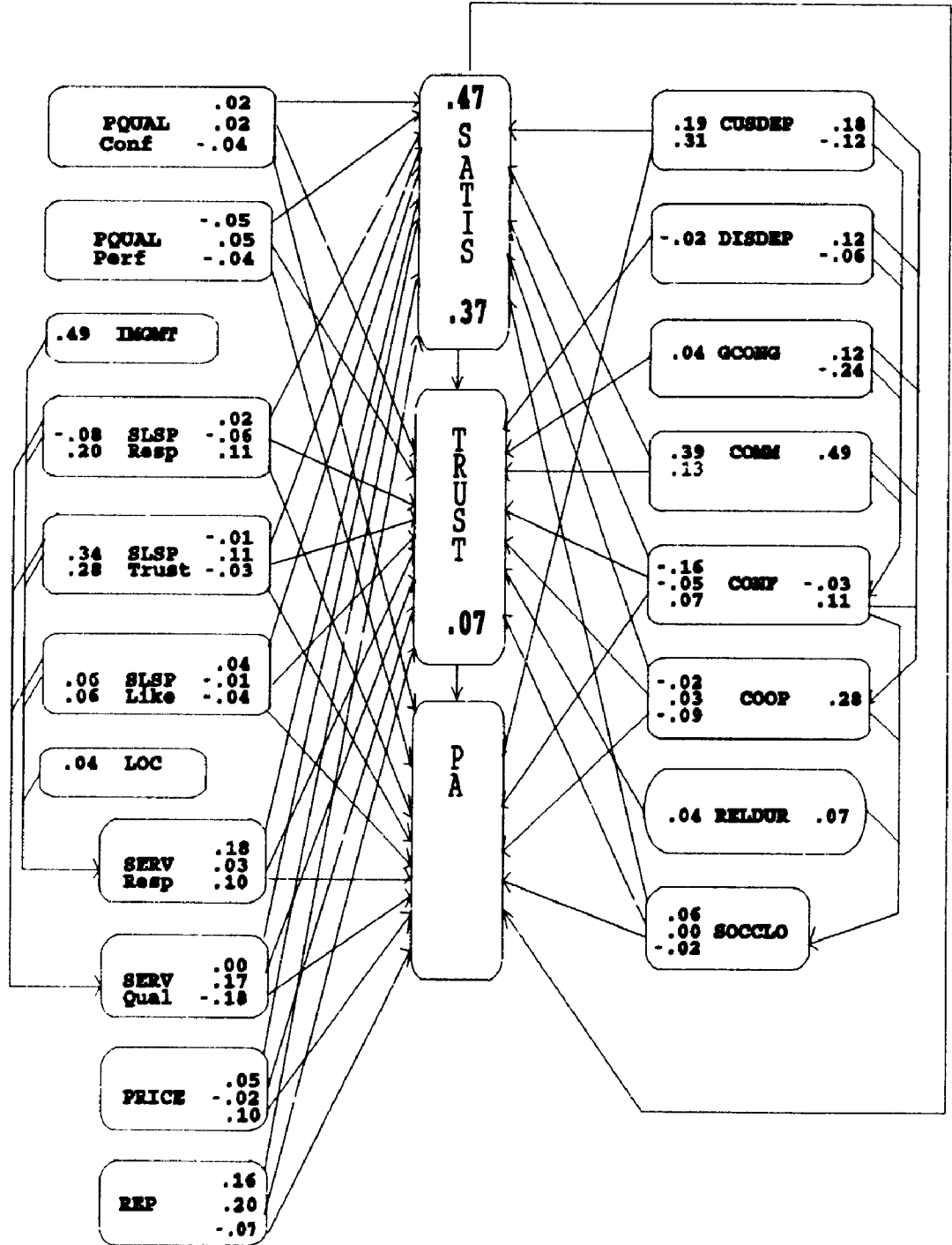
(All Relationships - Stationery Supplies Data)

Satisfaction

	Direct Effects	t-value ¹	Indirect Effects	Total Effects	Corr
PQUAL (Conf)	02	n/s	--	02	34
PQUAL (Perf)	05-	n/s	--	05-	44
IMGMT	--		09	09	51
SLSP (Resp)	02		02-	00	47
SLSP (Trust)	01-	n/s	06	05	51
SLSP (Like)	05		01	06	45
LOC	--		01	01	05
SERV (Resp)	18		--	18	69
SERV (Qual)	00	n/s	--	00	63
PRICE	05		--	05	55
REP	16		--	16	62
CUSDEP	19	n/s	02	21	56
DISDEP	--		01	01	39
GCONG	--		04	04	49
COMM	39		00	39	78
CONF	16-		00	16-	52-
COOP	02-	n/s	01	01-	63
RELDUR	--		00	00	31
SOCCL0	06		--	06	19

¹All t-values > 3.23 (p < .001; one-tail test)
except where shown.

Figure 5.1 Stationery Supplies Data - All Relationships



Eight paths were significant and in the direction proposed. Strong and significant relationships in the directions proposed, along with their path coefficients, included those from communication (.39), service (responsiveness) (.18), reputation (.16), and conflict (-.16). Weaker relationships were found from social closeness (.06), salesperson (like) (.05), price (.05), and salesperson (respect) (.02).

Whether direct or total effects are considered, there is little change in the relative importance of the causal antecedents to satisfaction. The same five constructs remain most important; i.e., communication, customer dependence, service (responsiveness), reputation, and conflict.

Primary versus secondary relationships. Tables 5.8 and 5.9 show the direct effects, indirect effects, total effects, and correlations between satisfaction and its antecedent constructs for primary and secondary relationships respectively. Figures 5.2 and 5.3 show the research model with all path coefficients.

When the data from primary relationships are considered, communication, customer dependence, service (responsiveness), reputation, and conflict remain the most important constructs. This holds true whether direct or total effects are considered.

Table 5.8
Assessment of Structural Model
Direct, Indirect, and Total Effects
and Correlations
(Primary Relationships - Stationery Supplies Data)
Satisfaction

	Direct Effects	t-value ¹	Indirect Effects	Total Effects	Corr
PQUAL (Conf)	04	n/s	--	04	35
PQUAL (Perf)	04-	n/s	--	04-	49
IMGMT	--		11	11	53
SLSP (Resp)	02		04-	02-	49
SLSP (Trust)	01		07	08	54
SLSP (Like)	06		01	07	48
LOC	--		01-	01-	02
SERV (Resp)	24		--	24	72
SERV (Qual)	06-	n/s	--	06-	61
PRICE	00		--	00	53
REP	27		--	27	69
CUSDEP	11	n/s	02	13	46
DISDEP	--		01	01	26
GCONG	--		03	03	47
COMM	38		01-	37	77
CONF	17-		01	16-	55-
COOP	04-	n/s	01	03-	57
RELDUR	--		00	00	03
SOCCLO	05		--	05	15

¹All t-values > 3.23 (p < .001; one-tail test)
except where shown.

Figure 5.2 Stationery Supplies Data - Primary Relationships

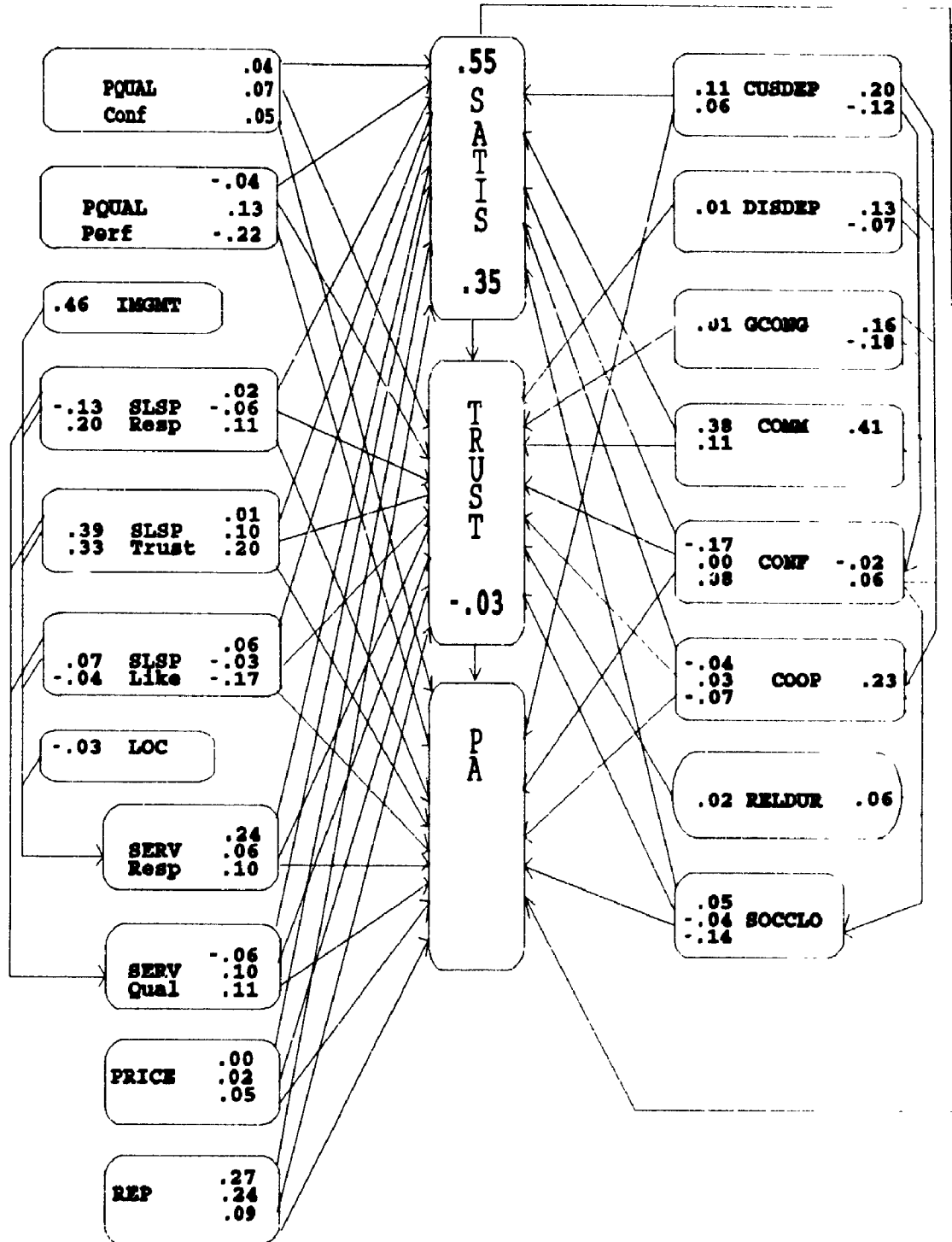


Table 5.9

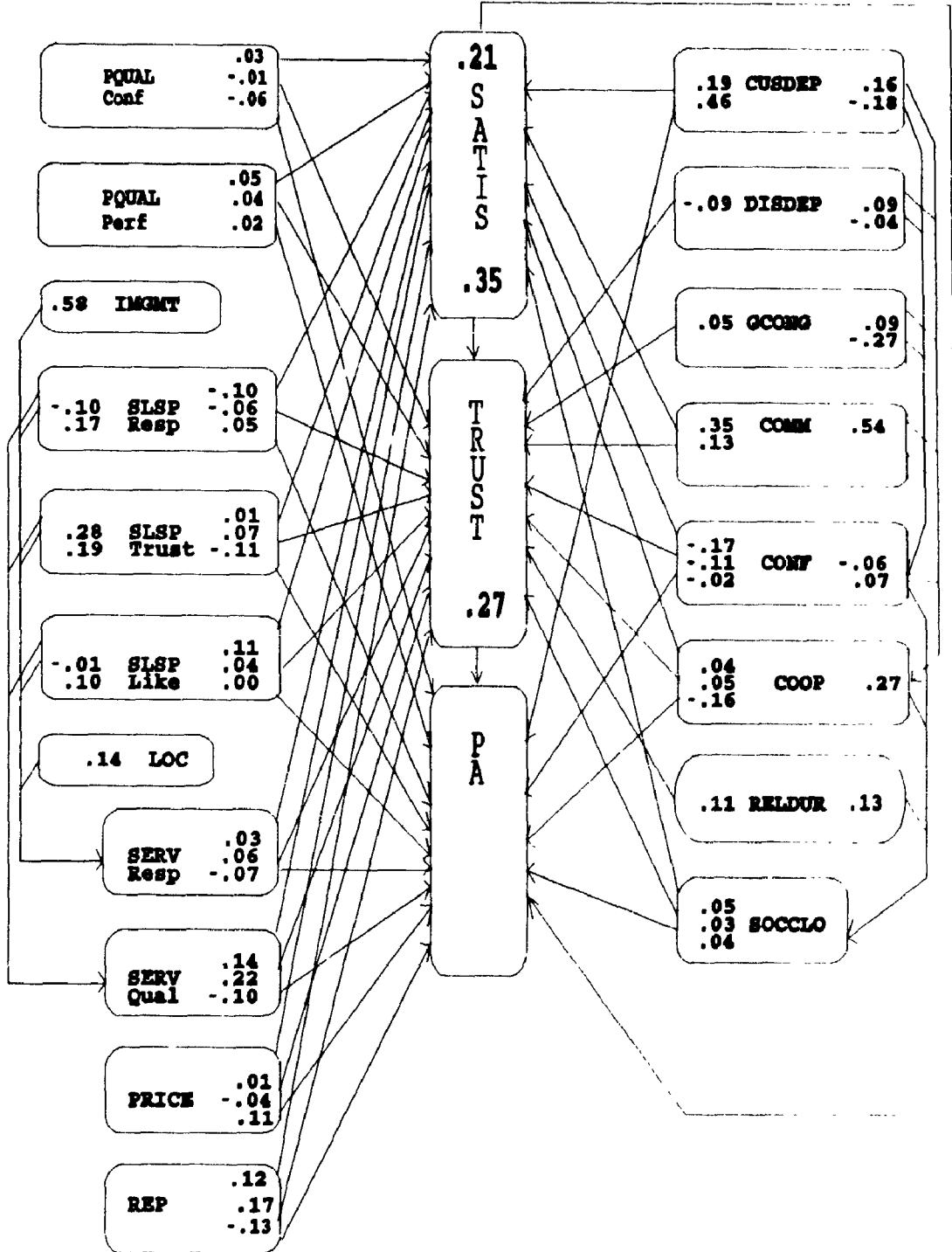
**Assessment of Structural Model
Direct, Indirect, and Total Effects
and Correlations**

(Secondary Relationships - Stationery Supplies Data)
Satisfaction

	Direct Effects	t-value ¹	Indirect Effects	Total Effects	Corr
PQUAL (Conf)	03	n/s	--	03	40
PQUAL (Perf)	05		--	05	45
IMGMT	--		02	02	40
SLSP (Resp)	10-	n/s	02	08-	35
SLSP (Trust)	01		03	04	38
SLSP (Like)	11		01	12	40
LOC	--		00	00	13
SERV (Resp)	03	n/s	--	03	63
SERV (Qual)	14		--	14	63
PRICE	01	n/s	--	01	51
REP	12		--	12	59
CUSDEP	19	n/s	04	23	55
DISDEP	--		01	01	36
GCONG	--		05	05	46
COMM	35		03	38	75
CONF	17-		00	17-	53-
COOP	04		02	06	64
RELDUR	--		01	01	13
SOCCL0	05		--	05	19

¹All t-values > 3.23 (p < .001; one-tail test)
except where shown.

Figure 5.3 Stationery Supplier Data - Secondary Relationships



When the data from secondary relationships are considered, communication, customer dependence, reputation, and conflict remain important. However, service (quality) and salesperson (like) are also important, and service (responsiveness) is not important. Again, whether direct or total effects are considered, there is little change in interpretation.

Welding Supplies

For the welding supplies data, direct effects, indirect effects, total effects, and correlations between satisfaction and its causal antecedents are shown in Table 5.10. Figure 5.4 shows the research model with all path coefficients.

Eleven paths were significant and in the direction proposed. Strong and significant relationships in the directions proposed, along with their path coefficients, included those from communication (.31), conflict (-.20), service (quality) (.18), cooperation (.13), and reputation (.12). Weaker relationships were found from salesperson (trust) (.06), social closeness (.06), product quality (conformance) (.05), salesperson (like) (.05), service (responsiveness) (.04), and price (.03). This latter relationship was the least significant relationship ($t = 3.05$, $df. = 70$, $p < .005$).

Table 5.10

**Assessment of Structural Model
Direct, Indirect, and Total Effects
and Correlations**

(All Relationships - Welding Supplies Data)

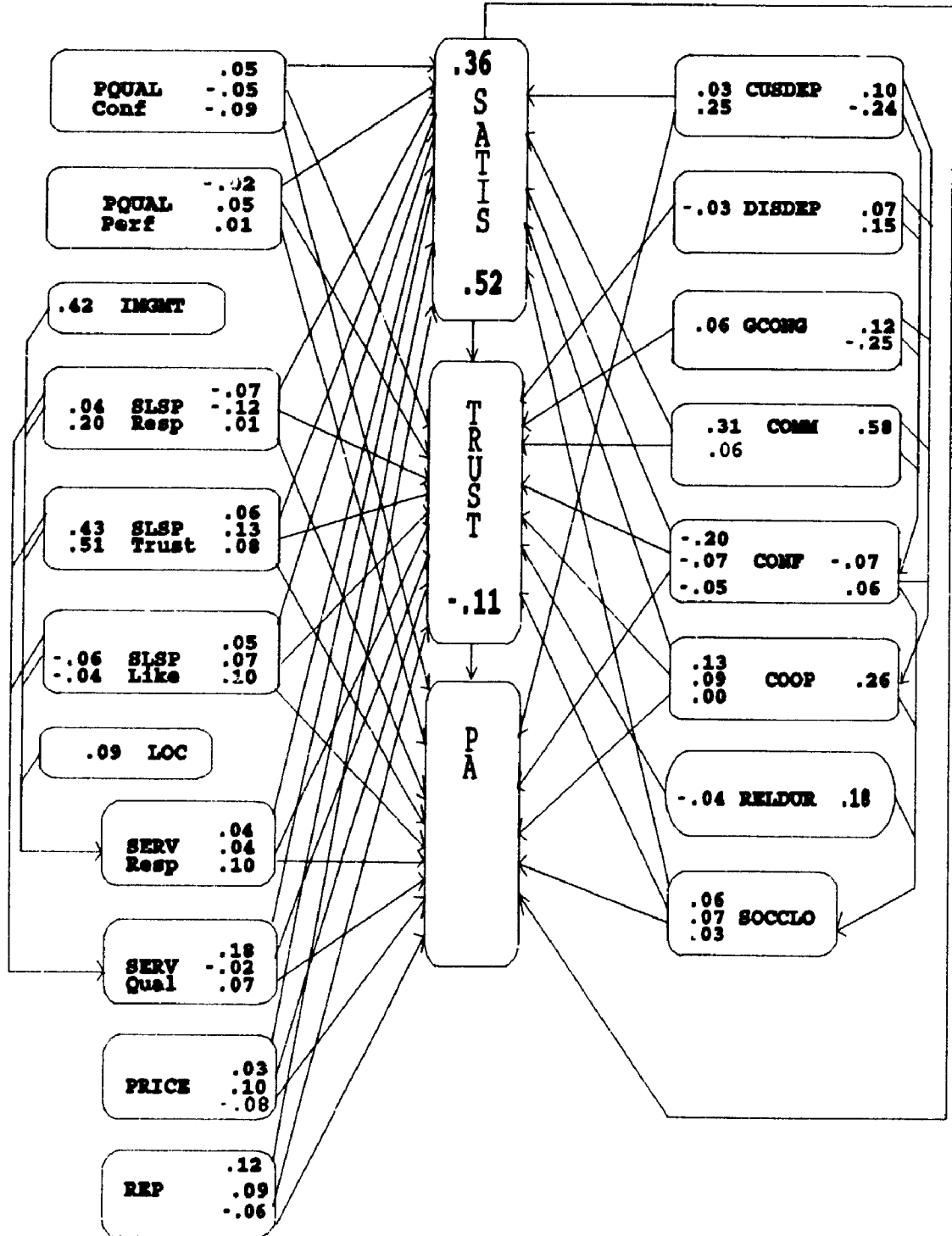
Satisfaction

	Direct Effects	t-value ¹	Indirect Effects	Total Effects	Corr
PQUAL (Conf)	05		--	05	37
PQUAL (Perf)	02-	n/s	--	02-	48
IMGMT	--		02	02	55
SLSP (Resp)	07-	n/s	04	03-	59
SLSP (Trust)	06		10	16	63
SLSP (Like)	05		01-	04	54
LOC	--		00	00	08
SERV (Resp)	04	3.05	--	04	69
SERV (Qual)	18		--	18	72
PRICE	03		--	03	58
REP	12		--	12	69
CUSDEP	03	n/s	07	10	40
DISDEP	--		02-	02-	32
GCONG	--		07	07	43
COMM	31		09	40	78
CONF	20-		01-	21-	56-
COOP	13		02	15	68
RELDUR	--		01	01	25
SOCCL0	06		--	06	31

¹All t-values > 3.23 (p < .001; one-tail test) except where shown.

T-value of 3.05 is significant; p < .005.

Figure 5.4 Welding Supplies Data - All Relationships



When total effects are considered, the relative importance of the causal antecedents to satisfaction changes somewhat. Communication remains the most important antecedent, but it is substantially more important because of indirect effects. Conflict, service (quality), cooperation, and reputation remain important. Salesperson (trust) and customer dependence become relatively important antecedents due to indirect effects.

Primary versus secondary relationships. Tables 5.11 and 5.12 show the direct effects, indirect effects, total effects, and correlations between satisfaction and its antecedent constructs for primary and secondary relationships respectively. Figures 5.5 and 5.6 show the research model with all path coefficients.

When the data from primary relationships are considered, communication, conflict, reputation, and service (quality) remain the most important constructs, and product quality (conformance) becomes an important construct. Cooperation is not as important in primary relationships. This holds true whether direct or total effects are considered.

When the data from secondary relationships are considered, communication, service (quality), cooperation, salesperson (trust), salesperson (respect), conflict, service (responsiveness), and customer dependence are all important.

Table 5.11

Assessment of Structural Model
Direct, Indirect, and Total Effects
and Correlations

(Primary Relationships - Welding Supplies Data)
Satisfaction

	Direct Effects	t-value ¹	Indirect Effects	Total Effects	Corr
PQUAL (Conf)	12		--	12	38
PQUAL (Perf)	01-	n/s	--	01-	49
IMGMT	--		00	00	51
SLSP (Resp)	05-	n/s	03	02-	56
SLSP (Trust)	07-	n/s	06	01-	59
SLSP (Like)	04	n/s	03	07	54
LOC	--		00	00	06
SERV (Resp)	00	1.75	--	00	64
SERV (Qual)	17		--	17	72
PRICE	07	n/s	--	07	62
REP	18		--	18	72
CUSDEP	05-		12	07	34
DISDEP	--		06-	06-	22
GCONG	--		08	08	38
COMM	36		02	38	79
CONF	30-		01-	31-	65-
COOP	04	2.96	01	05	66
RELDUR	--		01	01	22
SOCCL0	05	2.08	--	05	27

¹All t-values > 3.23 (p < .001; one-tail test)
except where shown.

T-value of 2.96 is significant; p < .005.

T-value of 2.08 is significant; p < .025.

T-value of 1.75 is significant; p < .05.

Figure 5.5 Welding Supplies Data - Primary Relationships

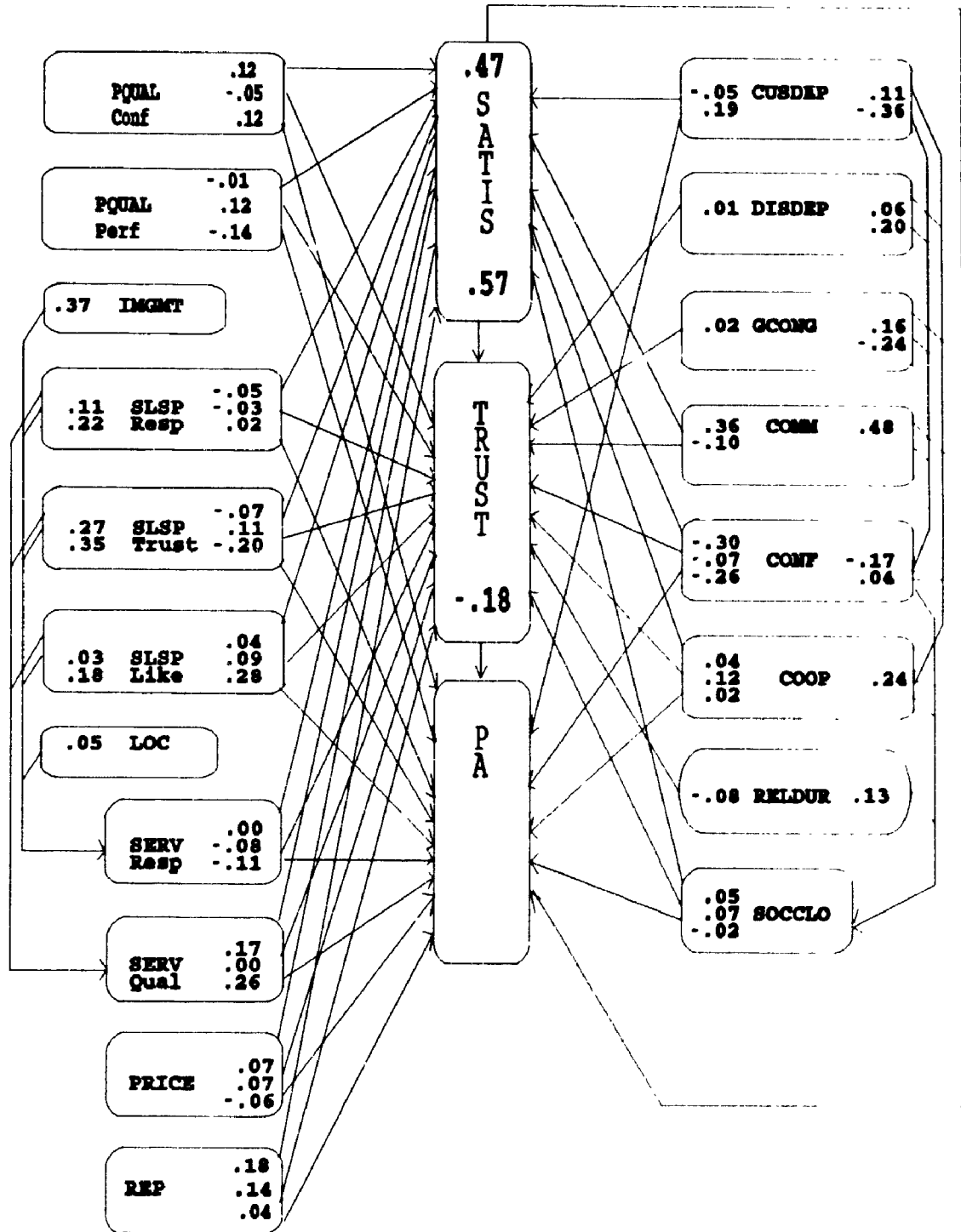


Table 5.12

**Assessment of Structural Model
Direct, Indirect, and Total Effects
and Correlations**

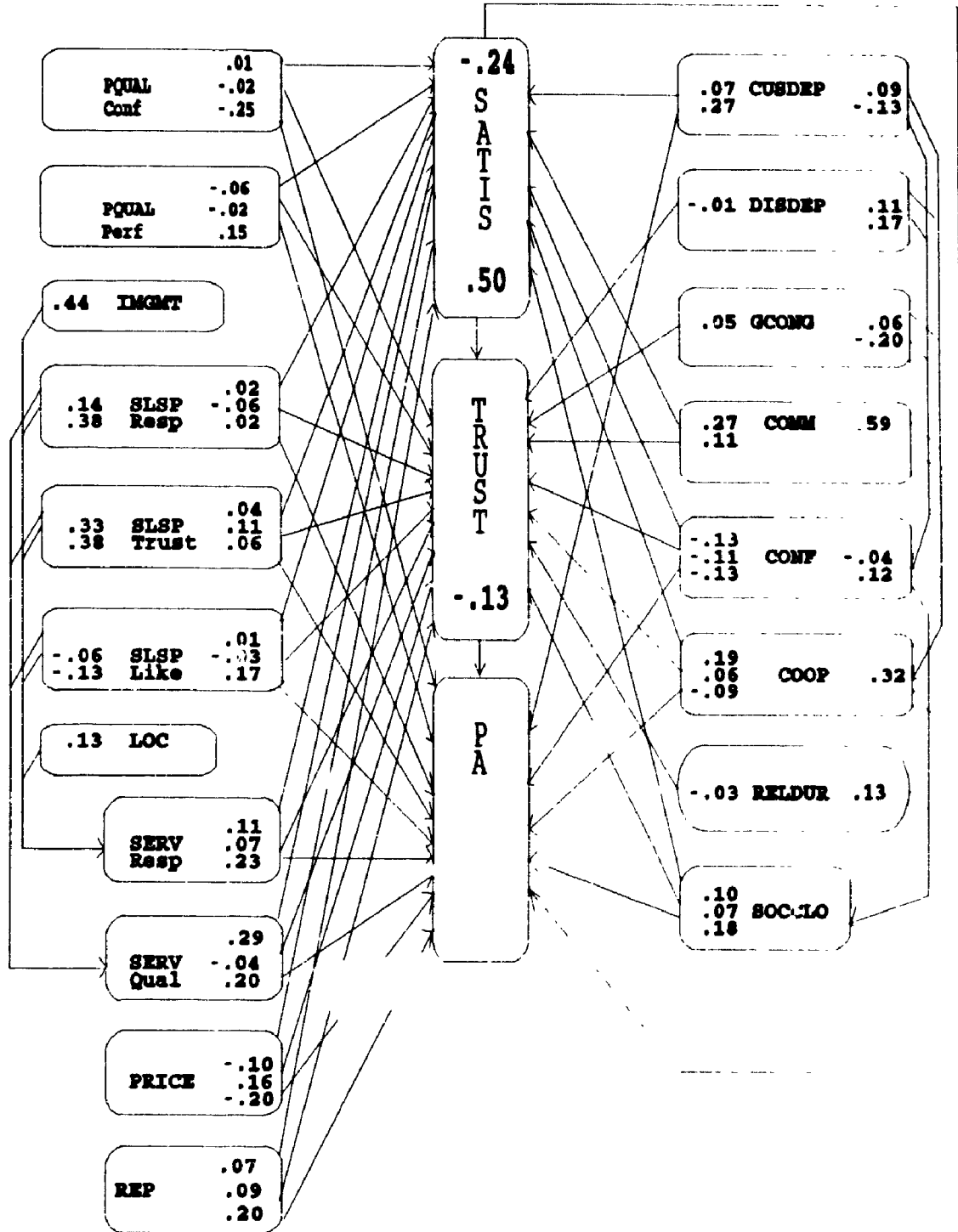
(Secondary Relationships - Welding Supplies Data)
Satisfaction

	Direct Effects	t-value ¹	Indirect Effects	Total Effects	Corr
PQUAL (Conf)	01	n/s	--	01	31
PQUAL (Perf)	06-	n/s	--	06-	40
IMGMT	--		05	05	53
SLSP (Resp)	02	n/s	12	14	59
SLSP (Trust)	04	2.40	15	19	59
SLSP (Like)	01	n/s	04-	03-	49
LOC	--		01	01	15
SERV (Resp)	11		--	11	72
SERV (Qual)	29		--	29	72
PRICE	10-	n/s	--	10-	48
REP	07		--	07	61
CUSDEP	07	n/s	04	11	39
DISDEP	--		00	00	38
GCONG	--		04	04	42
COMM	27		13	40	77
CONF	13-		00	13-	40-
COOP	19		03	22	67
RELDUR	--		01	01	18
SOCCLO	10		--	10	36

¹All t-values > 3.23 (p < .001; one-tail test) except where shown.

T-value of 2.40 is significant; p < .01.

Figure 5.6 Welding Supplies Data - Secondary Relationships



The effects of **salesperson (trust)** and **salesperson (respect)** are largely indirect, through their effects on **service (responsiveness)** and **service (quality)**, which are both important in predicting **satisfaction** in this context. Otherwise, whether direct or total effects are considered, there is little change in interpretation.

Antecedents to Trust

Trust is the second dependent construct on which this research focuses. There were seventeen constructs proposed as antecedent to trust. **Conflict** was proposed to be negatively related to trust, and all other relationships were proposed to be positive. An examination of the direct effects, indirect effects, total effects, and correlations between trust and its causal antecedents aids in the understanding of trust. The results for the stationery supplies data will be presented first, followed by the results for the welding supplies data.

Stationery Supplies

For the stationery supplies data, direct effects, indirect effects, total effects, and correlations between trust and its causal antecedents are shown in Table 5.13. Figure 5.1 shows the research model with all path coefficients (see page 217).

Table 5.13
Assessment of Structural Model
Direct, Indirect, and Total Effects
and Correlations

(All Relationships - Stationery Supplies Data)

Trust

	Direct Effects	t-value ¹	Indirect Effects	Total Effects	Corr
PQUAL (Conf)	02		01	03	40
PQUAL (Perf)	05		01-	04	56
IMGMT	--		05	05	56
SLSP (Resp)	06-	n/s	03	03-	50
SLSP (Trust)	11		08	19	57
SLSP (Like)	01-	n/s	03	02	47
LOC	--		00	00	03
SERV (Resp)	03	n/s	07	10	74
SERV (Qual)	17		00	17	73
PRICE	02-	n/s	02	00	55
REP	20		07	27	72
CUSDEP	--		09	09	49
DISDEP	02-	n/s	01	01-	36
GCONG	04		03	07	52
COMM	13		16	29	77
CONF	05-		06-	11-	51-
COOP	03	n/s	00	03	64
RELDUR	04		01	05	27
SOCCL0	00		02	02	14
SATIS	37		--	37	84

¹All t-values > 3.23 (p < .001; one-tail test)
except where shown.

Thirteen paths were significant and in the direction proposed. Strong and significant relationships in the directions proposed, along with their path coefficients, included those from **satisfaction** (.37), **reputation** (.20), **service (quality)** (.17), **communication** (.13), and **salesperson (trust)** (.11). Weaker relationships were from **product quality (performance)** (.05), **goal congruence** (.04), **conflict** (-.05), **relationship duration** (.04), **cooperation** (.03), **service (responsiveness)** (.03), **product quality (conformance)** (.02), and **social closeness** (.00). **Satisfaction** is the most important predictor of **trust** in a relationship. **Trust** is also increased when the customer believes the distributor has a good **reputation**, when the distributor provides **quality service**, and when **communication** between the distributor and customer is good. When customers trust the salesperson that they deal with, they trust the distributor that salesperson represents.

When total effects are considered, the predictive power of several of the antecedent constructs increases. **Communication**, **reputation**, **salesperson (trust)**, **conflict**, and **service (responsiveness)** all become more important. **Salesperson (trust)** has its indirect effects mainly through **service (quality)** to **trust**. The other four constructs all have their indirect effects mainly through **satisfaction** to **trust**.

Primary versus secondary relationships. Tables 5.14 and 5.15 show the direct effects, indirect effects, total effects, and correlations between trust and its antecedent constructs for primary and secondary relationships respectively. Figures 5.2 and 5.3 show the research model with all path coefficients (see pages 221 and 223).

When the data from primary relationships are considered, **satisfaction, reputation, communication, salesperson (trust), and service (quality)** remain important. **Product quality (performance)**, also becomes an important antecedent to trust.

When total effects are considered, the predictive power of several of the antecedent constructs increases. **Reputation, communication, and salesperson (trust)** all become more important. **Service (responsiveness)** also becomes important.

When the data from secondary relationships are considered, **satisfaction, service (quality), reputation, and communication** remain important. **Conflict and relationship duration** become important antecedents of trust.

When total effects are considered, **communication and conflict** increase in importance. **Salesperson (trust) and salesperson (like)** also become important. **Communication, conflict, and salesperson (like)** have their indirect effects

Table 5.14

Assessment of Structural Model
Direct, Indirect, and Total Effects
and Correlations

(Primary Relationships - Stationery Supplies Data)
Trust

	Direct Effects	t-value ¹	Indirect Effects	Total Effects	Corr
PQUAL (Conf)	07		01	08	40
PQUAL (Perf)	13		02-	11	62
IMGMT	--		06	06	57
SLSP (Resp)	06-	n/s	00	06-	49
SLSP (Trust)	10		08	18	56
SLSP (Like)	03-	n/s	03	00	45
LOC	--		00	00	02-
SERV (Resp)	06	2.72	08	14	74
SERV (Qual)	10		02-	08	69
PRICE	02	n/s	00	02	58
REP	24		10	34	75
CUSDEP	--		05	05	45
DISDEP	01	n/s	01	02	31
GCONG	01		01	02	47
COMM	11		14	25	73
CONF	00	n/s	06-	06-	46-
COOP	03	n/s	02-	01	61
RELDUR	02		01-	01	07
SOCCL0	04-	n/s	02	02-	08
SATIS	35		--	35	82

¹All t-values > 3.23 (p < .001; one-tail test)
except where shown.

T-value of 2.72 is significant; p < .005.

Table 5.15

**Assessment of Structural Model
Direct, Indirect, and Total Effects
and Correlations**

(Secondary Relationships - Stationery Supplies Data)
Trust

	Direct Effects	t-value ¹	Indirect Effects	Total Effects	Corr
PQUAL (Conf)	01-	n/s	01	00	39
PQUAL (Perf)	04	n/s	01	05	51
IMGMT	--		04	04	54
SLSP (Resp)	06-	n/s	00	06-	41
SLSP (Trust)	07		07	14	44
SLSP (Like)	04	2.87	06	10	42
LOC	--		01	01	13
SERV (Resp)	06		01	07	72
SERV (Qual)	22		05	27	74
PRICE	04-	n/s	08	04	49
REP	17		04	21	69
CUSDEP	--		11	11	46
DISDEP	09-	n/s	02	07-	27
GCONG	05		05	10	48
COMM	13		16	29	74
CONF	11-		06-	17-	56-
COOP	05		02	07	63
RELDUR	11		01	12	14
SOCCLLO	03		02	05	17
SATIS	35		--	35	83

¹All t-values > 3.23 (p < .001; one-tail test)
except where shown.

T-value of 2.87 is significant; p < .005.

mainly through **satisfaction to trust**. **Salesperson (trust)** has its indirect effects largely through **service (responsiveness)** and **service (quality)** to trust.

Welding Supplies

For the welding supplies data, direct effects, indirect effects, total effects, and correlations between trust and its causal antecedents are shown in Table 5.16. Figure 5.4 shows the research model with all path coefficients (see page 226).

Twelve paths were significant and in the direction proposed. Strong and significant relationships in the directions proposed, along with their path coefficients, included those from **satisfaction (.52)**, **salesperson (trust) (.13)**, **price (.10)**, **reputation (.09)**, and **cooperation (.09)**. Weaker effects were from **salesperson (like) (.07)**, **social closeness (.07)**, **conflict (-.07)**, **goal congruence (.06)**, **communication (.06)**, **product quality (performance) (.05)**, and **service (responsiveness) (.04)**.

When total effects are considered, the predictive power of several of the antecedent constructs increases. **Communication**, **reputation**, **salesperson (trust)**, **conflict**, **cooperation**, **service (quality)**, and **goal congruence** all become more important. **Salesperson (trust)** has its indirect effects mainly through **service (quality)** to trust. The other

Table 5.16

Assessment of Structural Model
Direct, Indirect, and Total Effects
and Correlations

(All Relationships - Welding Supplies Data)

Trust

	Direct Effects	t-value ¹	Indirect Effects	Total Effects	Corr
PQUAL (Conf)	05-	n/s	03	02-	34
PQUAL (Perf)	05		01-	04	51
IMGMT	--		03	03	51
SLSP (Resp)	12-	n/s	02-	14-	60
SLSP (Trust)	13		09	22	66
SLSP (Like)	07		02	09	58
LOC	--		01	01	06
SERV (Resp)	04		02	06	69
SERV (Qual)	02-	n/s	10	08	70
PRICE	10		01	11	61
REP	09		06	15	69
CUSDEP	--		08	08	39
DISDEP	03-	n/s	02-	05-	28
GCONG	06		06	12	48
COMM	06		26	32	75
CONF	07-		11-	18-	55-
COOP	09		09	18	70
RELDUR	04-	n/s	01	03-	18
SOCCLC	07		03	10	33
SATIS	52		--	52	87

¹All t-values > 3.23 (p < .001; one-tail test)
except where shown.

constructs all have their indirect effects mainly through satisfaction to trust.

Primary versus secondary relationships. Tables 5.17 and 5.18 show the direct effects, indirect effects, total effects, and correlations between trust and its antecedent constructs for primary and secondary relationships respectively. Figures 5.5 and 5.6 show the research model with all path coefficients (see pages 229 and 231).

When the data from primary relationships are considered, satisfaction, reputation, cooperation, and salesperson (trust) remain important.

When the data from secondary relationships are considered, satisfaction, price, conflict, communication, and salesperson (trust) are all important. It could be that for secondary suppliers, price is important in establishing credibility, and therefore trust.

When total effects are considered, the predictive power of several of the antecedent constructs increases. Communication, cooperation, service (quality), service (responsiveness), salesperson (trust), conflict, and reputation all become more important. Price is less important. Price has its indirect effects through satisfaction, and price is negatively related to satisfaction.

Table 5.17

Assessment of Structural Model
Direct, Indirect, and Total Effects
and Correlations

(Primary Relationships - Welding Supplies Data)

Trust

	Direct Effects	t-value ¹	Indirect Effects	Total Effects	Corr
PQUAL (Conf)	05-	n/s	07	02	33
PQUAL (Perf)	12		01-	11	58
IMGMT	--		03-	03-	52
SLSP (Resp)	03-	n/s	02-	05-	62
SLSP (Trust)	11		02-	09	66
SLSP (Like)	09		04	13	62
LOC	--		00	00	08
SERV (Resp)	08-	n/s	00	08-	62
SERV (Qual)	00	2.18	09	09	71
PRICE	07		04	11	66
REP	14		10	24	73
CUSDEP	--		09	09	34
DISDEP	01	2.31	04-	03-	21
GCONG	02		09	11	44
COMM	10-	n/s	28	18	70
CONF	07-		20-	27-	63-
COOP	12		05	17	71
RELDUR	08-	n/s	02	06-	09
SOCCLD	07		03	10	30
SATIS	57		--	57	86

¹All t-values > 3.23 (p < .001; one-tail test)
except where shown.

T-values of 2.18 and 2.31 are significant; p < .025.

Table 5.18

Assessment of Structural Model
Direct, Indirect, and Total Effects
and Correlations

(Secondary Relationships - Welding Supplies Data)
Trust

	Direct Effects	t-value ¹	Indirect Effects	Total Effects	Corr
PQUAL (Conf)	02-	n/s	01	01-	31
PQUAL (Perf)	02-	n/s	03-	05-	39
IMGMT	--		06	06	46
SLSP (Resp)	06-	n/s	07	01	58
SLSP (Trust)	11		10	21	60
SLSP (Like)	03-	n/s	01-	04-	48
LOC	--		02	02	08
SERV (Resp)	07		05	12	72
SERV (Qual)	04-	n/s	15	11	68
PRICE	16		05-	11	59
REP	09		04	13	64
CUSDEP	--		08	08	38
DISDEP	01-	n/s	01-	02-	33
GCONG	05		04	09	47
COMM	11		25	36	77
CONF	11-		06-	17-	43-
COOP	06		14	20	67
RELDUR	03-	n/s	01	02-	15
SOCCL0	07		05	12	39
SATIS	50		--	50	86

¹All t-values > 3.23 (p < .001; one-tail test) except where shown.

Salesperson (trust) has its indirect effects mainly through **service (quality)** to **trust**. The other constructs all have their indirect effects mainly through **satisfaction** to **trust**.

Antecedents to Partnering Attractiveness

Partnering attractiveness is the main dependent construct on which this research focuses. Fifteen direct relationships were proposed from antecedent constructs to **partnering attractiveness**. The relationship between **conflict** and **partnering attractiveness** was hypothesized as negative, while the balance of the relationships were hypothesized as positive. An examination of the direct effects, indirect effects, total effects, and correlations between **partnering attractiveness** and its causal antecedents aids in the understanding of **partnering attractiveness**. The results for the stationery supplies data will be presented first, followed by the results for the welding supplies data.

Stationery Supplies

For the stationery supplies data, direct effects, indirect effects, total effects, and correlations between **partnering attractiveness** and its causal antecedents are shown in Table 5.19. Figure 5.1 shows the research model with all path coefficients (see page 217).

Table 5.19

**Assessment of Structural Model
Direct, Indirect, and Total Effects
and Correlations**

(All Relationships - Stationery Supplies Data)

Partnering Attractiveness

	Direct Effects	t-value ¹	Indirect Effects	Total Effects	Corr
PQUAL (Conf)	04-	n/s	01	03-	13
PQUAL (Perf)	04-	n/s	02-	06-	19
IMGMT	--		09	09	28
SLSP (Resp)	11		05-	06	28
SLSP (Trust)	03-	n/s	03	00	30
SLSP (Like)	04-	n/s	02	02-	25
LOC	--		01	01	01
SERV (Resp)	10		09	19	37
SERV (Qual)	18-	n/s	01	17-	27
PRICE	10		03	13	37
REP	07-	n/s	09	02	29
CUSDEP	31		08	39	54
DISDEP	--		01-	01-	36
GCONG	--		01-	01-	25
COMM	--		16	16	43
CONF	07	n/s	08-	01-	21-
COOP	09-	n/s	01-	10-	36
RELDUR	--		00	00	56
SOCCL0	02-	n/s	03	01	12
SATIS	47		03	50	57
TRUST	07		--	07	46

¹All t-values > 3.23 (p < .001; one-tail test)
except where shown.

Six paths were significant and in the direction proposed. Strong and significant relationships in the directions proposed, along with their path coefficients, included those from **satisfaction (.47)**, **customer dependence (.31)**, **salesperson (respect) (.11)**, **service (responsiveness) (.10)**, and **price (.10)**. A weaker effect was found from **trust to partnering attractiveness (.07)**.

When total effects are considered, the predictive power of some of the antecedent constructs increases, particularly **customer dependence** and **service (responsiveness)**. The predictive power of **salesperson (respect)** decreases.

Primary versus secondary relationships. Tables 5.20 and 5.21 show the direct effects, indirect effects, total effects, and correlations between **partnering attractiveness** and its antecedent constructs for primary and secondary relationships respectively. Figures 5.2 and 5.3 show the research model with all path coefficients (see pages 221 and 223).

When the data from primary relationships are considered, **satisfaction**, **salesperson (respect)**, and **service (responsiveness)** remain important. **Service (quality)** and **salesperson (trust)** also become important.

When total effects are considered, the predictive power of some of the antecedent constructs increases, particularly

Table 5.20

Assessment of Structural Model
Direct, Indirect, and Total Effects
and Correlations

(Primary Relationships - Stationery Supplies Data)

Partnering Attractiveness

	Direct Effects	t-value ¹	Indirect Effects	Total Effects	Corr
PQUAL (Conf)	05	2.22	02	07	27
PQUAL (Perf)	22-	n/s	03-	25-	26
IMGMT	--		10	10	40
SLSP (Resp)	11		00	11	41
SLSP (Trust)	20	n/s	11	31	45
SLSP (Like)	17-	n/s	04	13-	30
LOC	--		01-	01-	01-
SERV (Resp)	10		13	23	55
SERV (Qual)	11		04-	07	51
PRICE	05		00	05	39
REP	09	n/s	14	23	51
CUSDEP	06		04	10	37
DISDEP	--		01-	01-	12
GCONG	--		02-	02-	28
COMM	--		16	16	49
CONF	08	n/s	10-	02-	33-
COOP	07-	n/s	04-	11-	38
RELDUR	--		01-	01-	09
SOCCL0	14-	n/s	03-	11-	02-
SATIS	55		01-	54	67
TRUST	03-	n/s	--	03-	58

¹All t-values > 3.23 (p < .001; one-tail test)
except where shown.

T-value of 2.22 is significant; p < .025.

Table 5.21

**Assessment of Structural Model
Direct, Indirect, and Total Effects
and Correlations**

(Secondary Relationships - Stationery Supplies Data)
Partnering Attractiveness

	Direct Effects	t-value ¹	Indirect Effects	Total Effects	Corr
PQUAL (Conf)	06-	n/s	00	06-	13
PQUAL (Perf)	02	n/s ⁶	02	04	17
IMGMT	--		03-	03-	20
SLSP (Resp)	05	1.83	04-	01	10
SLSP (Trust)	11-	n/s	01	10-	11
SLSP (Like)	00	n/s	04	04	16
LOC	--		01-	01-	10
SERV (Resp)	07-	n/s	02	05-	20
SERV (Qual)	10-	n/s	10	00	18
PRICE	11		01-	10	28
REP	13-	n/s	08	05-	16
CUSDEP	46		05	51	55
DISDEP	--		03-	03-	39
GCONG	--		03	03	17
COMM	--		08	08	37
CONF	02-	n/s	07-	09-	20-
COOP	16-	n/s	04	12-	28
RELDUR	--		04	04	33
SOCCL0	04		02	06	17
SATIS	21		10	31	43
TRUST	27		--	27	37

¹All t-values > 3.23 (p < .001; one-tail test) except where shown.

T-value of 1.83 is significant; p < .05.

salesperson (trust), service (responsiveness), reputation, customer dependence, and inventory management. These constructs all have their indirect effects mainly through satisfaction to partnering attractiveness.

When the data from secondary relationships are considered, customer dependence is the most important predictor of partnering attractiveness, followed by trust, satisfaction, and price. When end-customers and distributors have secondary relationships, it is important that the customer feels some dependence on the distributor if that distributor is to be seen as attractive for a partnering relationship. It is also important that the end-customer is satisfied with the distributor, trusts the distributor, and gets good prices from the distributor.

When total effects are considered, there is really no change in the interpretation made from direct effects. While the effects of some constructs are increased slightly, and some are decreased slightly, the changes are relatively small.

Welding Supplies

For the welding supplies data, direct effects, indirect effects, total effects, and correlations between partnering attractiveness and its causal antecedents are shown in Table

5.22. Figure 5.4 shows the research model with all path coefficients (see page 226).

Eight paths were significant and in the direction proposed. Strong and significant relationships in the directions proposed, along with their path coefficients, included those from **satisfaction (.36)**, **customer dependence (.25)**, **salesperson (like) (.10)**, **service (responsiveness) (.10)**, **salesperson (trust) (.08)**, and **service (quality) (.07)**. Weaker effects included those from **conflict (-.05)**, and from **social closeness (.03)** to **partnering attractiveness**.

If a distributor wants to be well-positioned for a partnering relationship, it is important that the end-customer be satisfied with the distributor. The distributor is also better positioned if the end-customer feels a dependence on the distributor. The other important predictors of **partnering attractiveness** centre on **service (responsiveness and quality)** and the **salesperson (like and respect)**. This makes both the salesperson and the service very important to distributors who wish to be attractive as possible partners in end-customer-distributor partnering relationships.

When total effects are considered, the predictive power of some of the antecedent constructs increases, particularly **salesperson (trust)**, **service (quality)**, and **conflict**.

Table 5.22

**Assessment of Structural Model
Direct, Indirect, and Total Effects
and Correlations**

(All Relationships - Welding Supplies Data)

Partnering Attractiveness

	Direct Effects	t-value ¹	Indirect Effects	Total Effects	Corr
PQUAL (Conf)	09-	n/s	02	07-	16
PQUAL (Perf)	01	n/s	01-	00	26
IMGMT	--		05	05	31
SLSP (Resp)	01	n/s	02	03	41
SLSP (Trust)	08		11	19	43
SLSP (Like)	10		00	10	39
LOC	--		01	01	06-
SERV (Resp)	10		01	11	42
SERV (Qual)	07		05	12	42
PRICE	08-	n/s	01-	09-	32
REP	06-	n/s	03	03-	35
CUSDEP	25		04	29	42
DISDEP	--		01-	01-	22
GCONG	--		03	03	25
COMM	--		12	12	45
CONF	05-		06-	11-	31-
COOP	00	n/s	04	04	42
RELDUR	--		01	01	39
SOCCL0	03		01	04	25
SATIS	36		05-	31	52
TRUST	11-	n/s	--	11-	46

¹All t-values > 3.23 (p < .001; one-tail test)
except where shown.

Primary versus secondary relationships. Tables 5.23 and 5.24 show the direct effects, indirect effects, total effects, and correlations between **partnering attractiveness** and its antecedent constructs for primary and secondary relationships respectively. Figures 5.5 and 5.6 show the research model with all path coefficients (see pages 229 and 231).

When the data from primary relationships are considered, the interpretation differs considerably from the interpretation when all relationships in the data set are included in the analyses. **Satisfaction** is still the most important predictor, and **customer dependence** remains important. However, other important predictors are **salesperson (like)**, **service (quality)**, **product quality (conformance)**, and **conflict**.

When total effects are considered, the predictive power of some of the antecedent constructs increases, particularly **product quality (conformance)**, **salesperson (respect)**, **salesperson (like)**, **service (quality)**, **customer dependence**, and **conflict**. These constructs all have their indirect effects mainly through **satisfaction to partnering attractiveness**. The total effects of **satisfaction** on **partnering attractiveness** is less than the direct effects. This is because of the indirect effects through **trust**, which has a negative relationship with **partnering attractiveness**.

Table 5.23

Assessment of Structural Model
Direct, Indirect, and Total Effects
and Correlations

(Primary Relationships - Welding Supplies Data)
Partnering Attractiveness

	Direct Effects	t-value ¹	Indirect Effects	Total Effects	Corr
PQUAL (Conf)	12		05	17	32
PQUAL (Perf)	14-	n/s	02-	16-	27
IMGMT	--		04-	04-	38
SLSP (Resp)	02	n/s	05	07	47
SLSP (Trust)	20-	n/s	04	16-	45
SLSP (Like)	28		06	34	51
LOC	--		01-	01-	05-
SERV (Resp)	11-	n/s	01	10-	42
SERV (Qual)	26		06	32	55
PRICE	06-	n/s	02	04-	45
REP	04	n/s	04	08	49
CUSDEP	19		11	30	44
DISDEP	--		08-	08-	14
GCONG	--		09	09	39
COMM	--		15	15	59
CONF	26-		10-	36-	59-
COOP	02	2.16	02-	00	47
RELDUR	--		01	01	14
SOCCL0	02-	n/s	00	02-	20
SATIS	47		10-	37	69
TRUST	18-	n/s	--	18-	58

¹All t-values > 3.23 (p < .001; one-tail test) except where shown.

T-value of 2.16 is significant; p < .025.

Table 5.24

Assessment of Structural Model
Direct, Indirect, and Total Effects
and Correlations

(Secondary Relationships - Welding Supplies Data)

Partnering Attractiveness

	Direct Effects	t-value ¹	Indirect Effects	Total Effects	Corr
PQUAL (Conf)	25-	n/s	00	25-	03
PQUAL (Perf)	15		01	16	25
IMGMT	--		08	08	19
SLSP (Resp)	02	n/s	07	09	33
SLSP (Trust)	06	3.19	07	13	31
SLSP (Like)	17		03-	14	29
LOC	--		03	03	03-
SERV (Resp)	23		04-	19	34
SERV (Qual)	20		09-	11	32
PRICE	20-		01	19-	13
REP	20		03-	17	31
CUSDEP	27		02-	25	31
DISDEP	--		02-	02-	27
GCONG	--		00	00	17
COMM	--		16-	16-	29
CONF	13-		07	06-	17-
COOP	09-	n/s	02	11-	25
RELDUR	--		02	02	11
SOCCL0	18		04-	14	22
SATIS	24-	n/s	06-	30-	25
TRUST	13-	n/s	--	13-	25

¹All t-values > 3.23 (p < .001; one-tail test) except where shown.

T-value of 3.19 is significant; p < .005.

When the data from secondary relationships are considered, the interpretation differs considerably again. The important predictors are **service (responsiveness)**, **service (quality)**, **reputation**, **social closeness**, **salesperson (like)**, **product quality (performance)**, and **conflict**.

When total effects are considered, there is little change in interpretation. The effects of some constructs are increased, particularly **salesperson (respect)** and **salesperson (trust)**, while the effect of **service (quality)** on **partnering attractiveness** is reduced.

Now that the main endogenous constructs and their antecedents have been discussed, a summary of the results will be presented which will focus on important findings from the analyses.

Summary Results

Tables 5.25 through 5.27 summarize the significant relationships that were found in the study across both data sets, for each of the main dependent constructs respectively. These tables make it easier to see which constructs were better predictors of each of the main dependent constructs, and which relationships were strongest within and across data sets.

Table 5.25

Summary of Significant¹ Path Coefficients
from Hypothesized Antecedent Constructs to Satisfaction

All, Primary, and Secondary Relationships

	Stationery Supplies			Welding Supplies		
	All	Primary	Secondary	All	Primary	Secondary
PQUAL (Conf)		.04 ^d		.05	.12	
PQUAL (Perf)			.05			
SLSP (Resp)	.02	.02				
SLSP (Trust)		.01	.01	.06		.04 ^b
SLSP (Like)	.05	.06	.11	.05		
SERV (Resp)	.18	.24		.04 ^a		.11
SERV (Qual)			.14	.18	.17	.29
PRICE	.05		.01 ^c		.03	
REP	.16	.27	.12	.12	.18	.07
CUSDEP						
COMM	.39	.38	.35	.31	.36	.27
CONF	.16-	.17-	.17-	.20-	.30-	.13-
COOP			.04	.13	.04 ^a	.19
SOCCL0	.06	.05	.05	.06	.05 ^c	.10

¹Significance statistics based on t-values from jackknifing.
Unless indicated, path coefficient is significant at $p < .001$.

^aStandardized path coefficient significant at $p < .005$.

^bStandardized path coefficient significant at $p < .01$.

^cStandardized path coefficient significant at $p < .025$.

^dStandardized path coefficient significant at $p < .05$.

Table 5.26

Summary of Significant¹ Path Coefficients
from Hypothesized Antecedent Constructs to Trust

All, Primary, and Secondary Relationships

	Stationery Supplies			Welding Supplies		
	All	Primary	Secondary	All	Primary	Secondary
PQUAL (Conf)	.02	.07				
PQUAL (Perf)	.05	.13		.05	.12	
SLSP (Resp)						
SLSP (Trust)	.11	.10	.07	.13	.11	.11
SLSP (Like)			.04 ^a	.07	.09	
SERV (Resp)		.06 ^a	.06	.04		.07
SERV (Qual)	.17	.10	.22		.00 ^c	
PRICE				.10	.07	.16
REP	.20	.24	.17	.09	.14	.09
DISDEP					.01 ^c	
GCONG	.04		.05	.06	.02	.05
COMM	.13	.11	.13	.06		.11
CONF	.05-		.11-	.07-		.11-
COOP			.05	.09	.12	.06
RELDUR	.04	.02	.11			
SOCCLD	.00		.03	.07	.07	.07
SATIS	.37	.35	.35	.52	.57	.50

¹Significance statistics based on t-values from jackknifing.
Unless indicated, path coefficient is significant at $p < .001$.

^aStandardized path coefficient significant at $p < .005$.

^bStandardized path coefficient significant at $p < .01$.

^cStandardized path coefficient significant at $p < .025$.

^dStandardized path coefficient significant at $p < .05$.

Table 5.27

Summary of Significant¹ Path Coefficients
from Hypothesized Antecedent Constructs to
Partnering Attractiveness

All, Primary, and Secondary Relationships

	Stationery Supplies			Welding Supplies		
	All	Primary	Secondary	All	Primary	Secondary
PQUAL (Conf)		.05			.12	
PQUAL (Perf)						.15
SLSP (Resp)	.11	.11	.05 ^d			.02 ^b
SLSP (Trust)		.20		.08		.06
SLSP (Like)				.10	.28	.17
SERV (Resp)	.10	.10		.10		.23
SERV (Qual)		.11		.07	.26	.20
PRICE	.10	.05	.11			
REP						.20
CUSDEP	.31	.06	.46	.25	.19	.27
CONF			.02 ^{-b}	.05-	.26-	.13-
COOP					.02 ^c	
SOCCL0			.04	.03		.18
SATIS	.47	.55	.21	.36	.47	
TRUST	.07		.27			

¹Significance statistics based on t-values from jackknifing.
Unless indicated, path coefficient is significant at $p < .001$.

^aStandardized path coefficient significant at $p < .005$.

^bStandardized path coefficient significant at $p < .01$.

^cStandardized path coefficient significant at $p < .025$.

^dStandardized path coefficient significant at $p < .05$.

The discussion that follows will make some general comments with regard to these tables as the individual relationships have already been discussed. The comments that follow attempt to provide a richer interpretation of some of the relationships found by interpreting some of the patterns of relationships within and across data sets, dependent constructs, and types of relationships (primary and secondary).

First, there is leverage in building some form of **customer dependence**. This construct is positively related to **partnering attractiveness** in both data sets, and across both types of relationships. It is a better predictor with secondary relationships than with primary relationships. This may reflect the fact that secondary suppliers are less important than primary suppliers, and **customer dependence** may be a summary construct which reflects the overall performance of the supplier. It would be more important for secondary suppliers to create perceived **customer dependence**, and they might do this by improving their performance on important supplier selection criteria relative to their competition, or by establishing structural bonds (e.g., dedicated inventory) or social bonds (e.g., personal relationships).

Social closeness is positively related to **satisfaction** and **trust** in most instances, and particularly with the welding

supplies data set. It is interesting that it is positively related to **partnering attractiveness** in both data sets when secondary relationships are analyzed, and especially with the welding supplies data set. These findings suggest that where **social closeness** is important in predicting **partnering attractiveness**, it is with secondary suppliers.

A look at **salesperson (like)** adds additional insight. This construct, like **social closeness**, is positively related to **partnering attractiveness** in the welding supplies data set when secondary relationships are analyzed. It is only indirectly related to **partnering attractiveness** (through satisfaction) with the stationery supplies data set. Together, the findings related to **social closeness** and **salesperson (like)** might reflect the different nature of buyer-seller relationships across the two product groups studied. In the context of stationery supplies purchasing, social bonds may not be particularly important. However, in the context of welding supplies purchasing, interpersonal bonds between companies, and possibly with the salesperson in particular, may be important, especially with secondary suppliers.

Communication is also very important and is positively related in eleven of the twelve hypothesized relationships. This construct was measured as the efficacy of communication,

and indicates that honest and open communication between suppliers and customers is important to creating **satisfaction** and **trust** in buyer-seller relationships.

Conflict is negatively related, and **cooperation** is positively related to the dependent constructs in most instances, and these constructs are generally more important in the context of welding supplies purchasing. It is interesting that **cooperation** is mainly only indirectly related, but **conflict** is directly related to **partnering attractiveness**. **Cooperation** is important to the extent it increases **satisfaction** and **trust** in the relationship, but **conflict** has an effect in addition to these indirect effects.

When the **offer portfolio** constructs are considered, **reputation** is important to predicting **satisfaction** and **trust** with both data sets, but is not as important to predicting **partnering attractiveness**. The dimensions of service and of the salesperson appear to be better predictors of **satisfaction** and **trust** in the context of stationery supplies purchasing. **Price** is an important predictor of **partnering attractiveness** across all relationships, and is the most important predictor with **secondary** relationships. Further, **service (responsiveness)** is a better predictor of **satisfaction** with primary suppliers, and **service (quality)** is a better predictor with secondary suppliers. **Service (responsiveness)** is more

important to predicting **satisfaction** and **partnering attractiveness**, but **service (quality)** is more important to predicting **trust** (as is **product quality**). Customers prefer faster service, but may establish or maintain secondary relationships because of quality service or products which may be more important for a smaller proportion of the stationery and office supplies that they buy.

In the context of welding supplies purchasing, the dimensions of service also appear important, particularly **service (quality)**. **Price** is important to predicting **trust**, but is not important to predicting **satisfaction** or **partnering attractiveness**. The various dimensions of salesperson also appear important, particularly **salesperson (like)**, as already discussed.

A few additional comments are necessary before leaving this section. First, **satisfaction** is such an important predictor of **partnering attractiveness** that the predictors of **satisfaction** should be considered when thinking about what can be done to make a distributor more attractive for a partnering relationship. Second, **trust** was not found to be positively related to **partnering attractiveness** as hypothesized in the welding supplies data and, in fact, the relationship was negative when all, primary, or secondary relationships were analyzed. This will be discussed further in Chapter 6 when the implications for marketing management are presented.

Finally, **customer dependence** was hypothesized to be negatively related to **satisfaction**, and the relationship was found to be strongly positive for all six tests (all, primary, and secondary relationships for both data sets). The relationship between **customer dependence** and **satisfaction** may result because customers who are dependent in a relationship behave in such a manner as to improve the relationship, and thereby increase their own satisfaction. If this is the case, a direct relationship from **customer dependence** to **satisfaction** can not be supported theoretically.

It is an interesting but expected observation that the relationships between the **relationship atmosphere** constructs and the dependent constructs appear to be quite consistent across data sets and types of customer-distributor relationships. This is true to a greater extent than it is with the **offer portfolio** constructs. That is, there appears to be moderating effects of product group, and particularly among the task-related, **offer portfolio** constructs. Customers appear to want different things from distributors depending on the product group they are buying, and whether they are buying from primary or secondary distributors.

Now that the results from the structural models have been discussed, an assessment of the overall model will be made. The next section will discuss this assessment.

Overall Model Assessment

Model evaluations have so far focused on either the measurement or structural models. An overall model assessment attempts to evaluate the measurement and structural models simultaneously. Unfortunately, in PLS, there is no overall test of the model as we find with the LISREL approach to causal modelling. This is because the objective of LISREL is to explain overall model fit, but the objective of PLS is to minimize residual variance in the model.

From a predictive perspective, Lohmoller (1981) suggested that the fit of the overall model could be judged satisfactory if the redundancy coefficient (F^2) is high enough. F^2 is the average variance explained in the manifest variables of each construct by prior constructs in the model, and is calculated as the average variance extracted in the construct, multiplied by the variance explained in that construct (Fornell and Larcker 1981). There are two problems with F^2 as a measure of overall fit. First, it is the average redundancy for all endogenous constructs in the model. It would seem more appropriate to assess the redundancies associated with only the main endogenous constructs of interest, as the purpose of the research was not to explain variance in all of the endogenous constructs. Second, it might only be appropriate to assess redundancies for endogenous constructs measured with reflective indicators as PLS does not attempt to maximize

redundancy for constructs measured with formative indicators (Barclay 1986).

Redundancy measures were calculated for **satisfaction** and **trust** with both data sets. These constructs were measured with reflective indicators, and are two of the main endogenous constructs in the model. The redundancy measures appear in Table 5.28, and were evaluated by applying an analogue to Miller's F-test with q and $(N-q-1)$ degrees of freedom, where q is equal to the number of manifest measures of the dependent construct and N is equal to the sample size (Fornell and Larcker 1981). All measures from this table are significant at $p < .001$. To the extent that redundancy measures can be used to assess the overall models in this research, it was concluded that the overall models were satisfactory. This criterion is not able to consider the inclusion of the main endogenous construct, **partnering attractiveness**, but does make an assessment of the overall model prior to the inclusion of that construct.

A second, and perhaps more appropriate assessment of the overall model can be made by examining the explanatory power of the model, measured as the variance explained (R^2) in the endogenous constructs. Table 5.29 displays the variance explained for all endogenous constructs, for both data sets. While a considerable proportion of the variance has been accounted for in some of the intervening constructs, it is

Table 5.28 Redundancy Measures

Overall Model Assessment: Stationery Supplies						
	R ²	Average Var. Extr.	R ² (Y/E)	Miller's F-stat	df.	p.
SATIS	.75	.71	0.533	157.50	3,414	<.001
TRUST	.83	.78	0.647	252.93	3,414	<.001
Overall Model Assessment: Welding Supplies						
	R ²	Average Var. Extr.	R ² (Y/E)	Miller's F-stat	df.	p.
SATIS	.76	.73	0.555	115.57	3,278	<.001
TRUST	.82	.77	0.631	158.46	3,278	<.001

Table 5.29 Variance Explained (R^2) in the Endogenous Constructs

	<u>stationery supplies</u>	<u>welding supplies</u>
Service (Responsiveness)	.46	.56
Service (Quality)	.26	.43
Conflict	.10	.13
Cooperation	.55	.56
Social Closeness	.08	.12
Satisfaction	.75	.76
Trust	.83	.82
Partnering Attractiveness	.43	.36

primarily the final three constructs in the model that are important.

The explanatory power of the model is quite substantial with both data sets. The variance explained in **satisfaction** was .75 and .76, and in **trust** was .83 and .82. While the variance explained in **partnering attractiveness** was much smaller, it was also quite substantial, being .43 with the stationery supplies data and .36 with the welding supplies data. The overall model assessment from the criterion of variance explained in the main endogenous constructs was satisfactory.

A final assessment of the overall model can be made by considering the number of relationships proposed and tested, and how many were supported from the analyses. The research model presented in this study comprised 65 causal relationships. There were two data sets, one for stationery and office supplies and one for welding supplies and equipment. Each data set was analyzed in full, and then analyzed with data from only primary or secondary relationships. This means that within the study, 390 causal paths were analyzed.

Of the 65 causal paths in the model, 46 were proposed as directly related to the three main endogenous constructs. This means that in total, 276 relationships hypothesized as

directly related to these constructs were analyzed within the study. A review of Tables 5.25 through 5.27 (pages 255 through 257) shows that a total of 164 relationships were significant as hypothesized. Of the 114 relationships that were proposed to endogenous constructs other than the three main ones, 107 were significant as hypothesized. In summary, the model appears well-specified.

This section has reviewed the assessment of the overall model, and it was concluded that the overall model was well-measured and specified. The next section will discuss model trimming, and arguments will be presented that this procedure is inappropriate at this stage in the research.

Model Trimming

It is common at this stage in causal model evaluation to do what Heise (1969) called "theory trimming," or the deletion of path coefficients that do not meet some criterion of statistical significance and/or meaningfulness. There are some problems associated with taking either approach.

Regarding the criterion of statistical significance, small path coefficients can become significant, even when they provide nothing in terms of prediction or explanation. An example was Hypothesis 34 in Table C.1, Appendix C. The path coefficient between product quality (conformance) and trust

in the stationery supplies data set was .02, but it was statistically significant. On the other hand, the path coefficient from location to service (responsiveness) in the same data set was .04, but it was not significant (Hypothesis H5). This latter coefficient, while not significant, is more meaningful. If statistical significance was accepted as the criterion, the larger, more meaningful path would be dropped while the smaller and less meaningful path would be retained.

Regarding the criterion of meaningfulness, this is a judgemental criterion and there is no specific value where a coefficient becomes meaningful. Pedhazur (1982) suggested that meaningfulness could depend on the specific area being studied, economic considerations, and the consequences of decisions made on the basis of the results, among other things. He suggested that researchers could set a criterion for path deletion, such as all paths $< .05$. This, however, would be arbitrary, and Davis (1985) provides an example where he used a criterion of $< .10$.

Other researchers suggested the proportion of variance directly accounted for by the path could be crudely determined from the path coefficient, and this could be used as a measure of meaningfulness. When multicollinearity is present, Asher (1983) argued against this approach:

The most useful statements to be made in interpreting coefficients involve a comparison

of the relative magnitudes of the coefficients within the same model....

While there are criticisms of either criterion for model trimming, there are other arguments against dropping path coefficients under these circumstances. McPherson (1976) sees the most serious faults related to the post hoc nature of theory trimming.

The data cannot tell the researcher which hypothesis to test; at best the data may tell when a particular hypothesis is supported or unsupported, when a priori grounds exist for testing it (p. 99).

The basic criterion for a researcher's deciding whether or not to "theory trim" is whether he believes that the data can form his hypothesis for him (p. 102).

The most serious criticism against theory trimming at this stage comes from one of Pedhazur's (1982) arguments against dropping individual insignificant paths from a model. Pedhazur argued that causal models represent complex networks of constructs, and even when an insignificant path is dropped, the significance of other paths in the model could change. If this is the case, it would seem logical that dropping significant paths (because they are meaningless) could have an even greater effect on the remaining paths in the model. If the remaining path coefficients change relative to each other, false conclusions could be made regarding the effects of various constructs in the model. For this reason, it was decided to leave the basic model intact, and discuss those

constructs that have important effects on the main endogenous constructs. This gives a truer picture than what might be seen when these same constructs are evaluated outside the larger nomological network.

A final argument against model trimming at this time has to do with the results that have been found, and the possible results that might come from further analyses. First, regarding the present analyses, there is only one path coefficient that was insignificant with both data sets. Concerning potential findings from further analyses, it is entirely possible that paths which are insignificant when the entire data sets are analyzed might become significant for some parts of the data sets. That is, there might be moderating variables that could provide tremendous insights if the path coefficients change depending on the value of the moderating variable. A moderating variable that was investigated was the relationship between the distributor and the customer in terms of whether they shared a primary or secondary relationship. Differences in the significance of path coefficients were found between the model calculated with either full data set compared to the same model calculated with a partial data sets which included only data from primary or secondary relationships.

An issue that was raised in Chapter 3 was whether direct paths should be hypothesized from the offer portfolio and

relationship atmosphere constructs to partnering attractiveness, or whether their effects would occur only through satisfaction and trust. To address this issue, the offer portfolio submodel was tested with direct effects as hypothesized, and with all effects through satisfaction and trust. This submodel was tested as the data already analyzed suggested that constructs from the relationship atmosphere do have direct effects that could not be supported through the intervening constructs. In particular, customer dependence was strongly and positively related to partnering attractiveness, but could not be supported as related to either satisfaction or trust.

When the direct paths from the offer portfolio constructs to partnering attractiveness were deleted, the variance explained (R^2) dropped from .36 to .33 with the stationery supplies data, and this reduction was significant ($F = 2.27$, $df. = 9,406$, $p < .01$). The variance explained with the welding supplies data set dropped from .31 to .27, but this reduction was not significant ($F = 1.73$, $df. = 9,270$, $p > .05$). It would not be appropriate to drop the paths with one data set and keep them with the other. Further, there are nine paths involved, and from the direct path coefficients calculated, it is apparent that some of these constructs do have important direct effects, and these change across the product groups analyzed. It is argued that at this stage of the research, it is important to keep the proposed direct

paths from the offer portfolio constructs to partnering attractiveness.

For these reasons, the analyses will now proceed in another direction. Rather than drop paths from the full model, several partial models will be assessed, and they will be compared to the full model in terms of their explanatory power.

Explanatory Power of Some Reduced Models

One interesting question when assessing the explanatory power of the model concerns the extent to which the full model explains variance in each of the three main endogenous constructs over what could be explained by reduced or partial models. As discussed in Chapter 3 where the model was developed, the full model was developed from two areas of research, and is essentially the combination of two submodels. The first submodel was referred to as the offer portfolio submodel, and comprised the constructs thought to be more or less under the control of the marketing firm; product quality, inventory management, the salesperson, location, service, price, and reputation. The second submodel was referred to as the relationship atmosphere submodel, and comprised the constructs that operate within the general atmosphere surrounding the relationship; customer dependence, distributor

dependence, goal congruence, communication, conflict, cooperation, relationship duration, and social closeness.

Table 5.30 shows the variance explained in each of the three main endogenous constructs for both data sets, and for the full and both submodels. Tests of whether the improvements in R^2 were statistically significant are reported in the same table.

For both data sets, the full model resulted in a significant increase in R^2 in **satisfaction** over either the **offer portfolio** submodel or the **relationship atmosphere** submodel. The same can be said with regard to the variance explained in **trust**. However, the reason that the full model does better at predicting **trust** over either of the submodels is related to the fact that either submodel has high explanatory power. That is, the higher the R^2 for any set of variables, the smaller the incremental change that will have to occur in that R^2 to be statistically significant. In the case of **trust**, the full model only increases the R^2 from .80 to .82 over either of the submodels with the welding supplies data, and only from .82 to .83 over the **offer portfolio** submodel with the stationery supplies data. Yet, the change is significant in both cases. Concerning the improvement of R^2 in **partnering attractiveness**, the full model significantly increases the R^2 over that estimated with the **offer portfolio** submodel for both data sets, but is not significantly better

Table 5.30 Variance Explained in Full and Reduced Models

<u>Stationery Supplies</u>				
	<u>Full Model</u>		<u>Offer Portfolio Model</u>	<u>Relationship Atmosphere Model</u>
Satisfaction	.75	(1)	.61	(2) .69
Trust	.83	(3)	.82	(4) .76
Partnering Attractiveness	.43	(5)	.36	(6) .41

<u>Welding Supplies</u>				
	<u>Full Model</u>		<u>Offer Portfolio Model</u>	<u>Relationship Atmosphere Model</u>
Satisfaction	.76	(7)	.64	(8) .70
Trust	.82	(9)	.80	(10) .80
Partnering Attractiveness	.36	(11)	.31	(12) .33

Tests of Changes in R², full versus partial models:

Comparison	F-Statistic	df.	p-value
(1)	45.16	5,403	< .01
(2)	10.76	9,403	< .01
(3)	3.36	7,400	< .01
(4)	14.96	11,400	< .01
(5)	12.32	4,402	< .01
(6)	1.55	9,402	n.s.
(7)	26.67	5,267	< .01
(8)	7.44	9,267	< .01
(9)	4.21	7,264	< .01
(10)	2.68	11,264	< .01
(11)	5.19	4,266	< .01
(12)	1.38	9,266	n.s.

at predicting R^2 over the **relationship atmosphere** submodel for either data set.

To conclude from this analysis, **satisfaction** is better predicted by the full model than by either submodel. However, it appears that **satisfaction** is better predicted by the **relationship atmosphere** constructs than by the **offer portfolio** constructs. **Trust** is better predicted by the full model than by either submodel. However, it appears that the **offer portfolio** submodel has better explanatory power than the **relationship atmosphere** submodel, at least with the stationery supplies data. This result might be because relationships between customers and distributors are not as well developed in the stationery supplies business. The full model has better explanatory power in predicting **partnering attractiveness** than the **offer portfolio** submodel, but does no better than the **relationship atmosphere** submodel. It must be pointed out that this research was restricted to relationships that have been in existence for a minimum of one year, and in the earlier stages of relationship development, the **offer portfolio** constructs might be relatively more important. It could very well be that the offer portfolio constructs are the ones that determine whether the distributor gets his "foot-in-the-door," or the chance to develop a better relationship. Good performance on these criteria can then lead to a better relationship atmosphere which then becomes important in predicting **partnering attractiveness**.

CONCLUSION

The analyses and discussion of results have been presented in this chapter. Before leaving this chapter, a final item deserves comment as it supports the importance of doing research such as this to determine the relative importance of supplier selection criteria, versus simply asking informants for a ranking of important criteria. Table 5.31 shows a ranking of four supplier selection criteria. As mentioned earlier, informants ranked product quality, service, price, and the salesperson as being important, and the rankings remained the same in both purchasing contexts (stationery and welding supplies).

These rankings are compared to the ability of these four supplier selection criteria to predict **satisfaction, trust, and partnering attractiveness** in both data sets. The rankings used for comparison were based on all relationships in the data sets, and were calculated by adding the total effects for all dimensions of a construct. These rankings should not be interpreted as particularly valid as they would even change if the sum of the total effects for each supplier selection criterion was based on either primary or secondary relationships. It can, however, be argued that this is a better ranking than simply having informants rate the importance of supplier selection criteria, as has been so frequently done in the past. When informants rate supplier

Table 5.31 Summary of Rankings of Supplier Selection CriteriaStationery Supplies

	PRODUCT QUALITY	SERVICE	PRICE	SALESPERSON
Informant Importance Rating	1	2	3	4
Predicting SATIS	4	1	3	2
Predicting TRUST	3	1	4	2
Predicting PA	4	3	1	2

Welding Supplies

	PRODUCT QUALITY	SERVICE	PRICE	SALESPERSON
Informant Importance Rating	1	2	3	4
Predicting SATIS	3.5	1	3.5	2
Predicting TRUST	4	2	3	1
Predicting PA	4	2	3	1

selection criteria, it is important to know what exactly they are rating. This is particularly important when there are multiple dimensions of each criterion. In this study, for example, two dimensions of product quality, two dimensions of service, and three dimensions of the salesperson were investigated.

It is interesting to note that single measures of the importance of supplier selection criteria resulted in product quality as being the most important, and the salesperson as being the least important. When the predictive ability of these criteria are summarized from the data in this study, product quality is clearly the least important criterion in either data set. With stationery supplies data, service and the salesperson are the best predictors of satisfaction and trust, and price is the best predictor of partnering attractiveness. With welding supplies data, service and the salesperson are the best predictors of all three main endogenous constructs.

Implications, contributions, and limitations of this research will be discussed in Chapter 6, along with suggestions for future research ideas.

Chapter 6

IMPLICATIONS, LIMITATIONS, AND FUTURE

RESEARCH DIRECTIONS

The implications and contributions of this research will be discussed in this chapter, followed by the limitations of this research, and some suggestions for future research directions.

Implications and Contributions

The implications of this research for both marketing and purchasing management, and the contribution this research will make to marketing theory and research will now be discussed.

Marketing Management

This research has helped improve our understanding of **satisfaction, trust, and partnering attractiveness** as they relate within the context of buyer-seller relationships in a MRO purchasing environment. Specifically, the research has helped answer what aspects of a buyer-seller relationship a distributor should manage to increase customer satisfaction, customer trust of the distributor, and the distributor's partnering attractiveness. As well, the research has addressed this question when the moderating effects of

relationship importance (primary versus secondary) are considered.

There are many implications for marketing management that result from this research. The discussion that follows has been organized to describe the managerial implications with regard to each of the three main dependent constructs.

Satisfaction

Satisfaction has historically been an important construct in marketing, and has been receiving more attention lately, primarily in the buyer-seller relationship literature. This study includes satisfaction as one of its main constructs, and attempts to predict satisfaction with a number of constructs from two separate literature sources, one which has contributed to the conceptualization of the **offer portfolio**, and one which has contributed to the conceptualization of the **relationship atmosphere**.

The most important implication for marketing management with regard to satisfaction is that managers should recognize that different things lead to customer satisfaction across both product groups (stationery supplies versus welding supplies) and relationship importance (primary versus secondary relationships). To provide a few important examples, with the stationery supplies data, it was found that

service (responsiveness) was more important than service (quality) to predicting satisfaction when primary relationships were analyzed, but the reverse was true when secondary relationships were analyzed; with the welding supplies data, it was found that both service (quality) and service (responsiveness) were more important to predicting satisfaction when secondary versus primary relationships were analyzed. Another interesting difference across relationship importance was found with the welding supplies data. Both social closeness and salesperson (trust) were more important to predicting satisfaction when secondary versus primary relationships were analyzed.

The fact that different things predict satisfaction across product groups means managers must determine the important criteria relevant to their particular industry. The fact that different things predict satisfaction across relationship importance has even more serious implications for managers. It means that customers can be satisfied with competing suppliers for different reasons and, if that is the case, a customer could be very satisfied with a supplier and still eliminate that supplier from its vendor-base if the customer decided to establish partnering relationships. While customer satisfaction is important in maintaining a relationship, in an environment where customers are decreasing their vendor-bases, satisfaction may not be sufficient.

Trust

Trust is a construct that is becoming more popular in the marketing literature, and managers must learn more about the nature of trust in buyer-seller relationships. Trust, as defined in this study, appears to be better explained by the offer portfolio, at least with the stationery supplies data set. While the importance of performance to expectations on relevant task-related buying criteria has been suggested by Magrath and Hardy (1989), this is the first study to investigate these constructs as antecedents to trust. Good performance on those things that are related to the buyer's task performance enhance the buyer's trust of suppliers.

In general, service and the salesperson were important to predicting trust with both data sets, although service was more important with the stationery supplies data, and the salesperson was more important with the welding supplies data. Reputation, customer dependence, communication, and goal congruence were found to be important across both data sets. Social closeness was an important predictor with the welding supplies data set.

Partnering Attractiveness

It is argued that the need to understand partnering attractiveness is no less important than the need to

understand satisfaction and trust, and this may be one of the most important areas where marketing knowledge needs further development. Given the changes that are taking place in buyer-seller relationships, it is critical for marketing management to understand what makes their firms attractive for partnering relationships from the customer perspective. Marketing firms must position themselves to become partners with those customer firms that will eventually adopt a partnering philosophy.

The most important implication for marketing management with regard to partnering attractiveness is that managers should recognize that different things make a distributor attractive for a partnering relationship across both product groups (stationery supplies versus welding supplies) and relationship importance (primary versus secondary relationships).

Price was found to be very important to predicting partnering attractiveness with the stationery supplies data set, and this was not surprising as the products in this product group included mainly non-technical, commodity-like items where product quality and service might be less important. On the other hand, product quality, service, and the salesperson were all more important to predicting partnering attractiveness with the welding supplies data set. The salesperson would be more important simply because of the

more technical nature of the product and the need for more product knowledge to provide better customer service.

When relationship importance is considered, there is evidence again that relationships may be more important in maintaining secondary versus primary relationships. Social closeness was not related to partnering attractiveness with the stationery supplies data set when all relationships were analyzed. However, it was positively related to partnering attractiveness when secondary relationships were analyzed (.04). With the welding supplies data set, it was even more strongly related to partnering attractiveness when secondary relationships were analyzed (.18). If social factors are more important in secondary versus primary relationships, this suggests that secondary suppliers might possibly be able to leverage social relationships to protect themselves from becoming dropped from customer vendor-bases.

Other important management implications arise from the relationships found among the three dependent constructs. There were several surprising findings related to the relationships among these constructs. It was initially proposed there would be strong positive path coefficients from both satisfaction and trust to partnering attractiveness.

Trust was negatively related to partnering attractiveness with the welding supplies data set, and this was regardless of

whether all relationships or only primary or secondary relationships were analyzed. The fact that the relationship between trust and partnering attractiveness differed considerably between the two data sets, and was negative in all instances when the welding supplies data set was analyzed, suggests there might be something specific to the welding supplies industry that might explain these negative relationships. Price might at least provide a partial explanation.

The price issue between welding supply companies and their customers was raised when the five manufacturers of welding gases in Canada were recently fined from \$200,000 to \$1,700,000 for illegal price-fixing. While these manufacturers determined the prices their distributors charged for gases, distributors had more flexibility in pricing related products they supplied to their customers. In a very competitive market with strong and established distributors, new or smaller distributors could use price as a means to gain entrance into some accounts. This explanation was supported by one customer that said its primary distributor was its most valued supplier, but not its most trusted supplier. The customer trusted its secondary distributor more because the customer thought the primary distributor was charging far too much for its products and service, and the secondary distributor helped confirm this suspicion by regularly quoting lower prices. This explanation is further supported by the

path coefficients from price to trust with the welding supply data set, which were .07 and .16 for primary and secondary relationships respectively. Marketing managers should recognize that creating customer trust does not necessarily mean that customers will be more likely to consider the distributor for a closer, longer-term relationship. The things that create trust in a relationship may not be the same things which are ultimately valued in partnering relationships.

The managerial implications with regard to each of the three main dependent constructs have been discussed. Another important managerial implication arises from looking at the prediction of these three constructs by each of the two submodels, the offer portfolio submodel and the relationship atmosphere submodel. **Satisfaction and partnering attractiveness** are better predicted by the **relationship atmosphere** side of the model than by the **offer portfolio** side of the model. On the other hand, **trust** is better predicted by the **offer portfolio** side of the model than by the **relationship atmosphere** side of the model, at least with the stationery supplies data set. These findings hold for both stationery and office supplies and welding supplies and equipment purchases. As well, the **relationship atmosphere** side of the model does as well as the full model in predicting **partnering attractiveness**.

A word of caution here is that while the relationship atmosphere may appear more important to predicting satisfaction and partnering attractiveness, the offer portfolio cannot be ignored. It is not clear what would happen to the relationship atmosphere, for example, if the supplier allowed performance to deteriorate with regard to its offer portfolio. However, it is important to note that the relationship atmosphere is important, and marketing management should actively manage it just as they manage their offer portfolio.

Purchasing Management

While it first might appear that the contributions of this research are directed toward marketing management, it can be argued that purchasing management can also benefit. There is a growing recognition of the importance of effective purchasing management to the success of many modern organizations. As this research increases knowledge about buyer-seller relationships, it can contribute to a better understanding among purchasing people as well.

Much of the previous research in the area of organizational buying behavior has measured the importance of various supplier selection criteria, but this present research has taken a systems perspective which has included the important purchase criteria in a causal model framework. The

outcome of this analysis suggests that previous studies that have simply looked at individual purchase criteria in isolation may have resulted in invalid findings concerning which criteria are more or less important.

Even in this study, buyers' importance ratings ranked product quality, service, price, and the salesperson, in that order. These first three are the most frequently cited important criteria in the trade literature. The causal model analysis in this study suggests that product quality might be the least important of the four criteria. Further, service and the salesperson appear to be the most important two criteria, although price does become very important in predicting partnering attractiveness in the purchasing of stationery supplies.

Marketing Theory and Research

This research contributes to marketing theory and research through 1) an increased understanding of buyer-seller relationships, 2) the conceptualization and measurement of numerous constructs important in the context of buyer-seller relationships, 3) the conceptualization of a causal model which relates all of these constructs both directly and indirectly to three important dependent constructs, 4) the conceptualization and measurement of a new construct,

partnering attractiveness, which may in turn be an important predictor of partnering relationships, 5) the exploration of an approach to measure evaluations of competing firms within a single questionnaire, and 6) the exploration of PLS analysis to examine a very large causal model comprising 22 latent and 95 manifest variables.

Research in buyer-seller relationships is increasing, and this is a reflection of the increasing importance of buyer-seller relationships given the changes that are taking place in purchasing philosophy. One aspect of this changing philosophy is the willingness, and often the desire, to reduce vendor-bases and restrict the number of suppliers considered when making longer-term purchasing decisions. This is the first research to look at what it is that makes a supplier attractive for a partnering relationship from a customer perspective, and it tries to do this before actual partnering relationships develop.

In this research, numerous scales have been developed for measuring the various supplier selection criteria that comprise what has been referred to as the **offer portfolio**. As well, an attempt was made to define **relationship atmosphere**, and to measure some new constructs that were included within that higher-order construct. Partnering attractiveness was also conceptualized and measured. Many of these scales may be useful to other researchers in buyer-seller relationships

seeking to explain various purchasing or marketing phenomena. Many of the measures developed for this study have demonstrated good psychometric properties.

Perhaps the most important contribution of this research is the combining of two distinct research streams within a single conceptual model. Constructs from the organizational buying behavior literature have been combined with those from the channel relationships and buyer-seller relationships literature in a single conceptual framework to explain **satisfaction, trust, and partnering attractiveness**. In that regard, this is the first attempt to look at how performance on the purchaser's task related criteria predict trust, and is also one of the earliest studies to include trust in a model of buyer-seller relationships. It is the first study to predict partnering attractiveness. This is an important construct by itself, and it may prove important in predicting more behavioral aspects of buyer-seller relationships, such as the actual formation of partnering relationships.

Among the contributions this study has made to marketing research is the finding that respondents will respond differentially with regard to competing suppliers on a single questionnaire. Further, they will do that even when the survey is as long as 28 pages, and when it relates to product, supplier, salesperson, and relationship aspects. They will also respond when they can be identified as the questionnaires

all had identification numbers, but this probably results only when they believe their anonymity will be protected.

A final contribution of this research is the investigation of the research problem with a PLS causal model framework and data analyses. This methodology is beginning to be used more frequently, and although its use to analyze relationships in large conceptual models has been supported, most implementations of this methodology involve models considerably smaller than the present one.

Limitations

Some of the limitations of this research are discussed in this section. These limitations have been separated into theoretical/conceptual limitations and methodological limitations.

Theoretical / Conceptual Limitations

One of the limitations of this research is the individual perspective used in the study. Data were gathered from customers only to measure their satisfaction with specific distributors, their trust of specific distributors, and the partnering attractiveness of specific distributors. As well, data were collected concerning evaluations of each distributor's offer portfolio, and the relationship atmosphere

surrounding the working relationship between each customer-distributor dyad. While it has been argued in this study that the individual perspective is appropriate given the question the research addresses, it is still recognized that at a minimum, relationships are dyadic in nature, and are part of a larger social milieu.

This was the first effort to look at partnering attractiveness. As such, not all possible causal factors that would predict partnering attractiveness were considered. As one example, the macroenvironment surrounding the buyer-seller dyad would impact not only whether partnering relationships develop, but also which firms are attractive for partnering relationships. Some aspects of the macroenvironment might include the market structure, dynamism, social and cultural system, and internationalization. Organizational and individual factors might also predict whether partnering relationships will be formed, and which firms will be attractive for these special relationships. Such organizational factors as structure, experience, values, resources, and strategy might be important, as might such individual factors as personalities, experiences, and motivations.

There are many constructs which might moderate the relationships in the model of partnering attractiveness. This study looked at the moderating effects of product group, but

only studied two product groups (stationery and office supplies and welding supplies and equipment) within a single product class, MRO supplies. The moderating effects of product class was not studied. This study also looked at the moderating effects of relationship importance (primary versus secondary). As well, data were collected on the size of the buying organization, importance of the product group being purchased, and industry to which the customer firm belonged, but the moderating effects of these constructs were not analyzed.

Many of the constructs investigated in this study were developed specifically for this study. While most had very good psychometric properties, location was eventually reduced to a single-measure construct so that its reliability could not be assessed within a PLS framework. This may be of minor concern as this construct was only proposed to have an indirect effect on any of the main dependent constructs. A second construct that might be better conceptualized is product quality. As a result of preliminary data analysis, the seven measures proposed to measure product quality were divided as it was decided this was a two-dimensional construct, one dimension measuring product quality (conformance) and one dimension measuring product quality (performance). These two dimensions were created post hoc, and a better conceptualization of these two dimensions might be possible.

Another conceptual limitation is that the proposed paths in this model may not reflect the complexity that exists among the constructs investigated. The two sides of the model, offer portfolio and relationship atmosphere, were treated as independent. Given the high predictive ability of both sides of the model, multicollinearity is a possible problem, and it is probable that some paths could be specified across the two sides of the model.

Methodological Limitations

Some of the research design issues that were decided place limitations on the implications that can be drawn from this study. First, this study was a static, cross-sectional study. Although the PLS causal modelling framework is an improvement over simpler bivariate analyses (Fornell 1983), caution must still be exercised in drawing causal conclusions from cross-sectional data (Churchill 1991).

Second, the samples used in this study were drawn from a specific geographical region within southwestern Ontario. While non-response was low and was judged to be a minor problem in this study, the generalizability of the findings from this study to other geographical locations is certainly questionable. Responses to the questions in this study would be highly affected by the particular distributor firms with which the respondent customers had experience.

Another methodological limitation of this study is that all measurements in the model are based on perceptions of single key informants within the customer organization. While it has been argued that these key informants are appropriate for this particular study, there is always a potential weakness in perceptual data. Specifically, it could be argued that many of the relationships that appear in the data are the result of a methods factor as all constructs, including dependent and independent constructs, are measured by the same method; i.e., perceptual survey methods. A related problem could be a bias introduced if customers were unwilling to rate distributors with such extreme evaluations when negatively worded manifest items were used, than when the items were positively worded. While it is not clear this has happened, there is some suggestion in the data that this is a possibility.

Final methodological limitations of this research are associated with the PLS data analysis methodology used. PLS assumes linear relationships between constructs, and does not allow for the possibility of non-linear relationships. It is possible that some of the relationships proposed in this model are non-linear. For example, it was originally proposed that customer dependence would be negatively related to satisfaction. It was found that the relationship was strong and positive. It is quite possible that at very high levels of customer dependence, the relationship is negative. At very

high levels of dependence, the customer would likely be unable to conceal this dependence from the distributor, and the distributor would be more likely to take advantage of the customer's dependence. In addition, PLS uses OLS estimators to estimate model parameters. This raises the possibility of multicollinearity among the latent constructs as an issue. Finally, PLS is limited in its ability to assess the overall goodness-of-fit of the model. However, as its objective is explaining variance, the lack of an overall fit index should not be a concern.

Future Research Directions

A number of extensions for future research follow logically from the theoretical framework that was developed, and the data that were collected and analyzed in this study. This study has investigated the partnering attractiveness of the industrial distributor, and that is a different question than what actually leads to partnering relationships, how they are or can be best managed, or how they can be evaluated in terms of either efficiency or effectiveness. There is a need to address all of these questions.

Further, this study has investigated buyer-seller relationships that have been in existence for some time, and where the buyer is currently maintaining a minimum of two relationships for whatever product group was investigated. It

is possible that where relationships are not as well-developed, the offer portfolio might be more important in predicting partnering attractiveness. Buyer-seller relationships are often initiated because of some aspect of the offer portfolio that the seller manipulates to gain buyer response. Until such time as the customer gains sufficient experience with the seller to be able to evaluate the atmosphere surrounding the relationship, the offer portfolio might remain more important. As well, where relationships are extremely well-developed, and where there is a clear customer preference for one supplier, the relationship atmosphere might even be much more important. It would be interesting to see in these instances, what distributors could leverage in terms of performance within the offer portfolio. That is, where strong relationships have developed, suppliers may be able to sacrifice performance on some task-related purchase criteria.

Expanding on this possibility of looking at relationships in different stages of development, longitudinal research would be even a greater benefit, and would make a great contribution to the understanding of many of the constructs in this model. This model was developed partly in response to Stern and Reve (1980) and Frazier and Sheth (1985) who have stressed the need for more comprehensive models of marketing channel phenomena. It may now be time to step back and look again at some subsets of constructs from this model and, with longitudinal research, better investigate the causal sequence

of these constructs. At the same time, smaller subsets of constructs comprising some from both sides of the model might be worth investigating to see how they might be interrelated within a causal framework.

Other product groups could be investigated, for example, safety supplies and equipment, cutting tools and equipment, and hydraulic hose and fittings. Other product classes could be investigated, including equipment or OEM parts and supplies.

Summary and Conclusion

The importance of buyer-seller relationships in industrial markets has been recognized by both managers and researchers. The partnering phenomenon that is evidenced in the marketplace and has become popular in the trade literature is recognized by both purchasing and marketing managers, and it has important implications for both. This research has therefore examined a very important aspect of buyer-seller relationships, one where there is need for much additional knowledge.

A causal model of partnering attractiveness was developed and tested with empirical data. The objective was to predict the partnering attractiveness of the industrial distributor, from the customer perspective. This research was undertaken

to address the need for more knowledge of buyer-seller relationships as suggested by Dant and Wilson (1988) and Johnston and McQuiston (1985). A comprehensive model was developed that integrated two distinct research areas, and this model was tested with two separate product groups. Further analyses were done to look at the moderating effects of relationship importance. Results from the analyses are interesting, important, and suggest additional areas for investigation.

As well as partnering attractiveness, this research also attempted to predict both satisfaction and trust. The model had good predictive ability, especially in predicting these latter constructs. With the stationery supplies purchasing data, 75, 83, and 43 percent of the variance of satisfaction, trust, and partnering attractiveness were explained, respectively. With the welding supplies purchasing data, 76, 82, and 36 percent of the variance of satisfaction, trust, and partnering attractiveness were explained, respectively. The research has also provided some insight into the relative predictability of the many antecedent constructs included in the model.

In the immediate future, some research could be done to look in-depth at specific partnering relationships. Some subsets of the model should also be investigated and, in the longer term, longitudinal research should be promising.

APPENDIX A



The UNIVERSITY of
WESTERN ONTARIO

**Purchasing Management
Association of Canada**



BUYER - SELLER

RELATIONSHIPS

**Project Director:
H. F. (Herb) MacKenzie
(519) 661-2111 ext. 5138**

RESEARCH QUESTIONNAIRE

The purpose of this questionnaire is to measure your attitudes and beliefs concerning two competing suppliers of welding supplies and equipment. In all, it is hoped information can be gathered concerning the five main competing suppliers in the Kitchener-Waterloo area, although each respondent is requested to supply information on only two suppliers. The two suppliers which are shown on this questionnaire are the two which you have identified during our telephone conversation as ones which you have bought from in the past year. It is hoped this research will benefit both purchasing and marketing management. A copy of the Management Summary will be available to you as a token of our appreciation for participating in this research.

PLEASE DO NOT WRITE YOUR NAME NOR YOUR COMPANY NAME ON THIS QUESTIONNAIRE. The information on this questionnaire will be treated as strictly confidential. At no time will your company or the suppliers involved see your individual responses. Neither you nor your company will be identified in any reports.

If you have any questions relating to this research, you may reach me at either of the following locations:

H. F. (Herb) MacKenzie
Project Director
School of Business Administration
The University of Western Ontario
London, Ontario
N6A 3K7

Phone 661-2111 ext. 5138

or

Prof. H. F. (Herb) MacKenzie
Wilfrid Laurier University
School of Business and Economics
Waterloo, Ontario
N2L 3C5

Phone 884-1970 ext. 2187

PLEASE NOTE:

- Please answer each question carefully.
- Please do not skip any questions.
- Each scale should be circled in only one position.
- Many questions have two scales and require two responses, one for each of two suppliers.

Approximately how many suppliers (all products) have you bought from during your business experience?

_____ suppliers

CONSIDERING ALL THE SUPPLIERS YOUR COMPANY HAS BOUGHT FROM OVER THESE YEARS, HOW DO YOU THINK YOUR COMPANY WOULD RATE THE AVERAGE SUPPLIER WITH REGARD TO EACH OF THE FOLLOWING (Please circle your answer.):

	VERY POOR							VERY GOOD						
the quality of the products they supply	1	2	3	4	5	6	7	1	2	3	4	5	6	7
the overall quality of their service	1	2	3	4	5	6	7	1	2	3	4	5	6	7
the salesperson who represents them	1	2	3	4	5	6	7	1	2	3	4	5	6	7
their reputation among the other companies they do business with	1	2	3	4	5	6	7	1	2	3	4	5	6	7
their location in relation to your company	1	2	3	4	5	6	7	1	2	3	4	5	6	7
the overall quality of communications between these suppliers and your firm	1	2	3	4	5	6	7	1	2	3	4	5	6	7
	NOT AT ALL							TO A GREAT EXTENT						
the extent to which these suppliers completely fulfil your overall expectations	1	2	3	4	5	6	7	1	2	3	4	5	6	7
the extent to which close personal relationships have developed between people in these supplier-organizations and people in your firm	1	2	3	4	5	6	7	1	2	3	4	5	6	7

	VERY POORLY						VERY WELL
how effectively these suppliers manage their inventory	1	2	3	4	5	6	7
	VERY LOW						VERY HIGH
the prices they charge for what they supply	1	2	3	4	5	6	7
the overall level of cooperation that exists in the relationships between these suppliers and your firm	1	2	3	4	5	6	7
the overall level of trust your firm feels for these suppliers	1	2	3	4	5	6	7
the overall level of satisfaction your firm feels for these suppliers	1	2	3	4	5	6	7
the overall level of conflict that exists in the relationships between these suppliers and your firm	1	2	3	4	5	6	7
	VERY UNIMP.						VERY IMP.
how important these suppliers are to your firm	1	2	3	4	5	6	7
how important your firm is to these suppliers	1	2	3	4	5	6	7

	VERY POORLY				VERY WELL		
how effectively this supplier manages its inventory	1	2	3	4	5	6	7
	VERY LOW				VERY HIGH		
the prices they charge for what they supply	1	2	3	4	5	6	7
the overall level of cooperation that exists in the relationships between this supplier and your firm	1	2	3	4	5	6	7
the overall level of trust your firm feels for this supplier	1	2	3	4	5	6	7
the overall level of satisfaction your firm feels for this supplier	1	2	3	4	5	6	7
the overall level of conflict that exists in the relationship between this supplier and your firm	1	2	3	4	5	6	7
	VERY UNIMP.				VERY IMP.		
how important this supplier is to your firm	1	2	3	4	5	6	7
how important your firm is to this supplier	1	2	3	4	5	6	7

HOW DO YOU THINK YOUR COMPANY WOULD RATE INTER-CITY WITH REGARD TO EACH OF THE FOLLOWING (Please circle your answer.):

	VERY POOR					VERY GOOD	
the quality of the products they supply	1	2	3	4	5	6	7
the overall quality of their service	1	2	3	4	5	6	7
the salesperson who represents them	1	2	3	4	5	6	7
their reputation among the other companies they do business with	1	2	3	4	5	6	7
their location in relation to your company	1	2	3	4	5	6	7
the overall quality of communications between this supplier and your firm	1	2	3	4	5	6	7
	NOT AT ALL					TO A GREAT EXTENT	
the extent to which this supplier completely fulfils your overall expectations	1	2	3	4	5	6	7
the extent to which close personal relationships have developed between people in this supplier-organization and people in your firm	1	2	3	4	5	6	7

	VERY POORLY						VERY WELL
how effectively this supplier manages its inventory	1	2	3	4	5	6	7
	VERY LOW						VERY HIGH
the prices they charge for what they supply	1	2	3	4	5	6	7
the overall level of cooperation that exists in the relationships between this supplier and your firm	1	2	3	4	5	6	7
the overall level of trust your firm feels for this supplier	1	2	3	4	5	6	7
the overall level of satisfaction your firm feels for this supplier	1	2	3	4	5	6	7
the overall level of conflict that exists in the relationship between this supplier and your firm	1	2	3	4	5	6	7
	VERY UNIMP.						VERY IMP.
how important this supplier is to your firm	1	2	3	4	5	6	7
how important your firm is to this supplier	1	2	3	4	5	6	7

PLEASE INDICATE HOW MUCH YOUR COMPANY WOULD AGREE OR DISAGREE WITH THE FOLLOWING STATEMENTS ABOUT THE SALESPEOPLE FROM EACH SUPPLIER (Please circle your answer.):

The salespeople who calls on us knows a lot about the products they sell.

	STRONGLY DISAGREE				STRONGLY AGREE		
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

The salespeople who calls on us is not very courteous.

SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

The salespeople who calls on us shows a lot of imagination in applying products to our needs.

SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

The salespeople who calls on us is very friendly.

SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

The salespeople who calls on us really knows how to listen.

SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

	STRONGLY DISAGREE				STRONGLY AGREE		
The salespeople who calls on us shows stability of judgement.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
The salespeople who calls on us is very self-reliant.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
The salespeople who calls on us knows a lot about our company and its needs.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
The salespeople who calls on us always has a well prepared sales presentation.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
The salespeople who calls on us is very reliable.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
The salespeople who calls on us calls on a regular basis.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

	STRONGLY DISAGREE				STRONGLY AGREE		
The salespeople who calls on us often provides us with new ideas or products to consider.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
The salespeople who calls on us <u>is not</u> very likeable.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
The salespeople who calls on us follows through on all promises.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
The salespeople who calls on us has a lot of confidence.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
The salespeople who calls on us is very honest.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
The salespeople who calls on us is able to provide technical assistance when needed.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

	STRONGLY DISAGREE				STRONGLY AGREE		
The salespeople who calls on us often makes suggestions that save us money.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
The salespeople who calls on us is very competent.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
The salespeople who calls on us is <u>not</u> very dependable.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
The salespeople who calls on us is a person we can really trust.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
The salespeople who calls on us is willing to expedite rush orders for us when we urgently need them.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
The salespeople who calls on us has our best interests at heart.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

PLEASE INDICATE HOW MUCH YOUR COMPANY WOULD AGREE OR DISAGREE WITH THE FOLLOWING STATEMENTS REGARDING EACH SUPPLIER (Please circle your answer.):

The products sold by this supplier do not always conform to our standards.

	STRONGLY DISAGREE				STRONGLY AGREE		
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

We often have to call for repair service on products we buy from this supplier.

SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

The products sold by this supplier are all from very reputable manufacturers.

SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

The products sold by this supplier are all very reliable products

SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

The products sold by this supplier are all very durable products.

SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

	STRONGLY DISAGREE				STRONGLY AGREE		
The products sold by this supplier always perform as we expect them to.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
We sometimes have to reject goods and return them to this supplier.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
This supplier is excellent at honouring the warranty on products they sell.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
This supplier <u>does not</u> respond very quickly to our requests for service.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
This supplier always provides service when it is promised.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
When this supplier provides service, it is done correctly the first time.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

	STRONGLY DISAGREE				STRONGLY AGREE		
This supplier has a very good supply of parts to service the products they sell.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
This supplier is very quick to correct its accounting errors.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
This supplier is very quick to correct its shipping errors.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
The service people from this supplier are very knowledgeable about the service they provide.							
SOUTH WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
The service people from this supplier are able to solve all our service problems.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
The quality of any service work done by this supplier is very good.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

	STRONGLY DISAGREE				STRONGLY AGREE		
Service from this supplier is always provided willingly.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
Service from this supplier is always provided courteously.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
This supplier has very competitive prices on the products they sell.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
The prices charged for repair service by this supplier are very competitive.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
This supplier gives us volume discounts for many products we buy from them.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
The prices we are charged by this supplier could be much lower.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

	STRONGLY DISAGREE				STRONGLY AGREE		
We often buy specially discounted products from this supplier.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

This supplier has a sufficient stock of the items we order from them so they seldom have to make partial shipments.

SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

This supplier has a very broad range of products so we can get any welding supplies or equipment we need from them.

SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

This supplier carries many similar products and can make substitutions when they don't have the exact product we want in their inventory.

SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

This supplier often makes shipments which result in backorders and extra work for us.

SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

	STRONGLY DISAGREE				STRONGLY AGREE		
This supplier manages their inventory very poorly.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
We get very quick delivery when we order from this supplier.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
It would be very easy for us to pick up shipments from this supplier if we wanted to.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
We often visit this supplier and select our supplies while there.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
This supplier <u>is not</u> located very conveniently to us in terms of distance from our office.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

PLEASE INDICATE HOW MUCH YOUR COMPANY WOULD AGREE OR DISAGREE WITH THE FOLLOWING STATEMENTS REGARDING THE RELATIONSHIP YOU HAVE WITH EACH SUPPLIER (Please circle your answer.):

	STRONGLY DISAGREE							STRONGLY AGREE
<p>Aside from any good or bad experience we have had with this supplier, we believe they have a very good reputation among all the other companies they do business with.</p>								
SOUTH-WESTERN	1	2	3	4	5	6	7	
INTER-CITY	1	2	3	4	5	6	7	
<p>We have to keep a close watch on everything this supplier does.</p>								
SOUTH-WESTERN	1	2	3	4	5	6	7	
INTER-CITY	1	2	3	4	5	6	7	
<p>The quality of communications between this supplier and our firm is excellent.</p>								
SOUTH-WESTERN	1	2	3	4	5	6	7	
INTER-CITY	1	2	3	4	5	6	7	
<p>We really like to do business with this supplier.</p>								
SOUTH-WESTERN	1	2	3	4	5	6	7	
INTER-CITY	1	2	3	4	5	6	7	
<p>This supplier is one firm that stands by its word.</p>								
SOUTH-WESTERN	1	2	3	4	5	6	7	
INTER-CITY	1	2	3	4	5	6	7	

**STRONGLY
DISAGREE** **STRONGLY
AGREE**

When we consider the working relationship we have with this supplier, we would conclude we are very satisfied.

SOUTH-WESTERN 1 2 3 4 5 6 7

INTER-CITY 1 2 3 4 5 6 7

Based on our past and present experience with this supplier, we would characterize our level of trust for them as very high.

SOUTH-WESTERN 1 2 3 4 5 6 7

INTER-CITY 1 2 3 4 5 6 7

If our firm decided to purchase all its welding supplies and equipment from a single source, we would choose this supplier.

SOUTH-WESTERN 1 2 3 4 5 6 7

INTER-CITY 1 2 3 4 5 6 7

We believe it is not possible for our firm and this supplier to fully achieve each of our goals at the same time.

SOUTH-WESTERN 1 2 3 4 5 6 7

INTER-CITY 1 2 3 4 5 6 7

In order for this supplier to fully achieve its goals in our working relationship, we would not be able to fully achieve our goals.

SOUTH-WESTERN 1 2 3 4 5 6 7

INTER-CITY 1 2 3 4 5 6 7

The relationship that exists between this supplier and our firm can best be described as a strict working relationship with no social component.

	STRONGLY DISAGREE				STRONGLY AGREE		
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

This supplier and our firm are always arguing about something.

SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

There is excellent communications between our firms so there are never any surprises that might be harmful to our working relationship.

SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

The relationship that exists between our firm and this supplier can best be described as one that is very friendly.

SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

Aside from any good or bad experience we have had with this supplier, we believe they would not be rated very highly by the other companies they do business with.

SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

	STRONGLY DISAGREE				STRONGLY AGREE		
Over the times our firms have had a working relationship, a strong social relationship has developed between the two firms.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
This supplier has many customers who are as important as we are so they really <u>would not</u> care if we stopped buying from them.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
If we stopped buying from this supplier tomorrow, they could easily replace us.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
Our working relationship with this supplier has been an unhappy one.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
If we had to, we could easily replace this supplier.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
We are a very important customer for this supplier.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

**STRONGLY
DISAGREE**

**STRONGLY
AGREE**

If we had to reduce the number of suppliers we buy from by 30 percent over the next six months, we would likely stop buying from this supplier.

SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

The working relationship between our firm and this supplier can best be characterized as one where there is a lot of conflict.

SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

It is possible for our firm and this supplier to both get what we/they want from our relationship.

SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

Aside from any good or bad experience we have had with this supplier, we believe they are very well respected by all the other companies they do business with.

SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

There are many suppliers of welding supplies and equipment which are as good as this one.

SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

	STRONGLY DISAGREE				STRONGLY AGREE		
If I wanted to end our relationship with this supplier, I would very likely have social pressure placed on me from others in the company <u>not</u> to end the relationship.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
However, I would still end the relationship.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
This supplier helps out our firm in whatever ways it asks.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
Our firm helps out this supplier in whatever ways it asks.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
This supplier and our firm actively work together as partners.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
This supplier is one of our most important suppliers.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

	STRONGLY DISAGREE					STRONGLY AGREE	
The working relationship between our firm and this supplier can be characterized as one where there is a lot of mutual cooperation.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
This supplier always lets our firm know of any unexpected problems which might affect their general performance.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
This supplier and our firm have significant arguments in our working relationship.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
This supplier would be very pleased to be our only supplier for welding supplies and equipment.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7
We intend to develop a closer, longer-term relationship with this supplier.							
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

We intend to use this supplier as our single supplier for welding supplies and equipment.

	STRONGLY DISAGREE				STRONGLY AGREE		
	1	2	3	4	5	6	7
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

If we had to contact a supplier to help solve some problems related to welding supplies and equipment, we would contact this supplier first.

SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

If we wanted a supplier to carry special inventory just for us, we would make this request of this supplier first.

SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

If this supplier was to develop some temporary problems with regard to their general performance, we would continue to purchase as much as previously from them.

SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

This supplier never warns us in advance about important changes they make which affect our working relationship.

SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

If this supplier quoted us on a very large order and they were 2 percent high on price, we would place the entire order elsewhere.

	STRONGLY DISAGREE				STRONGLY AGREE		
SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

We believe this supplier will always behave honourably in their business dealings with us.

SOUTH-WESTERN	1	2	3	4	5	6	7
INTER-CITY	1	2	3	4	5	6	7

PLEASE ANSWER THE FOLLOWING QUESTIONS ABOUT YOUR FIRM'S PURCHASING HABITS:

Considering all the products your company buys, how important would you say that welding supplies and equipment is to your firm?

VERY UNIMPORTANT	1	2	3	4	5	6	7	VERY IMPORTANT
------------------	---	---	---	---	---	---	---	----------------

What percent of your firm's total purchases of welding supplies and equipment came from each of the following sources? (NOTE that the total should equal 100 percent.)

SOUTH-WESTERN	_____	percent
INTER-CITY	_____	percent
OTHER SOURCES	_____	percent
TOTAL:	100	percent

How many years has your firm been doing business with this supplier?

SOUTH-WP	_____	years
INTER-CI:	_____	years

How many times per year do you see a salesperson from this supplier?

SOUTH-WESTERN _____ times / year
 INTER-CITY _____ times / year

How many orders per year does your firm place with this supplier? (NOTE: If you have a yearly order or contract with this supplier, please give the number of releases you issue each year.)

SOUTH-WESTERN _____ orders / year
 INTER-CITY _____ orders / year

If your firm had to choose only one of these suppliers for all of your welding supplies and equipment, what is the probability your firm would choose each of them as that supplier? (NOTE that the total should equal 100 percent.)

SOUTH-WESTERN _____ percent
 INTER-CITY _____ percent
 TOTAL: 100 percent

PLEASE INDICATE YOUR PERSONAL BELIEFS ABOUT EACH OF THE FOLLOWING STATEMENTS (Please circle your answer.):

It is very important for companies to maintain at least two sources of supply for all important products they buy.

STRONGLY DISAGREE 1 2 3 4 5 6 7 STRONGLY AGREE

PLEASE ANSWER THE FOLLOWING QUESTIONS ABOUT YOU AND YOUR ORGANIZATION:

HOW WOULD YOU BEST DESCRIBE YOUR ORGANIZATION (Circle one):

- 1 Pulp and Paper, Mining, Petroleum, Forest Products, Agriculture
- 2 Transportation, Communications, Storage, Accommodation, Utility
- 3 Banking, Insurance, Real Estate, Law Office, Accounting Office
- 4 Construction, Building, Related Business
- 5 Industrial Manufacturer (state product): _____
- 6 Consumer Manufacturer (state product): _____
- 7 Sales Office (state product): _____
- 8 Other (please specify): _____

Is this organization:

_____ a branch office
 _____ the entire Canadian company

Approximately how many full-time employees at your location? _____

How would you best describe the size of your office:

_____ VERY LARGE
 _____ LARGE
 _____ MEDIUM
 _____ SMALL
 _____ VERY SMALL

What is your current title? _____

How long have you been employed by this company? _____ years

How long in your present position? _____ years

How many years total purchasing experience? _____ years

What percent of the welding supplies and equipment for your location is bought by you? _____ percent

How much influence do you have in the selection of suppliers for these products for your location? _____ percent

What is your age? _____ years

What is your sex? _____ MALE _____ FEMALE

THIS IS THE END OF THE QUESTIONNAIRE. Please return the questionnaire in the envelope provided.

THANK YOU VERY MUCH. You have made an important contribution to this research. If you would like to have information on the results of this research, we would be pleased to send you a Management Summary. If you wish to receive the management summary, please mark the appropriate line below.

_____ I wish a copy of the management summary.

_____ I do not wish a copy of the management summary.

NOTE: The identification number on the bottom of this questionnaire serves two purposes. First, it ensures that you will get a management summary if you have requested one. Second, it enables us to avoid sending follow-up reminders to people who have already responded to the survey.

PLEASE DO NOT WRITE YOUR NAME NOR YOUR COMPANY NAME ON THE QUESTIONNAIRE.

If you have any questions relating to this research, please contact:

Prof. H. F. (Herb) MacKenzie
Project Director
School of Business Administration
The University of Western Ontario
London, Ontario
N6A 3K7
Ph. 661-2111 ext. 5138

This research has been funded totally by **The University of Western Ontario.**

April 12, 1991

Dear

We would like to thank you for agreeing to participate in our research on buyer-seller relationships between welding supplies and equipment distributors and their customers. To confirm our conversation, we have been in contact with the five main distributors of welding supplies and equipment in the London area, and we have assured each of them that this research is being conducted for the purpose of providing a data base from which we hope to publish articles in both marketing and purchasing journals. This research has been funded totally by the University of Western Ontario.

You can make an important contribution towards our knowledge about buyer-seller relationships by sharing your purchasing knowledge with us. As part of a specially selected sample of customers, your response is very important to the accuracy of this study. A Management Summary will be published from this research, and a copy will be sent to you free if you wish to have one.

In order for this research to proceed smoothly, we would greatly appreciate your earliest response. Please complete the questionnaire and return it in the enclosed envelope. If you have any questions, or would like to make any comments, please call me (519) 661-2111 ext. 5138. Thank you for your participation.

Sincerely,

H. F. (Herb) MacKenzie
Project Director

P.S. There is an identification number at the end of the questionnaire. This number will ensure you get a Management Summary if you request one, and will enable us to avoid sending follow-up reminders to you after you have replied. Let us assure you your answers will remain strictly confidential and will only be used in aggregate form with other responses. At no time will your company or the suppliers involved see your responses or be told you have participated in the research. Neither you nor your company will be identified in any reports.

APPENDIX B

Table B.1 - Assessment of Convergent Validity; Original Measurement Model

Construct/ Measure	Factor Loading		Composite Reliability		Variance Extracted	
	stat	weld	stat	weld	stat	weld
Product Quality			.88	.86	.50	.47
PQUAL1	.55	.56				
PQUAL2	.58	.42				
PQUAL3	.78	.68				
PQUAL4	.83	.87				
PQUAL5	.88	.83				
PQUAL6	.83	.83				
PQUAL7	.34	.48				
Inventory Management			.80	.84	.41	.47
IMGMT1	.74	.71				
IMGMT2	.71	.76				
IMGMT3	.59	.61				
IMGMT4	.34	.40				
IMGMT5	.61	.69				
IMGMT6	.76	.87				
Salesperson (Respect)			.92	.92	.60	.58
SCOMP	.90	.89				
SKNOW	.78	.74				
STECH	.67	.71				
SJUDG	.83	.81				
SSFREL	.75	.69				
SNEEDS	.79	.77				
SCONFID	.76	.80				
SPREP	.68	.67				
Salesperson (Trust)			.90	.90	.50	.52
STRUST	.84	.83				
SINTERE	.86	.83				
SHONEST	.78	.79				
SDEPEND	.59	.49				
SEXPED	.74	.77				
SRELIAB	.77	.82				
SPROMIS	.71	.77				
SSAVE	.46	.60				
SREGU	.48	.45				

ccntinued/

Salesperson (Like)			.84	.83	.48	.46
SFRIEND	.84	.77				
SLIKE	.53	.47				
SLIST	.88	.94				
SIDEAS	.59	.64				
SCOURT	.48	.49				
SIMAG	.72	.64				
Location			***	.74	***	.50
LOC1	.43	.93				
LOC2	.22-	.59				
LOC3	.85	.54				
Service (Responsiveness)			.86	.85	.51	.50
SERV1	.74	.71				
SERV2	.63	.49				
SERV3	.83	.81				
SERV4	.69	.78				
SERV5	.61	.64				
SERV6	.77	.75				
Service (Conformance)			.91	.91	.63	.63
SERV7	.88	.79				
SERV8	.74	.76				
SERV9	.66	.67				
SERV10	.80	.71				
SERV11	.85	.88				
SERV12	.83	.91				
Price			.79	.77	.45	.44
PRICE1	.83	.94				
PRICE2	.60	.85				
PRICE3	.82	.48				
PRICE4	.40	.57				
PRICE5	.61	.20				
Reputation			.89	.91	.72	.78
REP1	.87	.89				
REP2	.81	.85				
REP3	.87	.91				
Customer Dependence			.81	.85	.60	.65
CUSDEP1	.79	.82				
CUSDEP2	.61	.74				
CUSDEP3	.89	.85				

continued/

Distributor Dependence			.88	.86	.71	.68
DISDEP1	.88	.85				
DISDEP2	.78	.74				
DISDEP3	.86	.87				
Goal Congruence			.85	.87	.65	.70
GCONG1	.74	.92				
GCONG2	.73	.75				
GCONG3	.93	.83				
Communication			.85	.84	.58	.56
COMM1	.82	.86				
COMM2	.81	.79				
COMM3	.74	.72				
COMM4	.68	.61				
Conflict			.87	.89	.68	.72
CONF1	.83	.86				
CONF2	.87	.84				
CONF3	.78	.85				
Cooperation			.88	.89	.65	.67
COOP1	.82	.84				
COOP2	.79	.75				
COOP3	.78	.80				
COOP4	.84	.87				
Relationship Duration			***	***	***	***
ORDERS	1.00	1.00				
Social Closeness			.51	.65	.30	.37
SOCCL01	.22	.40				
SOCCL02	.99	.99				
SOCCL03	.30	.44				
SOCCL04	.20	.36				
Satisfaction			.88	.89	.71	.73
SATIS1	.92	.91				
SATIS2	.91	.91				
SATIS3	.68	.73				
Trust			.87	.86	.64	.61
TRUST1	.50	.46				
TRUST2	.90	.88				
TRUST3	.89	.91				
TRUST4	.84	.79				

continued/

**Partnering
Attractiveness****PA1****.95 .96****PA2****.87 .76****PA3****.80 .80****.91 .88****.77 .71**

Table B.2 - Assessment of Convergent Validity; Final Measurement Model

Construct/ Measure	Factor Loading		Composite Reliability		Variance Extracted	
	stat	weld	stat	weld	stat	weld
Product Quality (Conformance)			.87	.77	.50	.53
PQUAL1	.78	.84				
PQUAL2	.82	.64				
PQUAL7	.46	.69				
Product Quality (Performance)			.94	.91	.79	.72
PQUAL3	.83	.72				
PQUAL4	.90	.92				
PQUAL5	.94	.87				
PQUAL6	.89	.87				
Inventory Management			.80	.87	.58	.69
IMGMT1	.76	.76				
IMGMT2	.74	.81				
IMGMT6	.78	.92				
Salesperson (Respect)			.92	.92	.60	.58
SCOMP	.89	.89				
SKNOW	.78	.74				
STECH	.67	.71				
SJUDG	.83	.81				
SSFREL	.75	.68				
SNEEDS	.80	.77				
SCONFID	.75	.80				
SPREP	.68	.67				
Salesperson (Trust)			.91	.92	.64	.65
STRUST	.85	.83				
SINTERE	.88	.84				
SHONEST	.79	.79				
SEXPED	.75	.78				
SRELIAB	.79	.83				
SPROMIS	.72	.78				
Salesperson (Like)			.89	.85	.72	.67
SFRIEND	.87	.79				
SLIST	.91	.97				
SIMAG	.76	.66				

continued/

Location			***	***	***	***
LOC3	1.00	1.00				
Service						
(Responsiveness)			.85	.85	.59	.59
SERV1	.76	.71				
SERV3	.83	.81				
SERV4	.69	.80				
SERV6	.78	.76				
Service						
(Quality)			.91	.91	.64	.63
SERV7	.88	.79				
SERV8	.74	.76				
SERV9	.66	.67				
SERV10	.81	.72				
SERV11	.85	.88				
SERV12	.84	.91				
Price			.83	.82	.62	.61
PRICE1	.86	.94				
PRICE2	.63	.85				
PRICE3	.85	.48				
Reputation			.89	.92	.72	.78
REP1	.87	.90				
REP2	.81	.84				
REP3	.87	.91				
Customer						
Dependence			.81	.85	.59	.65
CUSDEP1	.79	.82				
CUSDEP2	.61	.74				
CUSDEP3	.88	.85				
Distributor						
Dependence			.88	.86	.70	.67
DISDEP1	.88	.84				
DISDEP2	.79	.75				
DISDEP3	.86	.87				
Goal						
Congruence			.84	.87	.64	.70
GCONG1	.73	.90				
GCONG2	.72	.73				
GCONG3	.94	.85				
Communication			.85	.84	.66	.65
COMM1	.85	.89				
COMM2	.83	.81				
COMM3	.75	.70				

continued/

Conflict			.87	.89	.68	.72
CONF1	.82	.86				
CONF2	.88	.84				
CONF3	.78	.85				
Cooperation			.88	.89	.65	.67
COOP1	.83	.83				
COOP2	.78	.75				
COOP3	.78	.81				
COOP4	.85	.87				
Relationship Duration			***	***	***	***
ORDERS	1.00	1.00				
Social Closeness			.80	.90	.58	.76
SOCCL01	.66	.86				
SOCCL03	.96	.92				
SOCCL04	.62	.83				
Satisfaction			.88	.89	.71	.73
SATIS1	.92	.91				
SATIS2	.92	.91				
SATIS3	.67	.73				
Trust			.91	.91	.78	.77
TRUST2	.91	.89				
TRUST3	.90	.93				
TRUST4	.84	.80				
Partnering Attractiveness			.90	.88	.76	.72
PA1	.95	.95				
PA2	.87	.78				
PA3	.79	.80				

Table B.3 - Correlations Among Latent Constructs; Stationery Supplies Data

C1	-	Quality (Conformance)
C2	-	Quality (Performance)
C3	-	Inventory Management
C4	-	Salesperson (Respect)
C5	-	Salesperson (Trust)
C6	-	Salesperson (Like)
C7	-	Location
C8	-	Service (Responsiveness)
C9	-	Service (Quality)
C10	-	Price
C11	-	Reputation
C12	-	Customer Dependence
C13	-	Distributor Dependence
C14	-	Goal Congruence
C15	-	Communication
C16	-	Conflict
C17	-	Cooperation
C18	-	Relationship Duration
C19	-	Social Closeness
C20	-	Satisfaction
C21	-	Trust
C22	-	Partnering Attractiveness

	C1	C2	C3	C4	C5	C6	C7	C8
C1	1.00							
C2	.42	1.00						
C3	.34	.55	1.00					
C4	.20	.41	.38	1.00				
C5	.27	.45	.38	.83	1.00			
C6	.24	.40	.33	.76	.72	1.00		
C7	.04	.17	.11	.01	.04	.04	1.00	
C8	.36	.60	.61	.43	.50	.40	.11	1.00
C9	.41	.59	.65	.48	.49	.41	.14	.79
C10	.22	.48	.51	.41	.44	.42	.08	.52
C11	.32	.49	.46	.41	.45	.40	.06	.59
C12	.23	.23	.34	.28	.35	.27	.02	.40
C13	.10	.22	.18	.22	.27	.20	.10	.35
C14	.22	.37	.39	.33	.35	.27	.04	.43
C15	.31	.46	.50	.48	.51	.41	.05	.66
C16	.35	.26-	.38-	.27-	.31-	.31-	.12-	.44-
C17	.24	.46	.45	.46	.49	.38	.07	.58
C18	.01-	.08	.09	.17	.17	.14	.05-	.23
C19	.05-	.06	.03	.16	.14	.10	.03	.10
C20	.34	.44	.51	.47	.51	.45	.05	.69
C21	.40	.56	.56	.50	.57	.47	.03	.74
C22	.13	.19	.28	.28	.30	.25	.01	.37

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	C9	C10	C11	C12	C13	C14	C15	C16
C9	1.00							
C10	.52	1.00						
C11	.56	.42	1.00					
C12	.33	.42	.33	1.00				
C13	.28	.37	.19	.52	1.00			
C14	.41	.37	.43	.25	.21	1.00		
C15	.64	.56	.54	.48	.49	.50	1.00	
C16	.42-	.31-	.40-	.21-	.17-	.28-	.42-	1.00
C17	.55	.60	.47	.51	.48	.44	.70	.32-
C18	.13	.28	.15	.35	.42	.11	.30	.02
C19	.12	.13	.11	.19	.27	.01	.15	.02
C20	.63	.55	.62	.56	.39	.49	.78	.52-
C21	.73	.55	.72	.49	.36	.52	.77	.51-
C22	.27	.37	.29	.54	.36	.25	.43	.21-
	C17	C18	C19	C20	C21	C22		
C17	1.00							
C18	.23	1.00						
C19	.26	.14	1.00					
C20	.63	.31	.19	1.00				
C21	.64	.27	.14	.84	1.00			
C22	.36	.56	.12	.57	.46	1.00		

Table B.4 - Correlations Among Latent Constructs; Welding Supplies Data

C1	-	Quality (Conformance)
C2	-	Quality (Performance)
C3	-	Inventory Management
C4	-	Salesperson (Respect)
C5	-	Salesperson (Trust)
C6	-	Salesperson (Like)
C7	-	Location
C8	-	Service (Responsiveness)
C9	-	Service (Quality)
C10	-	Price
C11	-	Reputation
C12	-	Customer Dependence
C13	-	Distributor Dependence
C14	-	Goal Congruence
C15	-	Communication
C16	-	Conflict
C17	-	Cooperation
C18	-	Relationship Duration
C19	-	Social Closeness
C20	-	Satisfaction
C21	-	Trust
C22	-	Partnering Attractiveness

	C1	C2	C3	C4	C5	C6	C7	C8
C1	1.00							
C2	.45	1.00						
C3	.32	.53	1.00					
C4	.25	.43	.54	1.00				
C5	.32	.45	.55	.85	1.00			
C6	.20	.35	.41	.79	.78	1.00		
C7	.08	.02	.00	.04	.01	.07	1.00	
C8	.41	.57	.66	.59	.65	.49	.09	1.00
C9	.41	.55	.66	.60	.65	.52	.02	.80
C10	.29	.40	.45	.59	.58	.52	.01-	.58
C11	.37	.50	.57	.52	.55	.42	.06	.69
C12	.21	.20	.22	.34	.30	.24	.15	.31
C13	.06	.18	.13	.30	.28	.21	.07	.28
C14	.28	.33	.35	.35	.36	.31	.07	.39
C15	.28	.42	.49	.61	.63	.56	.08	.66
C16	.28-	.33-	.34-	.33-	.36-	.28-	.00	.38-
C17	.15	.50	.41	.58	.58	.54	.12	.61
C18	.13-	.03	.08	.18	.19	.14	.05	.21
C19	.17	.09	.13	.28	.28	.26	.17	.22
C20	.37	.48	.55	.59	.63	.54	.08	.69
C21	.34	.51	.51	.60	.66	.58	.06	.69
C22	.16	.26	.31	.41	.43	.39	.06-	.42

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	C9	C10	C11	C12	C13	C14	C15	C16
C9	1.00							
C10	.62	1.00						
C11	.67	.45	1.00					
C12	.28	.30	.28	1.00				
C13	.22	.26	.24	.46	1.00			
C14	.39	.38	.40	.22	.18	1.00		
C15	.66	.56	.62	.42	.43	.41	1.00	
C16	.46-	.36-	.47-	.23-	.01-	.28-	.40-	1.00
C17	.55	.52	.60	.41	.38	.41	.73	.36-
C18	.15	.22	.04	.38	.42	.03	.30	.01
C19	.20	.23	.15	.40	.29	.34	.34	.03-
C20	.72	.58	.69	.40	.32	.43	.78	.56-
C21	.70	.61	.69	.39	.28	.48	.75	.55-
C22	.42	.32	.35	.42	.22	.25	.45	.31-
	C17	C18	C19	C20	C21	C22		
C17	1.00							
C18	.29	1.00						
C19	.29	.25	1.00					
C20	.63	.25	.31	1.00				
C21	.70	.18	.33	.87	1.00			
C22	.42	.39	.25	.52	.46	1.00		

**Table B.5 - Manifest Variable Loadings on Latent Constructs;
Stationery Supplies Data**

	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11
PQUAL1	<u>78</u>	36	29	15	23	19	05	31	35	23	30
PQUAL2	<u>82</u>	33	27	18	21	20	02-	28	34	13	22
PQUAL7	<u>46</u>	13	14	08	10	10	11	11	10	08	09
PQUAL3	31	<u>83</u>	44	34	38	33	12	54	52	41	48
PQUAL4	39	<u>90</u>	49	34	39	34	18	54	49	42	45
PQUAL5	41	<u>94</u>	53	40	43	39	14	54	52	46	44
PQUAL6	37	<u>89</u>	51	36	41	35	19	55	56	42	44
IMGMT1	23	37	<u>76</u>	27	28	22	05	46	45	38	38
IMGMT2	33	44	<u>74</u>	28	31	24	05	45	46	37	45
IMGMT6	24	47	<u>78</u>	30	28	28	13	47	56	40	27
SCOMP	21	37	35	<u>89</u>	78	66	04	38	44	34	40
SKNOW	11	29	30	<u>78</u>	58	60	03-	34	34	29	30
STECH	15	34	28	<u>67</u>	58	47	01	29	33	27	28
SJUDG	20	35	27	<u>83</u>	69	68	01-	37	42	37	32
SSFREL	21	33	25	<u>75</u>	64	69	05	32	34	30	30
SNEEDS	14	30	27	<u>80</u>	63	60	00	32	36	34	30
SCONFID	11	29	32	<u>75</u>	67	51	01	32	34	30	32
SPREP	16	36	30	<u>68</u>	56	52	02	31	39	36	26
STRUST	21	40	33	71	<u>85</u>	58	01	40	42	39	41
SINTERE	25	43	32	64	<u>88</u>	58	06	48	41	36	37
SHONEST	16	29	26	70	<u>79</u>	58	05	39	43	35	38
SEXPED	26	37	29	58	<u>75</u>	59	07	38	36	36	35
SRELIAB	21	33	33	78	<u>79</u>	68	00	35	38	34	34
SPROMIS	28	35	29	71	<u>72</u>	61	02-	35	38	34	35
SFRIEND	22	33	27	64	64	<u>87</u>	05	39	37	35	38
SLIST	22	36	30	67	65	<u>91</u>	06	37	37	36	36
SIMAG	17	34	26	62	55	<u>76</u>	03-	26	32	37	29
LOC3	04	17	11	01	04	04	<u>100</u>	11	14	08	06
SERV1	27	49	46	34	42	37	07	<u>76</u>	62	42	49
SERV3	33	49	50	38	44	33	11	<u>83</u>	72	43	43
SERV4	23	37	34	23	28	26	03	<u>69</u>	43	34	39
SERV6	26	50	55	35	39	29	11	<u>78</u>	64	42	51
SERV7	43	52	54	40	45	34	08	72	<u>88</u>	41	44
SERV8	25	52	62	38	36	32	09	61	<u>74</u>	44	44
SERV9	17	44	58	35	34	29	10	53	<u>66</u>	42	37
SERV10	28	53	63	42	44	35	12	65	<u>81</u>	44	49
SERV11	29	48	55	42	39	38	14	65	<u>85</u>	48	51
SERV12	29	45	56	41	37	36	17	62	<u>84</u>	47	52
PRICE1	18	46	45	41	42	41	11	45	45	<u>86</u>	37
PRICE2	18	40	48	36	34	36	12	45	52	<u>63</u>	38
PRICE3	18	34	38	26	32	27	02	42	38	<u>85</u>	31
REP1	27	48	42	38	40	36	06	53	49	42	<u>87</u>
REP2	26	29	30	31	35	33	05	40	37	28	<u>81</u>
REP3	27	48	45	35	39	34	04	56	55	37	<u>87</u>

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	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11
CUSDEP1	23	14	22	16	22	20	04	27	20	23	24
CUSDEP2	05	07-	17	06	11	01	02	14	10	14	07
CUSDEP3	21	31	35	32	38	31	01	43	37	48	35
DISDEP1	11	18	15	20	24	17	12	33	25	34	22
DISDEP2	06	13	13	15	20	15	13	23	21	24	02
DISDEP3	09	24	17	18	24	17	02	31	24	34	21
GCONG1	29	32	34	29	30	20	04	36	31	27	30
GCONG2	27	26	29	23	26	18	05	33	29	22	29
GCONG3	14	34	35	29	31	26	03	38	38	36	41
COMM1	27	42	44	42	46	38	06	61	56	49	56
COMM2	26	37	38	40	42	34	07	51	51	41	43
COMM3	21	31	40	33	35	28	02-	46	47	46	28
CONF1	31-	22-	32-	23-	25-	24-	09-	33-	32-	22-	31-
CONF2	36-	23-	30-	21-	22-	24-	12-	39-	37-	30-	38-
CONF3	18-	19-	33-	25-	31-	28-	09-	37-	35-	26-	29-
COOP1	21	42	41	38	44	34	06	48	50	51	37
COOP2	09	34	32	32	31	22	05	35	37	45	30
COOP3	14	34	28	30	32	24	09	39	37	45	33
COOP4	29	38	41	45	47	39	03	59	50	51	48
ORDERS	01-	08	09	17	17	14	05-	23	13	28	15
SOCCL01	05-	00	03	11	10	06	10	06	05	08	05
SOCCL03	04-	08	04	16	15	11	02	11	13	13	10
SOCCL04	05-	00	02-	06	02	04	00	03	03	07	10
SATIS1	31	43	49	45	49	44	05	62	55	52	56
SATIS2	30	46	47	48	50	43	03	67	62	55	62
SATIS3	26	18	29	21	26	24	04	41	39	28	35
TRUST2	34	51	52	44	50	42	01-	68	67	49	67
TRUST3	37	51	48	47	49	40	02	66	65	50	64
TRUST4	34	47	51	42	53	43	07	63	63	48	59
PA1	14	20	31	31	31	27	01	38	28	35	30
PA2	10	14	19	18	24	16	02	29	21	33	22
PA3	06	09	18	24	20	18	04-	26	16	29	16

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	C12	C13	C14	C15	C16	C17	C18	C19	C20	C21	C22
PQUAL1	23	14	18	30	27-	27	01-	02	26	32	10
PQUAL2	14	03	14	20	27-	13	00	08-	27	33	12
PQUAL7	13	06	22	14	22-	09	05-	09-	20	15	04
PQUAL3	18	18	34	38	18-	36	09	11	36	48	13
PQUAL4	17	20	33	41	24-	41	07	07	40	50	17
PQUAL5	22	21	35	45	25-	44	05	05	41	54	17
PQUAL6	20	21	31	38	23-	41	08	03	40	48	19
IMGMT1	29	17	31	42	29-	30	07	07	43	45	26
IMGMT2	31	15	34	39	30-	32	10	04-	47	48	27
IMGMT6	22	11	27	35	29-	38	05	02	31	38	15
SCOMP	27	15	25	42	25-	40	08	11	42	44	24
SKNOW	18	16	26	36	17-	33	18	18	39	37	27
STECH	15	15	20	37	20-	38	16	15	31	34	14
SJUDG	17	17	28	38	24-	37	12	07	36	43	21
SSFREL	17	14	23	32	25-	32	07	15	37	37	22
SNEEDS	31	27	32	39	24-	42	22	18	39	41	26
SCONFID	21	14	27	35	24-	32	11	10	37	39	21
SPREP	20	15	24	29	21-	33	05	09	29	30	16
STRUST	30	23	29	45	26-	44	15	12	43	51	26
SINTERE	34	31	31	44	24-	45	14	14	45	49	25
SHONEST	22	16	25	41	31-	36	16	11	38	45	22
SEXPED	25	14	26	37	26-	38	07	13	38	41	26
SRELIAB	27	16	32	37	23-	35	17	06	44	44	28
SPROMIS	20	12	25	36	27-	32	08	05	36	41	21
SFRIEND	21	13	25	36	33-	30	10	06	38	40	19
SLIST	23	19	21	38	28-	34	11	09	41	43	24
SIMAG	26	18	25	31	16-	33	16	12	36	36	20
LOC3	02	10	04	05	12-	07	05-	03	05	03	01
SERV1	27	25	38	50	35-	44	18	09	50	59	21
SERV3	38	39	33	59	36-	49	21	09	57	61	31
SERV4	34	19	26	44	22-	40	26	13	54	49	35
SERV6	24	21	34	47	40-	45	08	02	50	58	26
SERV7	25	22	35	56	34-	43	13	08	55	64	24
SERV8	26	26	34	47	30-	44	13	12	46	55	19
SERV9	25	25	28	45	24-	47	11	10	39	49	19
SERV10	29	26	34	52	35-	47	09	09	48	59	20
SERV11	33	25	34	53	35-	50	11	14	54	62	23
SERV12	30	23	35	53	41-	53	08	10	53	61	22
PRICE1	36	32	32	51	29-	54	21	15	49	49	30
PRICE2	20	24	34	43	29-	50	05	09	35	43	12
PRICE3	37	32	28	43	22-	45	30	07	46	44	38
REP1	29	14	34	45	27-	42	15	04	54	63	26
REP2	26	17	36	43	45-	34	09	06	52	55	27
REP3	29	19	41	48	31-	45	13	17	53	65	22

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	C12	C13	C14	C15	C16	C17	C18	C19	C20	C21	C22
CUSDEP1	<u>79</u>	36	05	31	19-	31	16	17	37	32	36
CUSDEP2	<u>61</u>	21	14	18	06-	15	20	03	23	15	29
CUSDEP3	<u>88</u>	52	31	52	20-	57	38	19	58	54	54
DISDEP1	40	<u>88</u>	21	43	19-	41	33	20	37	35	32
DISDEP2	42	<u>79</u>	11	35	07-	35	35	19	23	18	26
DISDEP3	48	<u>86</u>	19	43	15-	44	39	27	36	34	31
GCONG1	21	17	<u>73</u>	37	25-	32	06	08-	34	36	20
GCONG2	21	15	<u>72</u>	36	28-	27	07	06-	35	38	19
GCONG3	21	19	<u>94</u>	47	23-	42	11	05	47	50	23
COMM1	40	42	47	<u>85</u>	40-	59	26	13	78	73	41
COMM2	33	33	39	<u>83</u>	40-	52	20	04	58	61	30
COMM3	45	43	34	<u>75</u>	20-	62	26	19	49	50	33
CONF1	16-	15-	23-	34-	<u>82</u>	23-	01-	00	39-	40-	14-
CONF2	21-	18-	26-	35-	<u>88</u>	29-	02	06	49-	47-	21-
CONF3	15-	09-	19-	34-	<u>78</u>	28-	03	01-	40-	39-	17-
COOP1	40	35	33	61	31-	<u>83</u>	18	23	53	55	31
COOP2	28	33	26	44	13-	<u>78</u>	12	16	31	37	18
COOP3	38	40	32	47	13-	<u>78</u>	16	25	39	42	24
COOP4	53	45	46	67	39-	<u>85</u>	24	20	67	64	40
ORDERS	35	42	11	30	02	23	<u>100</u>	14	31	27	56
SOCCL01	15	23	07	11	01	15	11	<u>66</u>	13	08	14
SOCCL03	18	25	02	14	03	25	13	<u>96</u>	18	13	11
SOCCL04	09	15	08-	08	01-	16	09	<u>62</u>	10	11	08
SATIS1	56	40	45	71	42-	58	34	19	<u>92</u>	77	58
SATIS2	50	36	51	75	40-	64	29	17	<u>92</u>	82	51
SATIS3	34	19	22	45	56-	30	12	10	<u>67</u>	50	32
TRUST2	43	32	51	73	47-	54	18	11	76	<u>91</u>	36
TRUST3	48	31	48	69	41-	62	28	18	82	<u>90</u>	49
TRUST4	39	32	40	60	48-	53	23	09	64	<u>84</u>	36
PA1	50	29	23	41	22-	35	53	10	56	45	<u>95</u>
PA2	50	40	24	38	17-	32	47	13	47	39	<u>87</u>
PA3	40	24	14	28	10-	25	61	13	43	31	<u>79</u>

**Table B.6 - Manifest Variable Loadings on Latent Constructs;
Welding Supplies Data**

	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11
PQUAL1	<u>84</u>	29	24	20	22	13	02	29	34	29	26
PQUAL2	<u>64</u>	27	13	17	19	17	10	24	21	20	19
PQUAL7	<u>69</u>	43	31	18	29	16	08	36	33	14	36
PQUAL3	22	<u>72</u>	42	30	26	24	04	41	41	27	38
PQUAL4	37	<u>92</u>	47	41	41	36	02	49	50	37	48
PQUAL5	33	<u>87</u>	48	38	37	28	00	49	46	42	43
PQUAL6	46	<u>87</u>	48	37	40	28	02	53	50	33	43
IMGMT1	24	36	<u>76</u>	43	40	35	06-	50	49	35	41
IMGMT2	23	45	<u>81</u>	45	46	33	02	53	56	38	49
IMGMT6	31	50	<u>92</u>	49	51	37	02	60	60	40	51
SCOMP	30	39	50	<u>89</u>	78	70	04-	53	55	50	51
SKNOW	18	30	40	<u>74</u>	61	58	01-	42	45	44	37
STECH	21	32	45	<u>71</u>	57	51	00	39	44	41	30
SJUDG	17	35	41	<u>81</u>	69	75	07	48	47	51	42
SSFREL	17	29	36	<u>68</u>	64	67	01	43	36	43	33
SNEEDS	07	33	38	<u>77</u>	63	60	05	45	45	44	32
SCONFID	20	35	45	<u>80</u>	68	59	01	46	46	48	43
SPREP	15	26	35	<u>67</u>	55	58	18	43	40	37	37
STRUST	23	35	37	71	<u>83</u>	69	02	50	50	52	45
SINTERE	29	37	41	70	<u>84</u>	69	03	52	53	53	51
SHONEST	24	33	45	75	<u>79</u>	66	00	48	52	48	51
SEXPED	26	33	46	59	<u>78</u>	51	02-	56	51	43	38
SRELIAB	23	39	47	74	<u>83</u>	68	06	55	55	43	45
SPROMIS	28	39	51	66	<u>78</u>	58	07-	51	53	42	40
SFRIEND	11	33	31	64	67	<u>79</u>	08	35	37	38	35
SLIST	23	34	40	74	75	<u>97</u>	07	48	52	52	41
SIMAG	05	15	27	61	51	<u>66</u>	03	35	33	34	26
LOC3	08	02	00	04	01	07	<u>100</u>	09	02	01-	06
SERV1	30	49	51	43	48	40	10	<u>71</u>	61	47	58
SERV3	32	47	48	45	54	36	01-	<u>81</u>	64	41	52
SERV4	37	38	51	43	46	35	16	<u>80</u>	60	43	52
SERV6	27	43	54	52	55	41	04	<u>76</u>	62	50	52
SERV7	37	57	55	47	51	39	01	68	<u>79</u>	50	49
SERV8	36	42	61	51	51	39	02-	61	<u>76</u>	47	55
SERV9	33	38	51	42	41	31	04-	54	<u>67</u>	42	43
SERV10	31	44	54	48	47	39	00	63	<u>72</u>	48	46
SERV11	37	48	53	54	58	48	05	70	<u>88</u>	57	59
SERV12	30	41	55	52	58	48	03	69	<u>91</u>	56	62
PRICE1	32	40	43	53	55	48	01-	53	57	<u>94</u>	39
PRICE2	27	31	40	50	46	43	05-	49	58	<u>85</u>	41
PRICE3	02-	21	17	32	31	29	10	31	27	<u>48</u>	25
REP1	35	46	54	50	52	43	08	63	64	41	<u>90</u>
REP2	38	36	42	39	42	33	04	53	51	33	<u>84</u>
REP3	29	49	53	46	50	37	05	64	62	43	<u>91</u>

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	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11
CUSDEP1	20	12	16	25	23	18	12	20	20	22	23
CUSDEP2	20	10	17	21	20	12	09	15	18	17	15
CUSDEP3	14	23	18	32	28	25	14	35	28	32	27
DISDEP1	12	15	13	31	32	26	02	26	21	25	28
DISDEP2	04-	08	09-	15	08	07	07	07	09	16	06
DISDEP3	04	18	18	24	24	17	07	30	22	22	21
GCONG1	28	25	26	30	31	29	05	27	33	34	34
GCONG2	22	22	26	29	29	26	07	29	30	34	30
GCONG3	21	34	36	33	32	26	06	42	36	33	36
COMM1	23	40	45	60	60	52	08	65	64	54	56
COMM2	27	32	41	46	48	43	07	54	55	46	57
COMM3	16	30	31	38	41	39	03	38	36	32	34
CONF1	29-	31-	33-	29-	33-	24-	04	33-	39-	32-	38-
CONF2	21-	22-	28-	30-	28-	21-	01-	34-	35-	28-	39-
CONF3	22-	30-	26-	26-	31-	26-	03-	31-	42-	32-	43-
COOP1	22	52	43	58	60	55	05	62	56	49	61
COOP2	05	34	27	37	39	35	09	43	39	39	41
COOP3	04	30	20	34	30	28	10	34	28	28	35
COOP4	13	42	39	54	53	51	16	54	51	51	54
ORDERS	13-	03	08	18	19	14	05	21	15	22	04
SOCCLO1	13	09	10	23	24	24	08	16	17	13	12
SOCCLO3	14	08	11	25	25	25	17	20	18	25	14
SOCCLO4	18	09	13	24	24	20	16	19	19	20	12
SATIS1	28	44	49	56	61	53	10	66	69	57	59
SATIS2	35	45	51	58	62	54	07	64	68	54	64
SATIS3	33	33	39	32	34	27	03	45	45	33	52
TRUST2	27	50	51	58	63	54	07	68	63	56	63
TRUST3	34	45	46	54	61	52	04	63	68	56	62
TRUST4	28	37	34	42	49	44	06	48	52	47	56
PA1	15	26	31	42	44	41	03-	42	43	29	38
PA2	12	19	23	27	29	22	11-	30	30	28	22
PA3	12	17	21	30	30	26	09-	28	27	23	18

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	C12	C13	C14	C15	C16	C17	C18	C19	C20	C21	C22
PQUAL1	25	06	23	22	17-	07	08-	19	31	29	13
PQUAL2	23	06	22	21	24-	13	03-	14	21	22	16
PQUAL7	01-	01	17	19	23-	14	16-	04	28	23	07
PQUAL3	09	13	26	25	31-	33	06	02	34	39	16
PQUAL4	15	15	30	36	34-	45	00	06	44	48	22
PQUAL5	18	16	32	35	29-	45	06	07	40	46	21
PQUAL6	20	17	28	41	24-	43	03	11	43	42	26
IMGMT1	09	08	29	43	21-	30	00	06	41	34	25
IMGMT2	14	10	29	37	27-	38	04	07	42	40	25
IMGMT6	25	13	30	44	33-	35	11	16	51	49	28
SCOMP	28	21	29	50	32-	48	03	22	51	52	35
SKNOW	23	27	29	42	22-	38	15	20	44	43	32
STECH	25	19	28	36	24-	38	13	17	41	41	35
SJUDG	30	19	31	50	27-	50	18	20	49	52	30
SSFREL	25	24	19	45	22-	43	12	18	41	43	24
SNEEDS	27	43	27	55	23-	55	34	33	45	42	38
SCONFID	21	18	25	55	31-	40	09	20	47	52	30
SPREP	29	32	27	46	11-	41	20	19	41	37	24
STRUST	34	21	37	49	33-	52	16	30	53	59	40
SINTERE	30	27	29	54	28-	53	15	29	55	57	36
SHONEST	21	16	27	52	39-	42	02	20	51	56	31
SEXPED	21	27	27	47	20-	44	22	18	46	47	36
SRELIAB	24	23	27	54	30-	48	20	20	52	53	35
SPROMIS	16	16	28	49	30-	41	12	18	51	52	29
SFRIEND	16	16	27	48	22-	48	11	27	45	48	33
SLIST	23	17	28	53	29-	49	10	21	52	57	35
SIMAG	20	29	25	40	11-	42	21	27	35	34	31
LOC3	15	07	07	08	00	12	05	17	08	06	06-
SERV1	14	23	27	52	29-	46	13	11	48	51	21
SERV3	37	25	30	54	33-	51	23	15	56	57	39
SERV4	25	19	33	46	30-	40	17	21	57	53	39
SERV6	15	21	29	54	26-	50	09	19	51	52	27
SERV7	24	22	36	47	41-	43	18	15	58	57	29
SERV8	28	12	27	49	32-	35	07	08	54	48	37
SERV9	24	15	32	45	19-	33	18	20	49	45	32
SERV10	20	15	35	50	24-	38	12	19	50	52	29
SERV11	24	21	35	58	40-	51	14	21	63	59	39
SERV12	21	18	32	62	41-	53	10	19	65	67	37
PRICE1	29	22	31	50	37-	44	19	15	55	55	32
PRICE2	25	15	41	48	30-	46	14	23	48	55	22
PRICE3	17	31	16	32	09-	35	25	26	28	29	16
REP1	21	22	32	53	40-	51	04	12	62	63	30
REP2	31	22	43	56	46-	50	00	19	59	55	33
REP3	24	21	34	56	41-	59	05	10	62	64	32

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	C12	C13	C14	C15	C16	C17	C18	C19	C20	C21	C22
CUSDEP1	<u>82</u>	35	17	32	19-	23	25	34	32	29	26
CUSDEP2	<u>74</u>	25	16	21	25-	19	20	19	25	22	27
CUSDEP3	<u>85</u>	46	20	43	15-	49	42	40	38	38	44
DISDEP1	42	<u>84</u>	18	38	05-	28	27	32	28	27	22
DISDEP2	32	<u>75</u>	05	21	02-	22	32	16	14	11	11
DISDEP3	39	<u>87</u>	18	43	04	40	44	23	32	26	20
GCONG1	22	18	<u>90</u>	36	31-	35	02-	34	38	42	25
GCONG2	11	14	<u>73</u>	31	25-	29	07-	21	33	33	16
GCONG3	17	13	<u>85</u>	38	17-	39	08	26	37	42	19
COMM1	33	35	37	<u>89</u>	37-	70	31	27	77	71	44
COMM2	34	29	36	<u>81</u>	38-	54	14	27	62	62	33
COMM3	35	44	28	<u>70</u>	19-	50	28	31	44	44	30
CONF1	10-	06	25-	29-	<u>86</u>	20-	03	06	41-	40-	26-
CONF2	27-	07-	20-	30-	<u>84</u>	33-	01-	08-	48-	42-	26-
CONF3	21-	00	26-	42-	<u>85</u>	36-	02	04-	52-	55-	26-
COOP1	35	33	32	68	31-	<u>83</u>	22	18	66	66	42
COOP2	25	15	31	45	22-	<u>75</u>	15	16	41	47	22
COOP3	39	37	30	52	22-	<u>81</u>	23	31	43	43	28
COOP4	35	37	40	66	38-	<u>87</u>	31	29	66	66	39
ORDERS	38	42	03	30	01	29	<u>100</u>	25	25	18	39
SOCCL01	36	23	31	30	07-	24	26	<u>86</u>	26	27	22
SOCCL03	29	26	36	33	04-	26	17	<u>92</u>	30	32	23
SOCCL04	42	27	22	26	01	25	26	<u>83</u>	24	25	21
SATIS1	41	31	41	74	44-	68	33	33	<u>91</u>	81	49
SATIS2	38	33	42	73	48-	65	21	29	<u>91</u>	83	51
SATIS3	22	14	24	48	56-	36	06	14	<u>73</u>	54	31
TRUST2	40	30	43	71	48-	73	20	36	79	<u>89</u>	41
TRUST3	38	25	44	62	52-	62	17	31	84	<u>93</u>	46
TRUST4	20	16	37	56	43-	45	09	16	62	<u>80</u>	31
PA1	37	16	23	42	31-	42	31	20	50	46	<u>95</u>
PA2	37	27	23	37	22-	28	39	27	40	31	<u>78</u>
PA3	40	21	19	35	16-	32	46	22	40	32	<u>80</u>

Table B.7 - Average Variance Extracted for Each Latent Construct and Variance Shared Between Pairs of Latent Constructs (r^2); Stationery Supplies Data

C1 - Quality (Conformance)	C12 - Customer Dependence
C2 - Quality (Performance)	C13 - Distributor Dependence
C3 - Inventory Management	C14 - Goal Congruence
C4 - Salesperson (Respect)	C15 - Communication
C5 - Salesperson (Trust)	C16 - Conflict
C6 - Salesperson (Like)	C17 - Cooperation
C7 - Location	C18 - Relationship Duration
C8 - Service (Responsiveness)	C19 - Social Closeness
C9 - Service (Quality)	C20 - Satisfaction
C10 - Price	C21 - Trust
C11 - Reputation	C22 - Partnering Attractiveness

Variance Extracted		.59	.64	.62	.72	.59	.70	.64	.66
	Construct	C8	C9	10	C11	C12	C13	C14	C15
.50	C1	---	---	---	---	---	---	---	---
.79	C2	---	---	---	---	---	---	---	---
.58	C3	.37	---	---	---	---	---	---	---
.60	C4	.18	.23	---	---	---	---	---	---
.64	C5	.25	.24	---	---	---	---	---	---
.72	C6	.16	.17	---	---	---	---	---	---
---	C7	.01	---	---	---	---	---	---	---
.59	C8	---	---	---	---	---	---	---	---
.64	C9	---	---	---	---	---	---	---	---
.62	C10	---	---	---	---	---	---	---	---
.72	C11	---	---	---	---	---	---	---	---
.59	C12	---	---	---	---	---	---	---	---
.70	C13	---	---	---	---	---	---	---	---
.64	C14	---	---	---	---	---	---	---	---

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Table B.8 - Average Variance Extracted for Each Latent Construct and Variance Shared Between Pairs of Latent Constructs (r^2); Welding Supplies Data

- | | |
|-------------------------------|---------------------------------|
| C1 - Quality (Conformance) | C12 - Customer Dependence |
| C2 - Quality (Performance) | C13 - Distributor Dependence |
| C3 - Inventory Management | C14 - Goal Congruence |
| C4 - Salesperson (Respect) | C15 - Communication |
| C5 - Salesperson (Trust) | C16 - Conflict |
| C6 - Salesperson (Like) | C17 - Cooperation |
| C7 - Location | C18 - Relationship Duration |
| C8 - Service (Responsiveness) | C19 - Social Closeness |
| C9 - Service (Quality) | C20 - Satisfaction |
| C10 - Price | C21 - Trust |
| C11 - Reputation | C22 - Partnering Attractiveness |

Variance Extracted		.59	.63	.61	.78	.65	.67	.70	.65
	Construct	C8	C9	10	C11	C12	C13	C14	C15
.53	C1	---	---	---	---	---	---	---	---
.72	C2	---	---	---	---	---	---	---	---
.69	C3	.44	---	---	---	---	---	---	---
.58	C4	.35	.36	---	---	---	---	---	---
.65	C5	.42	.42	---	---	---	---	---	---
.67	C6	.24	.27	---	---	---	---	---	---
---	C7	.01	---	---	---	---	---	---	---
.59	C8	---	---	---	---	---	---	---	---
.63	C9	---	---	---	---	---	---	---	---
.61	C10	---	---	---	---	---	---	---	---
.78	C11	---	---	---	---	---	---	---	---
.65	C12	---	---	---	---	---	---	---	---
.67	C13	---	---	---	---	---	---	---	---
.70	C14	---	---	---	---	---	---	---	---

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APPENDIX C

Table C.1 - Significance of Path Coefficients and Variance Explained in Endogenous Constructs; Stationery Supplies Data and Welding Supplies Data

Hypothesis	Path Coeff.	t	Signif. level
H1: Inventory Management to Service (Responsiveness)	.49 .42	57.97 41.47	.001 .001
H2: Salesperson (Respect) to Service (Responsiveness)	.08- .04	7.71- 2.60	.001 .01
H3: Salesperson (Trust) to Service (Responsiveness)	.34 .43	25.29 31.06	.001 .001
H4: Salesperson (Like) to Service (Responsiveness)	.06 .06-	3.16 5.01-	.005 .001
H5: Location to Service (Responsiveness)	.04 .09	1.09 16.76	n.s. .001
H6: Salesperson (Respect) to Service (Quality)	.20 .20	9.30 9.36	.001 .001
H7: Salesperson (Trust) to Service (Quality)	.28 .51	17.32 27.44	.001 .001
H8: Salesperson (Like) to Service (Quality)	.06 .04-	4.02 4.24-	.001 .001
H9: Customer Dependence to Conflict	.12- .24-	14.00- 23.96-	.001 .001
H10: Distributor Dependence to Conflict	.06- .15	4.11- 13.49	.001 .001
H11: Goal Congruence to Conflict	.24- .25-	24.65- 21.23-	.001 .001
H12: Customer Dependence to Cooperation	.18 .10	13.52 9.25	.001 .001
H13: Distributor Dependence to Cooperation	.12 .07	18.23 13.60	.001 .001
H14: Goal Congruence to Cooperation	.12 .12	15.90 14.50	.001 .001
H15: Communication to Cooperation	.49 .58	53.78 76.71	.001 .001

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H16: Conflict to Cooperation	.03- .07-	9.00- 7.83-	.001 .001
H17: Conflict to Social Closeness	.11 .06	21.88 8.81	.001 .001
H18: Cooperation to Social Closeness	.28 .26	37.03 23.22	.001 .001
H19: Relationship Duration to Social Closeness	.07 .18	9.08 14.98	.001 .001
H20: Product Quality (Conformance) to Satisfaction	.02 .05	0.72- 7.45	n.s. .001
H21: Product Quality (Performance) to Satisfaction	.07- .01	7.73- 1.36-	.001 n.s.
H22: Salesperson (Respect) to Satisfaction	.02 .07-	4.07 5.72-	.001 .001
H23: Salesperson (Trust) to Satisfaction	.01- .06	1.58- 5.94	n.s. .001
H24: Salesperson (Like) to Satisfaction	.05 .05	9.24 6.28	.001 .001
H25: Service (Responsiveness) to Satisfaction	.18 .04	17.46 3.05	.001 .005
H26: Service (Quality) to Satisfaction	.00 .18	2.12- 7.81	.025 .001
H27: Price to Satisfaction	.05 .03	5.80 3.24	.001 .001
H28: Reputation to Satisfaction	.16 .12	14.89 11.74	.001 .001
H29: Customer Dependence to Satisfaction	.19 .03	13.58 8.64	.001 .001
H30: Communication to Satisfaction	.39 .31	45.61 28.58	.001 .001
H31: Conflict to Satisfaction	.16- .20-	19.65- 28.31-	.001 .001
H32: Cooperation to Satisfaction	.02- .13	5.38- 13.03	.001 .001

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H33: Social Closeness to Satisfaction	.06 .06	18.68 14.65	.001 .001
H34: Product Quality (Conformance) to Trust	.02 .05-	8.53 11.36-	.001 .001
H35: Product Quality (Performance) to Trust	.05 .05	5.89 6.54	.001 .001
H36: Salesperson (Respect) to Trust	.06- .12-	9.23- 14.13-	.001 .001
H37: Salesperson (Trust) to Trust	.11 .13	13.90 14.60	.001 .001
H38: Salesperson (Like) to Trust	.01- .07	2.47- 6.10	.01 .001
H39: Service (Responsiveness) to Trust	.03 .04	0.14 6.85	n.s. .001
H40: Service (Quality) to Trust	.17 .02-	16.25 1.04-	.001 n.s.
H41: Price to Trust	.02- .10	1.62- 19.55	n.s. .001
H42: Reputation to Trust	.20 .09	23.67 4.93	.001 .001
H43: Distributor Dependence to Trust	.02- .03-	7.80- 13.29-	.001 .001
H44: Goal Congruence to Trust	.04 .06	5.13 11.65	.001 .001
H45: Communication to Trust	.13 .06	14.25 6.60	.001 .001
H46: Conflict to Trust	.05- .07-	10.31- 10.03-	.001 .001
H47: Cooperation to Trust	.03 .09	1.44 8.99	n.s. .001
H48: Relationship Duration to Trust	.04 .04-	8.49 6.71-	.001 .001
H49: Social Closeness to Trust	.00 .07	9.44 11.97	.001 .001

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H50: Satisfaction to Trust	.37 .52	41.56 48.04	.001 .001
H51: Product Quality (Conformance) to Partnering Attractiveness	.04- .09-	1.39- 9.57-	n.s. .001
H52: Product Quality (Performance) to Partnering Attractiveness	.04- .01	0.88- 0.28	n.s. n.s.
H53: Salesperson (Respect) to Partnering Attractiveness	.11 .01	9.20 0.96-	.001 n.s.
H54: Salesperson (Trust) to Partnering Attractiveness	.03- .08	4.76- 4.49	.001 .001
H55: Salesperson (Like) to Partnering Attractiveness	.04- .10	5.97- 5.25	.001 .001
H56: Service (Responsiveness) to Partnering Attractiveness	.10 .10	11.12 6.24	.001 .001
H57: Service (Quality) to Partnering Attractiveness	.18- .07	17.89- 3.46	.001 .001
H58: Price to Partnering Attractiveness	.10 .08-	9.11 4.67-	.001 .001
H59: Reputation to Partnering Attractiveness	.07- .06-	7.50- 7.12-	.001 .001
H60: Customer Dependence to Partnering Attractiveness	.31 .25	13.85 18.11	.001 .001
H61: Conflict to Partnering Attractiveness	.07 .05-	9.40 4.97-	.001 .001
H62: Cooperation to Partnering Attractiveness	.09- .00	10.40- 0.29-	.001 n.s.
H63: Social Closeness to Partnering Attractiveness	.02- .03	1.30 3.41	n.s. .001
H64: Satisfaction to Partnering Attractiveness	.47 .36	35.12 14.34	.001 .001
H65: Trust to Partnering Attractiveness	.07 .11-	3.26 4.34-	.001 .001

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Construct	Amount of Variance Explained ²	
	stat	weld
Service (Responsiveness)	.46	.56
Service (Quality)	.26	.43
Conflict	.10	.13
Cooperation	.55	.56
Social Closeness	.08	.12
Satisfaction	.75	.76
Trust	.83	.82
Partnering Attractiveness	.43	.36

Stationery Supplies Data: df. = 69
Welding Supplies Data: df. = 70

Table C.2 - Significance of Path Coefficients and Variance Explained in Endogenous Constructs; Stationery Supplies Data (All, Primary, and Secondary Relationships)

Hypothesis	Path Coeff.	t	Signif. level
H1: Inventory Management to Service (Responsiveness)	.49	57.97	.001
	.46	27.75	.001
	.58	46.45	.001
H2: Salesperson (Respect) to Service (Responsiveness)	.08-	7.71-	.001
	.13-	11.12-	.001
	.10-	11.51-	.001
H3: Salesperson (Trust) to Service (Responsiveness)	.34	25.29	.001
	.39	16.37	.001
	.28	17.70	.001
H4: Salesperson (Like) to Service (Responsiveness)	.06	3.16	.005
	.07	4.60	.001
	.01-	2.75	.01
H5: Location to Service (Responsiveness)	.04	1.09	n.s.
	.03-	7.92-	.001
	.14	12.49	.001
H6: Salesperson (Respect) to Service (Quality)	.20	9.30	.001
	.20	1.12-	n.s.
	.17	1.98	.05
H7: Salesperson (Trust) to Service (Quality)	.28	17.32	.001
	.33	17.69	.001
	.19	4.12	.001
H8: Salesperson (Like) to Service (Quality)	.06	4.02	.001
	.04-	0.73	n.s.
	.10	4.98	.001
H9: Customer Dependence to Conflict	.12-	14.00-	.001
	.12-	12.29-	.001
	.18-	43.91-	.001
H10: Distributor Dependence to Conflict	.06-	4.11-	.001
	.07-	0.66	n.s.
	.04-	2.65-	.01
H11: Goal Congruence to Conflict	.24-	24.65-	.001
	.18-	7.93-	.001
	.27-	16.13-	.001

continued/

H12: Customer Dependence to Cooperation	.18	13.52	.001
	.20	9.75	.001
	.16	42.66	.001
H13: Distributor Dependence to Cooperation	.12	18.23	.001
	.13	4.44	.001
	.09	7.00	.001
H14: Goal Congruence to Cooperation	.12	15.90	.001
	.16	13.20	.001
	.09	5.32	.001
H15: Communication to Cooperation	.49	43.78	.001
	.41	29.85	.001
	.54	41.50	.001
H16: Conflict to Cooperation	.03-	9.00-	.001
	.02-	1.11-	n.s.
	.06-	10.25-	.001
H17: Conflict to Social Closeness	.11	21.88	.001
	.06	7.61	.001
	.07	4.43	.001
H18: Cooperation to Social Closeness	.28	37.03	.001
	.23	18.27	.001
	.27	24.38	.001
H19: Relationship Duration to Social Closeness	.07	9.08	.001
	.06	2.32	.025
	.13	10.05	.001
H20: Product Quality (Conformance) to Satisfaction	.02	0.72	n.s.
	.04	1.76-	.05
	.03	1.52	n.s.
H21: Product Quality (Performance) to Satisfaction	.05-	7.73-	.001
	.04-	0.06	n.s.
	.05	4.92	.001
H22: Salesperson (Respect) to Satisfaction	.03	4.07	.001
	.02	3.29	.001
	.10-	6.36-	.001
H23: Salesperson (Trust) to Satisfaction	.01-	1.58-	n.s.
	.01	5.66-	.001
	.01	4.06	.001
H24: Salesperson (Like) to Satisfaction	.05	9.24	.001
	.06	6.74	.001
	.11	10.21	.001

continued/

H25: Service (Responsiveness) to Satisfaction	.18	17.46	.001
	.24	18.11	.001
	.03	0.47	n.s.
H26: Service (Quality) to Satisfaction	.00	2.12	.025
	.06-	3.04-	.005
	.14	8.06	.001
H27: Price to Satisfaction	.05	5.80	.001
	.00	7.09	.001
	.01	2.20-	.025
H28: Reputation to Satisfaction	.16	14.89	.001
	.27	16.00	.001
	.12	8.61	.001
H29: Customer Dependence to Satisfaction	.19	13.58	.001
	.11	9.71	.001
	.19	44.18	.001
H30: Communication to Satisfaction	.39	45.61	.001
	.38	23.36	.001
	.35	19.82	.001
H31: Conflict to Satisfaction	.16-	19.65-	.001
	.17-	14.36-	.001
	.17-	13.74-	.001
H32: Cooperation to Satisfaction	.02-	5.38-	.001
	.04-	4.23-	.001
	.04	5.34	.001
H33: Social Closeness to Satisfaction	.06	18.68	.001
	.05	7.65	.001
	.05	7.31	.001
H34: Product Quality (Conformance) to Trust	.02	8.53	.001
	.07	9.91	.001
	.01-	4.40-	.001
H35: Product Quality (Performance) to Trust	.05	5.89	.001
	.13	14.50	.001
	.04	0.48	n.s.
H36: Salesperson (Respect) to Trust	.06-	9.23-	.001
	.06-	4.05-	.001
	.06-	7.25-	.001
H37: Salesperson (Trust) to Trust	.11	13.90	.001
	.10	9.56	.001
	.07	4.73	.001

continued/

H38: Salesperson (Like) to Trust	.01-	2.47-	.01
	.03-	6.34-	.001
	.04	2.87	.005
H39: Service (Responsiveness) to Trust	.03	0.14	n.s.
	.06	2.72	.005
	.06	3.72	.001
H40: Service (Quality) to Trust	.17	16.25	.001
	.10	3.72	.001
	.22	15.97	.001
H41: Price to Trust	.02-	1.62-	n.s.
	.02	0.64	n.s.
	.04-	7.93-	.001
H42: Reputation to Trust	.20	23.67	.001
	.24	23.38	.001
	.17	15.62	.001
H43: Distributor Dependence to Trust	.02-	7.80-	.001
	.01	1.20	n.s.
	.09-	17.54-	.001
H44: Goal Congruence to Trust	.04	5.13	.001
	.01	4.55	.001
	.05	4.93	.001
H45: Communication to Trust	.13	14.25	.001
	.11	8.20	.001
	.13	9.34	.001
H46: Conflict to Trust	.05-	10.31-	.001
	.00	0.98	n.s.
	.11-	11.62-	.001
H47: Cooperation to Trust	.03	1.44	n.s.
	.03	0.81	n.s.
	.05	4.61	.001
H48: Relationship Duration to Trust	.04	8.49	.001
	.02	5.81	.001
	.11	16.28	.001
H49: Social Closeness to Trust	.00	9.44-	.001
	.04-	9.13-	.001
	.03	3.79	.001
H50: Satisfaction to Trust	.37	41.56	.001
	.35	21.29	.001
	.35	30.36	.001

continued/

H51: Product Quality (Conformance) to Partnering Attractiveness	.04-	1.39	n.s.
	.05	2.22	.025
	.06-	7.97-	.001
H52: Product Quality (Performance) to Partnering Attractiveness	.04-	0.88-	n.s.
	.22-	8.90-	.001
	.02	0.26	n.s.
H53: Salesperson (Respect) to Partnering Attractiveness	.11	9.20	.001
	.11	9.12	.001
	.05	1.83	.05
H54: Salesperson (Trust) to Partnering Attractiveness	.03-	4.76-	.001
	.20	1.53	n.s.
	.11-	6.47-	.001
H55: Salesperson (Like) to Partnering Attractiveness	.04-	5.97-	.001
	.17-	14.39-	.001
	.00	0.31	n.s.
H56: Service (Responsiveness) to Partnering Attractiveness	.10	11.12	.001
	.10	5.92	.001
	.07-	1.76-	.05
H57: Service (Quality) to Partnering Attractiveness	.18-	17.89	.001
	.11	11.04	.001
	.10-	7.11-	.001
H58: Price to Partnering Attractiveness	.10	9.11	.001
	.05	4.07	.001
	.11	4.48	.001
H59: Reputation to Partnering Attractiveness	.07-	7.50-	.001
	.09	1.21-	n.s.
	.13-	8.87-	.001
H60: Customer Dependence to Partnering Attractiveness	.31	13.85	.001
	.06	9.52	.001
	.46	44.41	.001
H61: Conflict to Partnering Attractiveness	.07	9.40	.001
	.08	9.08	.001
	.02-	2.55-	.01
H62: Cooperation to Partnering Attractiveness	.09-	10.40-	.001
	.07-	10.34-	.001
	.16-	10.31-	.001
H63: Social Closeness to Partnering Attractiveness	.02-	1.30-	n.s.
	.14-	15.09-	.001
	.04	4.34	.001

continuea/

H64: Satisfaction to	.47	35.12	.001
Partnering Attractiveness	.55	23.48	.001
	.21	10.63	.001
H65: Trust to	.07	3.26	.001
Partnering Attractiveness	.03-	5.42-	.001
	.27	13.05	.001

Construct	Amount of Variance Explained		
	full	primary	secondary
Service (Responsiveness)	.46	.44	.47
Service (Quality)	.26	.24	.18
Conflict	.10	.08	.13
Cooperation	.55	.48	.57
Social Closeness	.08	.05	.10
Satisfaction	.75	.78	.71
Trust	.83	.81	.83
Partnering Attractiveness	.43	.54	.37

All Relationships:	df. = 69
Primary Relationships:	df. = 62
Secondary Relationships:	df. = 62

Table C.3 - Significance of Path Coefficients and Variance Explained in Endogenous Constructs; Welding Supplies Data (All, Primary, and Secondary Relationships)

Hypothesis	Path Coeff.	t	Signif. level.
H1: Inventory Management to Service (Responsiveness)	.42	41.47	.001
	.37	20.57	.001
	.44	31.11	.001
H2: Salesperson (Respect) to Service (Responsiveness)	.04	2.60	.01
	.11	1.01	n.s.
	.14	7.42	.001
H3: Salesperson (Trust) to Service (Responsiveness)	.43	31.06	.001
	.27	8.27	.001
	.33	17.38	.001
H4: Salesperson (Like) to Service (Responsiveness)	.06-	5.01-	.001
	.03	1.09	n.s.
	.06-	2.40-	.01
H5: Location to Service (Responsiveness)	.09	16.76	.001
	.05	2.77	.001
	.13	7.67	.001
H6: Salesperson (Respect) to Service (Quality)	.20	9.36	.001
	.22	5.19	.005
	.38	18.99	.001
H7: Salesperson (Trust) to Service (Quality)	.51	27.44	.001
	.35	12.65	.001
	.38	8.76	.001
H8: Salesperson (Like) to Service (Quality)	.04-	4.24-	.001
	.18	8.80	.001
	.13-	5.44-	.001
H9: Customer Dependence to Conflict	.24-	23.96-	.001
	.36-	25.49-	.001
	.13-	5.14-	.001
H10: Distributor Dependence to Conflict	.15	13.49	.001
	.20	11.49	.001
	.17	7.07	.001
H11: Goal Congruence to Conflict	.25-	21.23-	.001
	.24-	11.11-	.001
	.20-	7.20-	.001

continued/

H12: Customer Dependence to Cooperation	.10	9.25	.001
	.11	7.75	.001
	.09	5.63	.001
H13: Distributor Dependence to Cooperation	.07	13.60	.001
	.06	2.62	.01
	.11	4.21	.001
H14: Goal Congruence to Cooperation	.12	14.50	.001
	.16	13.23	.001
	.06	6.81	.001
H15: Communication to Cooperation	.58	76.71	.001
	.48	32.61	.001
	.59	46.79	.001
H16: Conflict to Cooperation	.07-	7.83-	.001
	.17-	10.25-	.001
	.04-	4.22-	.001
H17: Conflict to Social Closeness	.06	8.81	.001
	.04	3.53	.001
	.12	9.00	.001
H18: Cooperation to Social Closeness	.26	23.22	.001
	.24	11.96	.001
	.32	19.22	.001
H19: Relationship Duration to Social Closeness	.18	14.98	.001
	.13	8.60	.001
	.13	6.29	.001
H20: Product Quality (Conformance) to Satisfaction	.05	7.45	.001
	.12	8.99	.001
	.01	1.65-	n.s.
H21: Product Quality (Performance) to Satisfaction	.02-	1.36	n.s.
	.01-	0.10	n.s.
	.06-	4.87-	.001
H22: Salesperson (Respect) to Satisfaction	.07-	5.79-	.001
	.05-	2.14-	.025
	.02	1.03	n.s.
H23: Salesperson (Trust) to Satisfaction	.06	5.94	.001
	.07-	3.15-	.005
	.04	2.40	.01
H24: Salesperson (Like) to Satisfaction	.05	6.28	.001
	.04	0.08	n.s.
	.01	0.23-	n.s.

continued/

H25: Service (Responsiveness) to Satisfaction	.03	5.05	.005
	.00	1.75	.05
	.11	3.47	.001
H26: Service (Quality) to Satisfaction	.18	7.81	.001
	.17	3.66	.001
	.29	12.63	.001
H27: Price to Satisfaction	.03	3.24	.001
	.07	1.64	n.s.
	.10-	9.06-	.001
H28: Reputation to Satisfaction	.12	11.74	.001
	.18	8.67	.001
	.07	3.94	.001
H29: Customer Dependence to Satisfaction	.03	8.64	.001
	.05-	7.20-	.001
	.07	10.12	.001
H30: Communication to Satisfaction	.30	28.58	.001
	.36	19.97	.001
	.27	13.46	.001
H31: Conflict to Satisfaction	.20-	28.31-	.001
	.30-	20.68-	.001
	.13-	9.07-	.001
H32: Cooperation to Satisfaction	.13	13.03	.001
	.04	2.96	.005
	.19	15.08	.001
H33: Social Closeness to Satisfaction	.06	14.65	.001
	.05	2.08	.025
	.10	8.08	.001
H34: Product Quality (Conformance) to Trust	.05-	11.36-	.001
	.05-	6.57-	.001
	.02-	0.23	n.s.
H35: Product Quality (Performance) to Trust	.05	6.54	.001
	.12	5.55	.001
	.02-	4.50-	.001
H36: Salesperson (Respect) to Trust	.12-	14.13-	.001
	.03-	0.61-	n.s.
	.06-	6.39-	.001
H37: Salesperson (Trust) to Trust	.13	14.60	.001
	.11	4.49	.001
	.11	4.06	.001

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H38: Salesperson (Like) to Trust	.07 .09 .03-	6.10 3.30 0.47-	.001 .001 n.s.
H39: Service (Responsiveness) to Trust	.04 .08- .07	6.85 7.78- 7.27	.001 .001 .001
H40: Service (Quality) to Trust	.02- .00 .04-	1.04 2.18 2.19-	n.s. .025 .025
H41: Price to Trust	.10 .07 .16	19.55 4.39 13.14	.001 .001 .001
H42: Reputation to Trust	.09 .14 .09	4.93 8.68 5.46	.001 .001 .001
H43: Distributor Dependence to Trust	.03- .01 .01-	13.29- 2.31 0.86-	.001 .025 n.s.
H44: Goal Congruence to Trust	.06 .02 .05	11.65 3.36 6.42	.001 .001 .001
H45: Communication to Trust	.06 .10- .11	6.60 8.79- 4.40	.001 .001 .001
H46: Conflict to Trust	.07- .07- .11-	10.03- 6.60- 8.24-	.001 .001 .001
H47: Cooperation to Trust	.09 .12 .06	8.99 10.44 4.65	.001 .001 .001
H48: Relationship Duration to Trust	.04- .08- .03-	6.71- 5.35- 0.04	.001 .001 n.s.
H49: Social Closeness to Trust	.07 .07 .07	11.97 6.55 8.12	.001 .001 .001
H50: Satisfaction to Trust	.52 .57 .50	48.04 19.14 27.87	.001 .001 .001

continued/

H51: Product Quality (Conformance) to Partnering Attractiveness	.09-	9.57-	.001
	.12	10.23	.001
	.25-	9.80-	.001
H52: Product Quality (Performance) to Partnering Attractiveness	.01	0.28	n.s.
	.14-	6.37-	.001
	.15	4.98	.001
H53: Salesperson (Respect) to Partnering Attractiveness	.01	0.96-	n.s.
	.02	0.71	n.s.
	.02	2.45-	.01
H54: Salesperson (Trust) to to Partnering Attractiveness	.08	4.49	.001
	.20-	9.18-	.001
	.06	3.19	.005
H55: Salesperson (Like) to Partnering Attractiveness	.10	5.25	.001
	.28	8.58	.001
	.17	6.77	.001
H56: Service (Responsiveness) to Partnering Attractiveness	.10	6.24	.001
	.11-	4.46-	.001
	.23	7.97	.001
H57: Service (Quality) to Partnering Attractiveness	.07	3.46	.001
	.26	8.35	.001
	.20	6.31	.001
H58: Price to Partnering Attractiveness	.08-	4.67-	.001
	.06-	2.86-	.005
	.20-	6.87-	.001
H59: Reputation to Partnering Attractiveness	.06-	7.12-	.005
	.04	0.27	n.s.
	.20	3.49	.001
H60: Customer Dependence to Partnering Attractiveness	.25	18.11	.001
	.19	11.53	.001
	.27	9.42	.001
H61: Conflict to Partnering Attractiveness	.05-	4.97-	.001
	.26-	13.21-	.001
	.13-	5.02-	.001
H62: Cooperation to Partnering Attractiveness	.00	0.29	n.s.
	.02	2.16	.025
	.09-	2.93-	.005
H63: Social Closeness to Partnering Attractiveness	.03	3.41	.001
	.02-	3.67-	.001
	.18	6.86	.001

continued/

H64: Satisfaction to	.36	14.34	.001
Partnering Attractiveness	.47	10.97	.001
	.24-	4.85-	.001
H65: Trust to	.11-	4.34-	.001
Partnering Attractiveness	.18-	5.39-	.001
	.13-	1.99-	.05

Construct	Amount of Variance Explained		
	full	primary	secondary
Service (Responsiveness)	.56	.46	.58
Service (Quality)	.43	.49	.39
Conflict	.13	.18	.06
Cooperation	.56	.55	.52
Social Closeness	.12	.08	.14
Satisfaction	.76	.79	.75
Trust	.82	.84	.83
Partnering Attractiveness	.36	.61	.31

All Relationships:	df. = 70
Primary Relationships:	df. = 61
Secondary Relationships:	df. = 61

APPENDIX D

Table D.1 - Comparing Paths Across Two Models: Stationery Versus Welding Supplies

Hypothesis	Path Coeff.	t	Signif. level
H1: Inventory Management to Service (Responsiveness)	.49 .42	8.36	.001
H2: Salesperson (Respect) to Service (Responsiveness)	.08- .04	10.41-	.001
H3: Salesperson (Trust) to Service (Responsiveness)	.34 .43	4.63-	.001
H4: Salesperson (Like) to Service (Responsiveness)	.06 .06-	7.87	.001
H5: Location to Service (Responsiveness)	.04 .09	14.87-	.001
H6: Salesperson (Respect) to Service (Quality)	.20 .20	2.64-	.005
H7: Salesperson (Trust) to Service (Quality)	.28 .51	13.72-	.001
H8: Salesperson (Like) to Service (Quality)	.06 .04-	8.27	.001
H9: Customer Dependence to Conflict	.12- .24-	16.02-	.001
H10: Distributor Dependence to Conflict	.06- .15	19.47-	.001
H11: Goal Congruence to Conflict	.24- .25-	2.79	.005
H12: Customer Dependence to Cooperation	.18 .10	18.41	.001
H13: Distributor Dependence to Cooperation	.12 .07	14.75-	.001
H14: Goal Congruence to Cooperation	.12 .12	1.24	n.s.
H15: Communication to Cooperation	.49 .58	17.92-	.001

continued/

H16: Conflict to Cooperation	.03- .07-	1.38	n.s.
H17: Conflict to Social Closeness	.11 .06	8.18	.001
H18: Cooperation to Social Closeness	.28 .26	6.33	.001
H19: Relationship Duration to Social Closeness	.07 .18	9.19-	.001
H20: Product Quality (Conformance) to Satisfaction	.02 .05	8.61-	.001
H21: Product Quality (Performance) to Satisfaction	.05- .02-	6.37-	.001
H22: Salesperson (Respect) to Satisfaction	.02 .07-	10.00	.001
H23: Salesperson (Trust) to Satisfaction	.01- .06	8.35-	.001
H24: Salesperson (Like) to Satisfaction	.05 .05	0.11-	n.s.
H25: Service (Responsiveness) to Satisfaction	.18 .04	11.66	.001
H26: Service (Quality) to Satisfaction	.00 .18	10.88-	.001
H27: Price to Satisfaction	.05 .03	2.53	.01
H28: Reputation to Satisfaction	.16 .12	0.59-	n.s.
H29: Customer Dependence to Satisfaction	.19 .03	18.76	.001
H30: Communication to Satisfaction	.39 .31	5.84	.001
H31: Conflict to Satisfaction	.16- .20-	6.25	.001
H32: Cooperation to Satisfaction	.02- .13	18.67-	.001

continued/

H33: Social Closeness to Satisfaction	.06 .06	4.42-	.001
H34: Product Quality (Conformance) to Trust	.02 .05-	20.05-	.001
H35: Product Quality (Performance) to Trust	.05 .05	3.44-	.001
H36: Salesperson (Respect) to Trust	.06- .12-	7.65	.001
H37: Salesperson (Trust) to Trust	.11 .13	3.85-	.001
H38: Salesperson (Like) to Trust	.01- .07	9.05-	.001
H39: Service (Responsiveness) to Trust	.03 .04	6.68-	.001
H40: Service (Quality) to Trust	.17 .02-	14.59	.001
H41: Price to Trust	.02- .10	22.96-	.001
H42: Reputation to Trust	.20 .09	14.01	.001
H43: Distributor Dependence to Trust	.02- .03-	16.02	.001
H44: Goal Congruence to Trust	.04 .06	6.42-	.001
H45: Communication to Trust	.13 .06	4.19	.001
H46: Conflict to Trust	.05- .07-	2.65	.005
H47: Cooperation to Trust	.03 .09	8.13-	.001
H48: Relationship Duration to Trust	.04 .04-	14.67-	.001
H49: Social Closeness to Trust	.00 .07	21.53-	.001

continued/

H50: Satisfaction to Trust	.37 .52	13.52-	.001
H51: Product Quality (Conformance) to Partnering Attractiveness	.04- .09-	9.49	.001
H52: Product Quality (Performance) to Partnering Attractiveness	.04- .01	1.10-	n.s.
H53: Salesperson (Respect) to Partnering Attractiveness	.11 .01	7.75	.001
H54: Salesperson (Trust) to Partnering Attractiveness	.03- .08	9.02-	.001
H55: Salesperson (Like) to Partnering Attractiveness	.04- .10	10.57-	.001
H56: Service (Responsiveness) to Partnering Attractiveness	.10 .10	1.26	n.s.
H57: Service (Quality) to Partnering Attractiveness	.18- .07	14.66-	.001
H58: Price to Partnering Attractiveness	.10 .08-	11.89	.001
H59: Reputation to Partnering Attractiveness	.07- .06-	3.20	.001
H60: Customer Dependence to Partnering Attractiveness	.31 .25	17.76	.001
H61: Conflict to Partnering Attractiveness	.07 .05-	13.10	.001
H62: Cooperation to Partnering Attractiveness	.09- .00	7.89-	.001
H63: Social Closeness to Partnering Attractiveness	.02- .03	2.92-	.005
H64: Satisfaction to Partnering Attractiveness	.47 .36	4.23	.001
H65: Trust to Partnering Attractiveness	.07 .11-	7.65	.001

df. = 139

Table D.2 - Comparing Paths Across Two Models: Stationary Supplies (Primary Relationships) Versus Secondary Relationships)

Hypothesis	Path Coeff.	t	Signif. level
H1: Inventory Management to Service (Responsiveness)	.46 .58	1.14-	n.s.
H2: Salesperson (Respect) to Service (Responsiveness)	.13- .10-	2.30-	.025
H3: Salesperson (Trust) to Service (Responsiveness)	.39 .28	3.76	.001
H4: Salesperson (Like) to Service (Responsiveness)	.07 .01-	1.30	n.s.
H5: Location to Service (Responsiveness)	.03- .14	20.42-	.001
H6: Salesperson (Respect) to Service (Quality)	.20 .17	3.15-	.005
H7: Salesperson (Trust) to Service (Quality)	.33 .19	12.93	.001
H8: Salesperson (Like) to Service (Quality)	.04- .10	5.18-	.001
H9: Customer Dependence to Conflict	.12- .18-	55.23	.001
H10: Distributor Dependence to Conflict	.07- .04-	3.03	.005
H11: Goal Congruence to Conflict	.18- .27-	5.66	.001
H12: Customer Dependence to Cooperation	.20 .16	49.62-	.001
H13: Distributor Dependence to Cooperation	.13 .09	0.90-	n.s.
H14: Goal Congruence to Cooperation	.16 .09	7.72	.001
H15: Communication to Cooperation	.41 .54	10.53-	.001

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H16: Conflict to Cooperation	.02- .06-	6.84	.001
H17: Conflict to Social Closeness	.06 .07	4.85	.001
H18: Cooperation to Social Closeness	.23 .27	0.62-	n.s.
H19: Relationship Duration to Social Closeness	.06 .13	2.66-	.005
H20: Product Quality (Conformance) to Satisfaction	.04 .03	3.26-	.001
H21: Product Quality (Performance) to Satisfaction	.04- .05	5.96-	.001
H22: Salesperson (Respect) to Satisfaction	.02 .10-	9.72	.001
H23: Salesperson (Trust) to Satisfaction	.01 .01	9.86-	.001
H24: Salesperson (Like) to Satisfaction	.06 .11	1.99-	.025
H25: Service (Responsiveness) to Satisfaction	.24 .03	17.83	.001
H26: Service (Quality) to Satisfaction	.06- .14	11.23-	.001
H27: Price to Satisfaction	.00 .01	8.95	.001
H28: Reputation to Satisfaction	.27 .12	6.03	.001
H29: Customer Dependence to Satisfaction	.11 .19	58.29-	.001
H30: Communication to Satisfaction	.38 .35	1.36	n.s.
H31: Conflict to Satisfaction	.17- .17-	6.06-	.001
H32: Cooperation to Satisfaction	.04- .04	9.63-	.001

continued/

H33: Social Closeness to Satisfaction	.05 .05	1.49-	n.s.
H34: Product Quality (Conformance) to Trust	.07 .01-	14.50	.001
H35: Product Quality (Performance) to Trust	.13 .04	12.06	.001
H36: Salesperson (Respect) to Trust	.06- .06-	2.78	.005
H37: Salesperson (Trust) to Trust	.10 .07	7.55	.001
H38: Salesperson (Like) to Trust	.03- .04	9.84-	.001
H39: Service (Responsiveness) to Trust	.06 .06	1.39-	n.s.
H40: Service (Quality) to Trust	.10 .22	12.18-	.001
H41: Price to Trust	.02 .04-	5.75	.001
H42: Reputation to Trust	.24 .17	8.04	.001
H43: Distributor Dependence to Trust	.01 .09-	18.57	.001
H44: Goal Congruence to Trust	.01 .05	2.43-	.025
H45: Communication to Trust	.11 .13	1.97-	.05
H46: Conflict to Trust	.00 .11-	11.05	.001
H47: Cooperation to Trust	.03 .05	4.56-	.001
H48: Relationship Duration to Trust	.02 .11	7.60-	.001
H49: Social Closeness to Trust	.04- .03	12.91-	.001

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H50: Satisfaction to Trust	.35 .35	0.51	n.s.
H51: Product Quality (Conformance) to Partnering Attractiveness	.05 .06-	8.82	.001
H52: Product Quality (Performance) to Partnering Attractiveness	.22- .02	10.58-	.001
H53: Salesperson (Respect) to Partnering Attractiveness	.11 .05	10.51	.001
H54: Salesperson (Trust) to Partnering Attractiveness	.20 .11-	2.59	.01
H55: Salesperson (Like) to Partnering Attractiveness	.17- .00	14.41-	.001
H56: Service (Responsiveness) to Partnering Attractiveness	.10 .07-	7.84	.001
H57: Service (Quality) to Partnering Attractiveness	.11 .10-	17.93	.001
H58: Price to Partnering Attractiveness	.05 .11	37.43-	.001
H59: Reputation to Partnering Attractiveness	.09 .13-	3.67	.001
H60: Customer Dependence to Partnering Attractiveness	.06 .46	50.67-	.001
H61: Conflict to Partnering Attractiveness	.08 .02-	14.76	.001
H62: Cooperation to Partnering Attractiveness	.07- .16-	0.20	n.s.
H63: Social Closeness to Partnering Attractiveness	.14- .04	17.75-	.001
H64: Satisfaction to Partnering Attractiveness	.55 .21	24.89	.001
H65: Trust to Partnering Attractiveness	.03- .27	18.43-	.001

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Table D.3 - Comparing Paths Across Two Models: Welding Supplies (Primary Relationships) Versus Secondary Relationships

Hypothesis	Path Coeff.	t	Signif. level
H1: Inventory Management to Service (Responsiveness)	.37 .44	5.01-	.001
H2: Salesperson (Respect) to Service (Responsiveness)	.11 .14	3.84-	.001
H3: Salesperson (Trust) to Service (Responsiveness)	.27 .33	1.86-	.05
H4: Salesperson (Like) to Service (Responsiveness)	.03 .06-	3.26	.001
H5: Location to Service (Responsiveness)	.05 .13	3.79-	.001
H6: Salesperson (Respect) to Service (Quality)	.22 .38	9.29-	.001
H7: Salesperson (Trust) to Service (Quality)	.35 .38	1.12	n.s.
H8: Salesperson (Like) to Service (Quality)	.18 .13-	13.42	.001
H9: Customer Dependence to Conflict	.36- .13-	13.80-	.001
H10: Distributor Dependence to Conflict	.20 .17	2.84	.005
H11: Goal Congruence to Conflict	.24- .20-	5.87	.001
H12: Customer Dependence to Cooperation	.11 .09	3.40	.001
H13: Distributor Dependence to Cooperation	.06 .11	1.84-	.05
H14: Goal Congruence to Cooperation	.16 .06	0.17-	n.s.
H15: Communication to Cooperation	.48 .59	6.28-	.001

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H16: Conflict to Cooperation	.17- .04-	7.40-	.001
H17: Conflict to Social Closeness	.04 .12	4.61-	.001
H18: Cooperation to Social Closeness	.24 .32	4.31-	.001
H19: Relationship Duration to Social Closeness	.13 .13	2.36	.01
H20: Product Quality (Conformance) to Satisfaction	.12 .01	10.82	.001
H21: Product Quality (Performance) to Satisfaction	.01- .06-	4.49	.001
H22: Salesperson (Respect) to Satisfaction	.05- .02	0.93-	n.s.
H23: Salesperson (Trust) to Satisfaction	.07- .04	5.60-	.001
H24: Salesperson (Like) to Satisfaction	.04 .01	0.18	n.s.
H25: Service (Responsiveness) to Satisfaction	.00 .11	2.26-	.025
H26: Service (Quality) to Satisfaction	.17 .29	7.70-	.001
H27: Price to Satisfaction	.07 .10-	9.18	.001
H28: Reputation to Satisfaction	.18 .07	4.31	.001
H29: Customer Dependence to Satisfaction	.05- .07	17.36-	.001
H30: Communication to Satisfaction	.36 .27	5.86	.001
H31: Conflict to Satisfaction	.30- .13-	10.43-	.001
H32: Cooperation to Satisfaction	.04 .19	9.69-	.001

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H33: Social Closeness to Satisfaction	.05 .10	7.37-	.001
H34: Product Quality (Conformance) to Trust	.05- .02-	7.47-	.001
H35: Product Quality (Performance) to Trust	.12 .02-	10.10	.001
H36: Salesperson (Respect) to Trust	.03- .06-	4.28	.001
H37: Salesperson (Trust) to Trust	.11 .11	1.01	n.s.
H38: Salesperson (Like) to Trust	.09 .03-	4.06	.001
H39: Service (Responsiveness) to Trust	.08- .07	14.85-	.001
H40: Service (Quality) to Trust	.00 .04-	4.33	.001
H41: Price to Trust	.07 .16	5.24-	.001
H42: Reputation to Trust	.14 .09	4.95	.001
H43: Distributor Dependence to Trust	.01 .01-	11.36	.001
H44: Goal Congruence to Trust	.02 .05	6.18-	.001
H45: Communication to Trust	.10- .11	13.02-	.001
H46: Conflict to Trust	.07- .11-	1.11	n.s.
H47: Cooperation to Trust	.12 .06	5.34	.001
H48: Relationship Duration to Trust	.08- .03-	5.83-	.001
H49: Social Closeness to Trust	.07 .07	1.22-	n.s.

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H50: Satisfaction to Trust	.57 .50	2.90	.005
H51: Product Quality (Conformance) to Partnering Attractiveness	.12 .25-	19.26	.001
H52: Product Quality (Performance) to Partnering Attractiveness	.14- .15	11.18-	.001
H53: Salesperson (Respect) to Partnering Attractiveness	.02 .02	2.09	.025
H54: Salesperson (Trust) to to Partnering Attractiveness	.20- .06	11.39-	.001
H55: Salesperson (Like) to Partnering Attractiveness	.28 .17	0.47	n.s.
H56: Service (Responsiveness) to Partnering Attractiveness	.11- .23	12.86-	.001
H57: Service (Quality) to Partnering Attractiveness	.26 .20	1.13	n.s.
H58: Price to Partnering Attractiveness	.06- .20-	5.64	.001
H59: Reputation to Partnering Attractiveness	.04 .20	3.12-	.005
H60: Customer Dependence to Partnering Attractiveness	.19 .27	3.07-	.005
H61: Conflict to Partnering Attractiveness	.26- .13-	5.01-	.001
H62: Cooperation to Partnering Attractiveness	.02 .09-	5.15	.001
H63: Social Closeness to Partnering Attractiveness	.02- .18	10.98-	.001
H64: Satisfaction to Partnering Attractiveness	.47 .24-	16.01	.001
H65: Trust to Partnering Attractiveness	.18- .13-	1.98-	.025

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