A QUALITATIVE INQUIRY INTO THE RELATIONSHIP CHARACTERISTICS
OF AN AUTOMOBILE MANUFACTURING STRATEGIC ALLIANCE:
THE CASE OF THE HONDA OF AMERICA MANUFACTURING, INC.
ACCORD CRANKSHAFT ALLIANCE

DISSERTATION

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the Degree Doctor of Philosophy in the Graduate
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By

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* * * * *

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ABSTRACT

This dissertation investigates conditional convergence, in the sense of economies having parallel balanced growth paths, using median-unbiased estimators in panel data. The cases studied are the USA states, 13 OECD countries and two wider samples taken from Summers and Heston's Penn World Tables with 57 and 100 countries respectively. First, I explore the performance of various dynamic panel data estimators in samples with dimensions similar to those of the actual samples studied, and for high values of the AR coefficient. I find that, in such a context, these estimators are generally downward biased and/or imprecise and, therefore, they are likely to produce unreliable estimates of the AR coefficient and their implied convergence rates. I also find that identification of error covariance structures might be troublesome as the size of various tests for groupwise heteroskedasticity, cross-sectional correlation and autocorrelation is seriously distorted. Second, I propose median-unbiased estimation as an appropriate method to estimate the AR parameter in dynamic panel data models. This method is sample specific and is based on LSDV estimators which, despite their downward bias, are known to be efficient. It relies on a mapping of the true parameter onto the median of the distribution of the LSDV
estimator. The actual LSDV estimates are taken as medians and the previous mapping is used to obtain median-unbiased estimates. In a similar way, the 05th and .95th fractiles of the distribution of the LSDV estimators are used to obtain interval estimates. The relevant fractiles are computed using Monte Carlo simulations. In fact, the median-unbiased estimation method corrects for the downward bias of the LSDV estimators by shifting their distributions and centering them around the true AR parameter values. The robustness of the median-unbiased estimators to groupwise heteroskedastic and cross-sectionally correlated disturbances is also explored. The covariance structures used resemble those that would be obtained from actual samples of per capita output after removing individual and time specific effects. It is shown that the median-unbiased estimator is quite robust to the previous problems.

The dynamics of per capita output is derived using a linear approximation to the solution of the Ramsey-Cass-Koopmas model of growth. The empirical results show that the usual estimation methods in dynamic panel data models will generally produce estimates that are either biased or highly imprecise and therefore unreliable. Unadjusted LSDV estimates imply conditional convergence in all samples studied. The median-unbiased estimates, however, support conditional convergence only among the USA states and OECD countries, and their implied convergence rates are much lower than those that unadjusted estimates would imply.
Dedicated to my parents
Hershell and Pauline Alsbrooks
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Praise God from whom all blessings flow!
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CHAPTER 1

INTRODUCTION

The purpose of this chapter is to introduce the reasons for which this dissertation research was conceived and conducted. This chapter documents the identification of a problem, defined as an unsatisfactory situation as perceived by the investigator. Following the development of the problem, the general purpose of the research is discussed. Next is the discussion of the focus of the research and the specific research objective. As a result of conducting the above process the research questions are established. The chapter concludes with an outline of the remainder of this dissertation.

Problem Identification

In putting together a jigsaw puzzle it is often necessary to view the puzzle's picture to make sense of a single puzzle piece. Without the overall picture, the single piece has little or no significance. This analogy can be applied to identifying a problem. Without having exposure to the contextual setting of a problem, it is difficult to understand, and even more difficult to begin
resolution of a problem. Given the foregoing conclusion, it is important to "paint the picture" or discuss the general context of this study's problem.

The context of this study's problem has its basis in the changing economic picture of the world's industrialized and nearly-industrialized nations. Since the end of World War II, there has been a noticeable and gradual shift in the world's economic system (Hill, 1994). This gradual shift is being made from an economic system where national markets were distinct entities, isolated from each other by trade barriers, distance, borders, time, and culture. The former system is now evolving into an economic system in which individual national markets are converging into one integrated, global marketplace (Hill, 1994).

The evolution of the world's economy and the resulting global marketplace is a function of a number of determinants. In part, it is influenced by the continual narrowing of the gap between standards of living around the world, the removal of trade barriers, and waning national taste differences. Concerning the first factor, citizens of developing and newly-industrialized countries are seeking the same standard of living as enjoyed by Americans, Western Europeans, and Japanese. Regardless of nationality, consumers across the world increasingly seek the same kind of lifestyles and desire the same kinds of products (Ohmae, 1989). "Thus, in many industries it is no
longer meaningful to talk about the 'German market', the 'American market', or the 'Japanese market'; there is only the 'global market'" (Hill, 1994, p. 6). Hill refers to this phenomenon as the globalization of markets.

The phenomenon of a globalized market logically leads to the advent of globalized production. Globalized production occurs when multinational firms disperse the various components of the production process to different parts of the world where the products can be manufactured most efficiently. This is done in an effort to capitalize on differences in the cost and quality of labor, energy, land, capital, and other major factors of production. Thus, a firm may design a product in one country, manufacture it in another, assemble the product in yet another country, to meet local or world-wide demand.

An implication of globalized markets and globalized production is the trend toward the increase in cooperative efforts among industrial organizations (Pucik, 1988; Harrigan, 1985; Perlmutter & Heenan, 1986). To understand this trend it must be understood why globalization makes cooperative efforts necessary. As a result of consumers across the world desiring the same goods, manufacturers must make the products readily available to capitalize on the demand. Making products readily available, in many instances, requires the manufacture of the goods in the country where they are demanded.
The risk of doing business in foreign countries carries with it inherent political, economic, and legal risks. These risks are the likelihood that political, economic, or legal forces in a country will cause changes in that country's business environment that adversely affect the profitability and viability of the firms conducting business within its borders (Hill, 1994). As these global business risks increase and competition for global profits becomes more intense, an increasing number of multinational firms have begun engaging in cooperative efforts to reduce the risks of conducting business internationally.

For American firms, the increase in cooperative efforts among companies participating in the global marketplace mandates changes in the American philosophy of conducting business. It has been suggested that American companies must change from the adversarial, arm's-length, short-term, contractual, and rigid relationships of the past to those relationships that are more cooperative, intimate, long-term, consensual, and flexible (Lodge & Walton, 1989). This change in philosophy is required because the evolving global economic environment is characterized by risks that makes conducting business singularly less and less profitable.

Academicians are continually pointing out the need for industrial managers to turn from adversarial to more
cooperative relationships with competitors, suppliers, customers, labor, etc. in order to compete in the world market (Lodge & Walton, 1989; Ohmae, 1989). In nearly every facet of the industrial environment, cooperative relationships are applicable. Joint-effort relationships are beneficial between suppliers and customers while corporations must maintain flexible relationships with capital suppliers. Non-adversarial relations between industry and government are requisite for the ability to compete globally, while partnerships between management and labor must be forged for American businesses to thrive in the new world market.

The increased need for cooperation between business firms has led to an increase in research with a resulting proliferation of terms used to identify cooperative efforts between two or more organizations (Forrest, 1990). For this study the term "cooperative effort" is used to describe a general category of interorganizational relationships that incorporate varying degrees of collaborative activity among competitors in an industry (horizontal relationships) or among organizations in different levels of a production chain (vertical relationship). Several specific relationships can be placed in this general category. They include joint ventures, acquisitions, mergers,
equity investments, licensing agreements, supplier arrangements, and strategic alliances, to name a few.

It is important to develop a deeper understanding of the relationships previously categorized as cooperative efforts. The first arrangement, a joint venture, is defined as an independent third enterprise formed by two other firms (Harrigan, 1985; Forrest, 1990). The two contributing organizations in a joint venture, also known as "parents", contribute assets for the creation of the "child" and both parties share risks equally. Joint ventures are characterized by (a) equity being partially owned by the two "parent" firms (Gomes-Casseres, 1989); (b) shared control of particular activities (Fiol, 1989), specifically decision-making (Harrigan, 1985); (c) agreement to conduct business on a project basis or for a finite time period (Lindsay, 1989); and (d) formation based on the strategic purposes of the two founding firms (Harrigan, 1986). To sum it all up, Lynch (1989) defines a joint venture as a cooperative business activity formed by two or more separate organizations for strategic purposes that creates an independent business entity and allocates ownership, operational responsibilities, and financial risks and rewards to each member, while preserving the "parent" organizations' separate identity and autonomy.
Acquisitions, mergers, and equity investments are defined next. Acquisitions involve the purchase of one organization by another where the buyer assumes total control of the purchased entity (Borys & Jemison, 1989). Mergers are the complete unification of two or more firms into a single unit (Borys & Jemison, 1989). An equity investment is an arrangement where an entity puts money to use in a company that offers profitable returns and, in essence, buys partial ownership in the firm.

The three non-equity based relationships categorized as cooperative efforts are licensing agreements, supplier arrangements, and strategic alliances. "License agreements involve the purchase of a right to use an asset for a particular time and offer rapid access to new products, technologies, or innovations" (Borys & Jemison, 1989, p. 235). Supplier arrangements are contracts for the sale of one organization's output as the input for a second organization.

The final non-equity based cooperative effort is the strategic alliance. Observers of cooperative efforts among firms, suggest that the strategic alliance has increased in frequency during the past few decades. A study cited in Modic (1988) estimates that the number of strategic alliances increased from 345 in the 1950s to over 2000 in the 1980s. Caution must be taken when considering specific
numbers due to differences in the definitions of the term "strategic alliance". What is important at this point is the identification of this increased trend in cooperative endeavors among business organizations. A consultant cited by Modic (1988, p. 47) states "the move toward strategic alliances as a way of doing business is a structural drive and not a fad...[and] we will see more and more of this".

The apparent increase in what is termed a "strategic alliance" warrants further investigation and a better understanding of its meaning. A review of the scholarly literature and popular press writings on strategic alliances provided a variety of terms, definitions, and synonyms for the phenomenon. This plethora of terms, definitions, and synonyms complicate the process of forming an accurate definition. Generally speaking, there is no universally accepted definition or term for the "strategic alliance" phenomenon.

Since there is no universally accepted definition for a strategic alliance, and there exist numerous synonymous terms for the phenomenon, it is important to delineate specifically what is being addressed in this research. A search of the current scholarly and popular literature resulted in the following list of terms. (The author acknowledges that this is not an exhaustive list but represents those terms most commonly used in the marketing and strategic management fields.) The terms are;
(a) symbiotic marketing (Adler, 1966; and Varadarajan & Rajaratnam, 1986); (b) horizontal marketing system (Kotler, 1984); (c) horizontal cooperative sales promotion (Varadarajan, 1986); (d) strategic alliances (Devlin & Bleackley, 1988; Lynch, 1989; Lindsay, 1989; Forrest, 1990; Jorde & Teece, 1989); (e) alliance (LaLonde & Cooper, 1989); and (f) business alliances (Gerlach, 1987). Other terms include (a) partnerships (Anderson & Narus, 1990; Lalonde & Cooper, 1989); (b) strategic partnerships (Clark, 1989); (c) value-added partnership (Johnston & Lawrence, 1988); (d) cooperative agreements (Harrigan & Newman, 1990); (e) cooperative buyer-seller relationship (Landeros & Monczka, 1989); (f) contracting (Porter, 1980); and (g) domesticated markets (Arndt, 1979; Day & Wensley, 1983). Additional terms frequently utilized are; (a) hybrid organizational arrangements (Powell, 1987; Borys & Jemison, 1989); (b) co-makership (Bevan, 1989); and (c) mutual organization (Powell, 1987).

In an effort to generate a specific definition of a strategic alliance for this research, an analysis of all of the previously stated terms' definitions was conducted (see Appendix A). The results of the analysis indicated the existence of ten common characteristics. (If a characteristic appeared more than once in the group of definitions listed in Appendix A it was considered common.) The list of characteristics includes; (a) cooperation,
(b) involvement of two or more complimentary firms, (c) the
development of a long-term relationship but not exclusively
long term, (d) commitment, (e) mutual benefit and risk
bearing among participants, (f) common goals, (g) synergy,
(h) pooling of resources and skills, (i) reciprocity, and
(j) development of communication and control systems.

The common characteristics were combined to serve as
the basis for the definition of strategic alliance used in
this research. Therefore, the relationship under study is
a non-equity based, long-term, relationship between two or
more complimentary industrial organizations. In this
relationship there is a reciprocal exchange of goods,
services, expertise, and other resources. The partners
have common, mutually beneficial goals and share the bene-
fits and risks of the relationship equally. Furthermore,
the relationship is characterized by cooperation, commit-
ment, and the pooling of resources and skills to result in
the synergistic production of something that could not have
been produced had the relationship not existed. The result
of the alliance for each participant is a long-term com-
petitive advantage defined as "... an edge over rivals in
securing customers and defending against competitive
forces" (Thompson & Strickland, 1992, p. 102).

Problem Statement

It is evident from the previous section that the
global economic environment is currently conducive to the
increased formation of strategic alliances (Ohmae, 1989; Lodge & Walton, 1989). Because the effects of globalization are likely to increase, researchers and managers need information to aid them in the study of and effective use of strategic alliances. Many industrial organizations are responding to the change in the global economy by working cooperatively, both horizontally with competitors and vertically with suppliers and channel distribution members. Both practitioners and scholars have acknowledged the importance of these kinds of strategic alliances among industrial organizations as evidenced by the proliferation of writing on the subject.

Although numerous scholarly publications have been generated on strategic alliances, the evolution and study of strategic alliances has not rendered a theory unique to this phenomenon (Borys & Jemison, 1989) and the literature on this topic is sparse (Astley; 1984). This growing literature deals with strategic alliances under the purview of strategic management. The parent literature has been criticized for theoretical insufficiency and a lack of empirical research. Jemison (1981a) sums up the basic complaints discerning scholars have against strategic management research:

Strategic management has reached the point where integrative research approaches are necessary for continued progress in the field. Early research in strategic management has emanated from a variety of
research streams, each employing different paradigms, units of analysis, causal presumptions, and researcher biases. This research has provided valuable insights into the problems of general managers from various perspectives, but the lack of integration among the research streams may ultimately retard the growth of strategic management. (p. 601)

While the criticisms focus in particular on strategic management, the strategic alliance literature suffers accordingly. The current body of scholarly knowledge on strategic alliances is based primarily on descriptive, correlational studies that lack depth. This lack is increased by the dispersion of research effort over three different primary areas of study. They are the initiation, maintenance, and dissolution of strategic alliances. To date, the majority of scholarly research and practitioner discussion has concentrated primarily on the initiation of an alliance. Consequently, with so little quality research spread over so wide a spectrum, the results of the literature review suggest a greater need of further development across the spectrum and especially in the areas of maintenance and dissolution. In short, there are many contradictions, ambiguities, and points of uncertainty among the cumulative studies and writings in all three areas of research.

Based on the type and quality of research and writings produced by academicians, it is difficult to identify the factors associated with successful initiation, maintenance,
and dissolution of strategic alliances. This lack of quality, systematic research may even limit formation of successful strategic alliances in the global arena. This creates a problem given the need for increased cooperative efforts among business organizations.

To successfully and effectively establish, maintain, or end strategic alliances there should be a sound body of technical literature available to direct and support the actions of practitioners. The development of a sound body of literature could begin by the initiation of an effort that would address the discovery of the factors underlying success in forming, maintaining, or ending strategic alliances and to have that discovery based in empirical studies. The results of such an effort would be a move toward resolving the problems with the literature.

**Purpose of the Research**

There is something in the essence of successful strategic alliance relationships that remains elusive and that "something", if discovered, can lead to better understanding and utilization of the phenomenon (Strauss & Corbin, 1990). Therefore, the general purpose of this research is to initiate the resolution of the previously identified problem. This is achieved by accumulating sufficient knowledge in a way that will lead to a better understanding of the underlying success factors in strategic alliances. A deeper level of knowledge of
strategic alliances should logically result in more
effective initiation, maintenance, or dissolution of these
relationships.

Given the wide spectrum of topics on the strategic
alliance, it is necessary to isolate a portion of the
existing problem, in order for this research to adequately
begin problem resolution. It would not be prudent nor
possible to address the entire spectrum of strategic
alliance research topics. The problem resolution effort
begins with isolating a specific research topic from the
broad range of available topics. In terms of strategic
alliances, the majority of the research effort is
concentrated in the area of alliance initiation, as stated
previously. This emphasis among strategic alliance
researchers to concentrate research efforts in this area is
warranted by the importance of the partner identification
and selection process needed to initiate the relationship.

However, it is not enough to seek only knowledge on
the formation of strategic alliances. These relationships,
once initiated, must be maintained if they are to
accomplish the objectives for which they were created.
Therefore, a need exists to seek knowledge on the success
factors related to the maintenance process of a strategic
alliance. The final portion of the strategic alliance
research spectrum, dissolution of strategic alliances, is
noted as being as important a research area as the
previously mentioned areas. But, given the increasing
prevalence of strategic alliances and the apparent need for
more, the topic of dissolution is beyond the investigator's
scope of interest.

Therefore, the specific purpose of this study is to
conduct empirical-based, basic, exploratory research in an
effort to discover and understand some of the factors or
characteristics associated with the maintenance of a
successful strategic alliance. The term empirical refers
to whether the phenomenon is capable of being found in the
real world and assessed by the human senses (LeCompte &
Preissle, 1993). The purpose of basic research is to
understand and explain (Patton, 1990). The general purpose
of exploratory research is to refine concepts and/or
articulate questions for subsequent investigations

Therefore, the general result of this research should
be the discovery of new knowledge about the underlying
success factors that are present in strategic alliances
during the maintenance phase of the relationship. The
specific result should be the discovery of one or more
factors associated with an established strategic alliance's
ability to accomplish the goals and objectives for which it
was established.

Focus of the Research
The purpose of this inquiry requires the discovery of one or more factors associated with an established strategic alliance's ability to accomplish the goals and objectives for which it was established. This purpose mandates that the discovery be conducted in a specific environment, i.e., an established strategic alliance. This requirement necessitated the identification and use of at least one focal strategic alliance. Simply stated, there was a need in this study for a specific example, i.e., a case of the subject phenomenon.

The research purpose made the utilization of a case study a logical conclusion. According to Yin (1989) a case study is

...an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used. (p.23)

Detailed case analysis of unusual cases can generate particularly useful information about a phenomenon (Patton, 1990). In terms of this study, the analysis of a "successful" strategic alliance should generate the information needed to address the purpose, objective, and ultimate research questions of the inquiry. As a result of the foregone conclusion, it was necessary for the researcher to identify a strategic alliance case applicable to the study's purpose.
Using the criterion of success (as defined previously) and the author's definition of strategic alliance, the researcher capitalized on an opportunity to conduct a 1992 pilot case study on a successful automobile component manufacturing strategic alliance. This alliance is comprised of a focal automobile manufacturer, Honda of America Manufacturing, Inc. (HAM), and several of its component suppliers who together manufacture the Honda Accord crankshaft, a critical component in an automobile engine. This relationship involves two units of HAM, the purchasing department and the Anna Engine Plant; Copperweld Steel Co. (CSC); TFO Tech Co., Ltd. (TFO Tech); and Metallurgical Service, Inc. (MSI) in the joint production of the crankshaft.

The purpose of the pilot case study was to describe the nature of the Honda Accord Crankshaft strategic alliance. Two primary objectives were developed to achieve the purpose. The first was to identify the historic occurrences and the inherent characteristics that comprise the alliance. The second objective was to develop and apply a framework to examine the identified factors. By identifying and examining the relationships among the factors, the pilot study was to provide information on how those factors contributed to the successful production of
the crankshaft and the resulting success of the strategic alliance.

In order to understand the inherent characteristics of the crankshaft alliance, an investigation of the alliance's historical context was required. In the original pilot case study report, the historical information was documented in great detail. For use in this report, an abridged version of the historical information is provided. (The data base document generated for this dissertation contains the pilot case study.) Following the abridged historical information is a discussion of the Honda Accord Crankshaft strategic alliance which includes a description of the function of a crankshaft and the history of the development of the alliance. This is followed by the identification of the characteristics of the relationship that emerged from the pilot case study.

History - During the mid-1970s, Honda Motor Co., Ltd.'s factories in Japan were operating at near-full capacity and additional manufacturing capacity was needed to meet the increasing North American demand for Honda automobiles. (Honda Motor Co., Ltd. owns 3% of HAM's capital stock with the remaining 97% owned by HAM's parent company, American Honda Motor Co.) During this time period, Honda's North American sales accounted for nearly 50% of its total production. Aligning with its philosophy
to manufacture its products in the markets where they are sold, Honda officials began their entry into U.S.-based production.

On October 11, 1977 Honda signed a formal agreement with the state of Ohio to begin Phase I of its two-phase expansion into America. Phase I of the plan entailed building and operating a motorcycle plant which was incorporated as Honda of America Manufacturing, Inc. (HAM). By 1982, HAM had moved into Phase II - automobile manufacturing with the production of the Honda Accord. By the end of 1987, HAM was producing Accords and Civics at the rate of 320,000 per year. To complement the motorcycle and automobile manufacturing capability, HAM revealed plans in 1984, to construct a $30 million engine plant in Anna, OH. The facility was designed to ultimately manufacture both motorcycle and automobile engines for Honda's models that were popular in America.

History of the Alliance - On September 17, 1987, Honda announced a five-part strategy for establishing a self-reliant motor vehicle company in the United States. The portion of the HAM strategy germane to this study was the desire to increase the domestic content of its product to 75%. As a result of the initiative to source more parts in the United States and to get its domestic content to 75%, Honda management investigated the possibility of manufacturing domestically the Honda Accord engine crankshaft.
The crankshaft is considered one of the most critical components of an internal combustion automobile engine. Known as the "heart of the engine", the crankshaft is located in the engine block. Its primary function is to transform the up-and-down motion of the pistons into rotary power that can be transferred to the wheels of the vehicle.

According to HAM officials, localizing the crankshaft was viewed as a critical challenge because the component is crucial to overall engine performance. Another factor that made the issue a challenge was the fact that 100% of the crankshafts at the time were being imported from Japan. Therefore, there was no domestic experience in making the part.

In December 1989, the initial steps were taken to begin the development of the supplier alliance that would ultimately produce the Accord crankshaft in the U.S. The first step in the process was to identify suppliers who had either the ability or potential to take on the project. By April 1990, HAM had selected the suppliers for the venture. Copperweld Steel Company was selected as the supplier of the rolled steel bars used to form the crankshaft. TFO Tech, a Japanese transplant forging company, was selected to perform the forging procedure. (Forging is a method of shaping steel. The heat treating supplier was the next link in the production chain to be addressed and MSI was selected for that function in the alliance. (Heat treating
is a term commonly used for a procedure that normalizes the microstructure of the steel once it has been through the forging process.)

Domestic production of the crankshaft began in April 1991. At the time, the crankshaft alliance was responsible for producing 50% of the crankshafts required by the Anna Engine Plant for manufacture of the Accord engine. When the alliance worked at 100% capacity it produced 1,500 crankshafts per day. The alliance was deemed a success by HAM officials. "...As a result of this whole process... we actually have a better, higher quality product coming from TFO [and the crankshaft alliance] than is coming from Japan" (W.E. McCulty, personal communication, Spring 1992). (Wayne McCulty was the HAM purchasing representative initially responsible for coordinating the development of the strategic alliance.)

**Alliance Characteristics** - Having summarized the historical and contextual factors of the alliance, it is appropriate to review the inherent characteristics of the relationship between the alliance participants. Four specific characteristics emerged from the pilot case study. They are cooperation, trust and commitment, leadership, and common goals.

**Cooperation:** Cooperation as a characteristic of the alliance was the end-product of a fusion of six interdependent constructs. The six constructs were; Historical
Relationships, HAM's Reputation, the Suppliers' Technical Ability, the Suppliers' Flexibility, HAM's Technical and Managerial Support, and Conflict Resolution Ability. A brief discussion of each of these variables follows.

**Historical Relationships:** The existence of a historical relationship between HAM and each of the suppliers was viewed as a key input construct in the development of cooperation among the alliance participants. Also, for the crankshaft alliance, a historical relationship was a key factor in determining who the alliance participants would be. These historical relationships could entail the total or partial control of the supplier by Honda or a long term relationship between Honda and a supplier's parent company. Of the three suppliers in the crankshaft alliance, two of them (TFO Tech and CSC) had a parent or controlling company that had historical relationships with Honda Motor Co., Ltd. MSI was the only supplier selected that had not had a relationship with HAM or Honda prior to the formation of the alliance. The reason for the exception may be the fact that MSI is considered a second-tier supplier to TFO Tech.

The existence of cooperation in the crankshaft alliance was thought to be facilitated by the reputation of Honda and HAM. According to McCulty, reputation was an extremely important factor in fostering the trust in the buyer-seller relationship. "If we did not have a good
reputation among these suppliers we wouldn't be able to do what we do. We have to stand by what we say"
(W. E. McCulty, personal communication, Spring 1992). McCulty felt the central issue in the reputation of HAM was the ability and willingness to pay suppliers on time.

The next construct associated with the cooperation characteristic was the experience and technical ability the suppliers possessed prior to entering the alliance. This factor appeared to be instrumental in working together cooperatively to attain the technical goals of the alliance. According to HAM associates, if the supplier had not reached an expected level of technical ability then it must have had the potential and the willingness to develop it.

When HAM associates screened suppliers for supplying opportunities, they looked for several important characteristics. According to McCulty, the willingness to work hard was a prerequisite because of the demands HAM placed on the suppliers. The tendency to be demanding and meticulous on HAM's behalf led the manufacturer to demand from the supplier many actions the suppliers occasionally felt were unnecessary. Therefore, a supplier had to be committed to becoming a supplier and exercise the flexibility required to accommodate HAM's demands.
Another component of the flexibility factor was a sense of humility possessed by the supplier. On this issue, McCulty said,

Many suppliers have a high level of pride: they've been doing something for 30 or 40 years and have been very successful at it. Now all of a sudden, here comes [HAM] in to tell them, 'You can do this a little better' or ...'We want you to change this...'. We may ask a supplier to do something they've never done before. (W.E. McCulty, personal communication, Spring 1992)

Given the demanding nature of the alliance, flexibility and humility in the suppliers was mandated if cooperation were to exist.

The suppliers' development of high technical ability and their flexibility were contingent on the continued pursuit of improvement in the relationship through technological and managerial support from HAM. The support was viewed as a needed construct in view of Honda's production philosophy and HAM's purchasing philosophy. Both embrace the need for suppliers to continually find ways to pursue quality and excellence.

As an end to a means, HAM provides support services ranging from technological support to management seminars for the suppliers' associates to assist the suppliers in helping themselves become increasingly better while increasing component quality and lowering cost. The managerial and technical support provided by HAM are required to implement the production and purchasing
policies and to aid in garnering cooperation from the suppliers.

Conflict Resolution Ability was the final construct that contributed to cooperation. The ability to discern problems and correct them is critical to cooperation and the success of the alliance. This cooperation component shifts the level of analysis from a macro-level to a micro-level where the individuals that comprise the alliance are considered. According to McCulty (1992), it was imperative to have within each alliance company, individuals with the ability to discern problems that are not verbally spoken. Speaking from the manufacturer's perspective he said:

When a supplier is not totally happy with what is going on, you find that out. They may not directly say it to you, but you can tell by the little side comments they make or the tonality of their conversation with you. You start picking-up on things. (W. E. McCulty, personal communication, Spring 1992)

The cooperation developed as a result of the interaction of the six previously discussed constructs served as the foundation for the three relationship characteristics discovered in the pilot case study. Those three characteristics were Trust and Commitment, Alliance Leadership, and Common Goals.

The combination of trust and commitment was the first of the three characteristics based on cooperation. As defined by McCulty (1992), trust was the belief that the associates of an alliance participant would keep their
word. It was deemed to be a key factor that plays an important part in alliance cohesiveness. McCulty had the following to say about the role of trust in the crankshaft alliance:

The largest single factor [in the relationship] has to be trust because we, don't operate from [written] agreements ... We will be, many times, 18 months into a project before anything other than a confidentiality agreement is signed by anybody. There's no contract, nothing formal in writing between the supplier and the company, so there [has] to be trust. (W. E. McCulty, personal communication, Spring 1992)

Trust appeared to be a requisite for commitment for both the suppliers and the manufacturer. Potential HAM suppliers must possess a high level of commitment to becoming HAM suppliers (W. E. McCulty, personal communication, Spring 1992). Desire and commitment are required because HAM makes stringent initiation demands on those who have aspirations of being HAM suppliers. On many occasions HAM requires the suppliers to provide the initial start-up resources at the suppliers' expense. "We feel that's their commitment: they're buying into the project because they're putting their money into it. The repayment is 15, 20, or 30 years of business, growing, sharing, and learning from us" (W. E. McCulty, personal communication, Spring 1992).

In the HAM crankshaft alliance, trust and commitment were inextricable woven together. McCulty (1992) explained that the suppliers had to believe that HAM was committed to a long-term relationship in order for the suppliers to
respond to the requests HAM made. "They have to know that we're not going to all of a sudden ... say, 'Well, we're sorry we're not going to do business with you and now you're going to have to eat all of those expenses'" (W. E. McCulty, personal communication, Spring 1992).

The next characteristic of the alliance relationship was HAM's role as the leader or coordinator of the alliance. This leadership role was favorably viewed by the suppliers and was considered to be crucial to the success of the relationship, especially during the initiation phase of the alliance. Even in terms of day-to-day maintenance of the relationship, HAM served as a third-party liaison. "If I started having major problems with [MSI], then I would contact [them].... If I did not get satisfaction from MSI, then I would go to HAM and get HAM involved" (B. M. Mallory, personal communication, Spring 1992).

Todd Kelly, a recent replacement for McCulty as a result of McCulty being promoted, is a vital entity in the alliance leadership provided by HAM. A part of Kelly's leadership role is to serve as a mediator or liaison for the other members in the alliance in an effort to keep the relationships focused and going in the proper direction. "A part of the 'glue' that keeps the relationship together is this liaison role" (W. E. McCulty, personal communication, Spring 1992). In this role, Kelly monitors the relationships to ensure that the daily stresses and strains
are being addressed to prohibit the alliance from falling apart. Specifically, Kelly trouble-shoots sources of conflict among the members in the alliance and mediates resolutions.

The final alliance characteristic that emerged from the pilot study was common goals. One of the purposes for developing an alliance is to accomplish the mutually beneficial goals common to the members of the alliance. From the pilot case study, it was determined that the primary common goals for the alliance were the production of a technically superior crankshaft and the attainment of the highest level of customer satisfaction. The latter common goal of the crankshaft alliance is further discussed by Mallory.

We have an extremely close ... relationship with Honda [HAM]. It evolves around customer service. We have certain goals that Honda has asked us to meet. Our job is to meet those goals and communicate [the] problems and issues with Honda that we have [in attaining those goals]. (B. M. Mallory, personal communication, Spring 1992)

A resulting secondary common goal is the desire for improvement of the alliance and the participating companies. In the alliance, improvement is manifested in two ways. First, via the constant refining of the technical skills of the suppliers. Secondly, through the continued development of the relationships among the suppliers and the relationship between each supplier and Honda.
In working toward the goals of the alliance, fair profits for the suppliers and a fair cost for the manufacturer play important roles. HAM addresses these issues during price negotiations and according to the alliance suppliers, approaches it with a sense of fairness.

Cooperation and the three resulting alliance relationship characteristics interact to form a very efficient and effective sociotechnical system whose end result is a high quality crankshaft. This sociotechnical system is a mega-system comprised of five sequential sub-systems, systems A, B, C, D, and E, with each sub-system's output serving as an input for the next sub-system in the sequence (see Figures 1-6).

Each sub-system of the sociotechnical system has two kinds of input variables. The first is a social system input where organizational and human factors of each participating company combine in the form of personnel. The second kind of input is some form of physical material. These two types of inputs are transformed via a technological processes that result in a material output. Again, the end product is the Honda Accord crankshaft.

The input for the steel bar production sub-system (System A, Figure 2) is the need for some quantity of crankshafts at a given point in time. The system is initialized when Al Anthony, the HAM raw materials purchasing associate, places a raw material purchase order
for rolled steel bars with CSC. Working with CSC's Fred Epp, the purchase order is processed and the bar steel is produced.

After the rolled steel bar order has been processed the material is shipped from CSC via truck to TFO Tech. This initiates System B (Figure 3). TFO Tech is responsible for forging the steel bars received from Copperweld into the crankshaft form. In the crankshaft forging process the steel bars are cut into specified lengths called billets. The billets are heated to 2246 degrees Fahrenheit. The heated billets are then sent through a 5,000-ton press and are hit or pressed into a series of dies. The rough-form crankshafts are moved out of the press on a conveyor belt and are loaded onto a cooling conveyor that takes the crankshafts into a cooling room. The crankshafts are further cooled and put into heavy wire bins and shipped to MSI for the next step in the overall process.

In System C (Figure 4), MSI's role in the production of the crankshaft is to normalize the steel in the crankshaft. The forging process makes the steel microstructure non-homogeneous. Normalizing is the use of heat to stabilize or to make homogeneous the microstructure of the steel the crankshaft was forged from. This process returns the steel back to normal and results in a more durable part than a non-normalized steel part.
The crankshafts are received by MSI in heavy wire bins that come directly off the forging production line at TFO Tech. Each bin of 72 crankshafts is tagged with lot control numbers so that the parts can be tracked by lot. The crankshafts are hand-loaded from the bins onto a conveyor belt that feeds the parts through the equipment that performs the normalizing process.

MSI's sister company, Metallurgical & Environmental Testing Laboratories (METL), performs testing for the crankshaft project. One of the testing requirements of the job is a test for hardness of the crankshaft. The hardness of the part is a measurement of its structural strength and the crankshafts must meet specific hardness requirements (K. R. Young, personal communications, Spring 1992). Other HAM-required tests are also run by METL.

Moving on to System D (Figure 5), the crankshafts are shipped back to TFO Tech from MSI for cleaning and final processing. After the various inspections, the crankshafts are loaded into steel containers and sent to HAM's engine plant in Anna, OH.

The Ferrous Machining Department of HAM's Anna Engine Plant is responsible for the final machining and finishing of the rough-form crankshafts it receives from TFO Tech. This constitutes System E (figure 6). The HAM processing of the crankshaft consists of a 24-step, 21-hour process for each lot of crankshafts.
Throughout the machining process, there are multiple quality checks. Any crankshafts requiring rework or scraping in any of the machining stages have been identified and dealt with prior to the final output point in the sociotechnical system. Consequently, the output of System E and the end result of the overall sociotechnical system should be high quality crankshafts ready for engine assembly. At this point, the crankshafts are ready to go to the engine assembly area of the Anna Engine Plant where a crankshaft is placed into a engine block and the engine is built around it.

Objective of the Research

Having identified the purpose and focus of this study, it was necessary to create an objective to address the purpose given the HAM strategic alliance focus. The objective of this research is to accomplish the research purpose by supporting the study's thesis statement. The thesis of this study is that there exist additional relationship characteristics that participants in the HAM alliance construe as being associated with the success of the alliance. If discovered, these characteristics will broaden the understanding of a successful alliance. Additionally, the thesis statement suggests that two of the previously identified relationship characteristics (alliance leadership and trust) can be conceptualized and measured as Likert's Management Systems and Lundstedt's
Interpersonal Risk, respectively. (A discussion of these concepts is contained in the literature review in Chapter II.)

The explicit intention of the investigator is to conduct a systematic investigation of the Honda Accord Crankshaft Strategic Alliance to discover "new" relationship characteristics and to validate and refine the concepts of alliance leadership and trust that previously emerged from the pilot case study. These characteristics or constructs are assumed by the inquirer to be operational. The assumption of operationalism means that "... all constructs of interest can indeed be measured or observed" (Kidder & Judd, 1986, p. 18).

Research Questions

Associated with the main thesis of this dissertation are specified research questions. The following research questions were generated to support the thesis.

1. In the strategic alliance consisting of HAM, CSC, TFO Tech, and MSI, what are the characteristics of the relationship between the partners that contribute to accomplishing the objectives of the alliance and the objectives of each individual participating company?

2. Which of Likert's four management systems is applicable to the focal manufacturer (HAM)?
3. Which of Likert's four management systems is applicable to each of the component suppliers (CSC, TFO Tech, and MSI).

4. What is the level of Interpersonal Risk for each of the key personnel figures in the four participating companies?

The purpose of the first question was to discover any previously submerged relationship characteristics and to contribute to new knowledge of these characteristics. The second and third questions were designed to help validate and refine the concept of alliance leadership. The fourth question was designed to help validate and refine the concept of trust in integral individuals involved in a successful alliance.

Organization of the Study

The remaining portion of this dissertation consists of four chapters. Chapter 2 contains the literature review. The purpose of this chapter was to establish an appropriate theoretical framework that would provide the general context through which the investigator would view the strategic alliance phenomenon. The second purpose of the literature review was to identify an appropriate study population given the theoretical framework. The third purpose of the literature review was to review what was currently known about the characteristics of successful strategic alliances.
The purpose of Chapter 3 was to establish the research methodology required to link the research questions to the empirical data and thus facilitate answering the research questions. Chapter 4 contains the results of the data analysis and a discussion of the findings. Chapter 5 contains a summary of the study, the study's conclusions, the recommendations for practice and for further research.
Figure 1: Summary of the HAM Accord Crankshaft Alliance Interdependent Sociotechnical System
Figure 2: System A - Steel Bar Production
Figure 4: System C - Steel Normalization and Testing
Figure 5: System D - Cleaning and Final Inspection
Figure 6: System E - System Machining
CHAPTER 2

REVIEW OF THE LITERATURE

Introduction

As previously discussed, this study's purpose requires the discovery of new knowledge. Given this fact, it was necessary to develop an understanding of the purpose of a literature review in a discovery study. Discovery research requires the investigator to make sense of a research setting as it exists in the experiences of those individuals that comprise the setting (Lincoln & Guba, 1985). (A thorough discussion of this issue is presented in Chapter 3.) There was a need to extract from the research setting what was actually there without imposing preexisting expectations or preconceived notions on what the researcher expected to find.

This caution was taken into consideration in every aspect of the research process, particularly during the literature review. Extreme caution was taken to prohibit, as much as is humanly possible, the development of bias resulting from exposure to the literature. There must be a conscientious attempt to bring as few presumptions and as
little preconceived structure to the study as possible (Locke, Spirduso & Silverman, 1987). The goal was to understand the subject phenomenon in light of the theoretical framework that evolved during the research. The intent was to not be constrained by previously developed theory on interorganizational relationship characteristics. Consequently, the investigator in this discovery-oriented study perused the existing literature to initiate some preliminary questions or allow some foreshadowing of problems and relationship to direct the initial focus of attention.

For this inquiry, the review of literature was conducted to accomplish three things. The first was to establish an appropriate theoretical framework that provided the general context through which the investigator viewed the phenomenon of strategic alliance (Long, Convey, & Chwalek, 1985; Locke; Spirduso & Silverman, 1987). Long, Convey, & Chwalek (1985) speak of the purpose of a theoretical framework:

The theoretical framework of your study is the structure you impose on the information that you have collected about your problem. This framework provides the context of your study, its rationale, and its significance. The ingredients for your theoretical framework come from your analysis, synthesis, and evaluation of the literature plus your own insights into the problem. (p. 33)

The second purpose was to identify an appropriate population given the identified theoretical framework. The final purpose was to stimulate theoretical sensitivity to
the concept of interorganizational relationship characteristics. The intent was not to enter the field with a completed list of characteristics nor be so steeped in the literature that the exposure would stifle and constrain the intended discovery process. (To prevent this, the data collection process for the new characteristics discovery portion of this study was conducted prior to the review of literature on the interorganizational relationship characteristics. The rationale being the desire not to bias what would emerge from the data collection and analysis processes.) The purpose for subsequently reviewing the literature on relationship characteristics was to validate the need to pursue additional knowledge of the two characteristics (leadership management and trust) that emerged from the 1992 pilot case study and thus give credence to the second part of the study's research objective.

The first section of this chapter contains the discussion of the literature that developed the general theoretical context for understanding a strategic alliance. This was achieved by analyzing and synthesizing theoretical and conceptual findings in the areas of organizational theory, organizational interdependence, and strategies for altering interorganizational interdependence. In the second section a discussion of an appropriate population given the theoretical framework of the strategic alliance is provided.
The third section of this chapter contains the findings of the literature review on interorganizational relationship characteristics.

**Theoretical Framework**

**Organizational Theory** Because of the problems with the strategic alliances literature discussed in Chapter 1, it would be inappropriate to develop a theoretical framework from that literature base. Consequently, the conceptual development was rooted in the literature of a general category of interrelationship among organizational units. This general category is the interorganizational relationship. An interorganizational relationship occurs when two or more organizations transact resources (money, physical facilities and materials, customer or client referrals, technical staff services, etc.) among each other. The strategic alliance can be viewed as a special subset of interorganizational relationship. Therefore, the use of interorganizational relationship literature to develop this study's theoretical framework was applicable to the strategic alliance phenomenon.

An interorganizational relationship can be complex. In complex phenomena, the use of the analytical approach (the reduction of a complex entity into its constituent parts) is traditionally applicable. Yet, it is also important to note that synthesis of complex phenomena is required. The whole can prove to be more than the sum of the constituent parts.
This means that a mere summation of isolated parts will not equate to the phenomenon taken as a whole. This special notion of holism requires an approach where there is an attempt to view the whole with all its interrelated and interdependent parts in interaction. Consequently, both analysis and synthesis were required.

Given the need for synthesis, the complex strategic alliance can be understood as a system (Emery & Trist, 1965; Schoderbeck, Schoderbeck, & Kefalas, 1985). A system is defined as "a set of objects together with relationships between the objects and between their attributes related to each other and to their environment so as to form a whole" (Schoderbeck, Schoderbeck, & Kefalas, 1985, p. 12). This definition of system has its roots in General Systems Theory (GST). Proponents of GST are dedicated to the creation of "... a science of organizational universals or ... a universal science using common organizational elements found in all systems at a starting point" (Scott, 1961, p. 20). General systems theory has the following properties: (a) interrelationship and interdependence of objects and their attributes, (b) holism, (c) goal seeking, (d) inputs and outputs, (e) transformation process, (f) entropy [the amount of disorder present in the system], (g) regulation [management of the system to achieve the system's objectives], (h) hierarchy, (i) differentiation [specialized units performing specialized functions], (j) equifinality
[equally valid alternative ways to reach the same objectives] (Litterer, 1969).

A review of organizational theory literature indicated the existence of various models and metaphors to explain the phenomena of complex organizations. The study of large organizations in the United States and Western Europe usually incorporates the use of one of two dominant schools of thought; the closed-system and the open-system (Thompson, 1967) which have their basis in GST.

The application of a systems approach to complex business organizations was initiated by Barnard (1938). Barnard was one of the first management writers to conceptualize the organization as a system (Jemison, 1981a). The open-system school of thought is based on biologist von Bertalanffy's (1950) use of a living organism as a model for understanding complex organizations. "The systems approach builds on [the] principle that organizations, like organisms, are 'open' to their environment and must achieve an appropriate relation with that environment if they are to survive" (Morgan, 1986, p. 44).

In general, an open system is defined as those in which resources pass from the environment into the system itself (Schoderbeck, Schoderbeck, & Kefalas 1985). An organization is "open" to its external environment to the extent the internal operations of the firm affects and is in turn affected by the external environment (Boseman & Phatak,
1989). Underlying the open-system school of thought is a critical assumption. This assumption is that open-system organizations function in "environments" and that the organization interacts with environment and the other organizations contained in that environment. It is further assumed that individuals are separate from their environment and have the ability to "step outside" the environment and analyze it.

Morgan (1986) identifies three key issues open-systems address. The first issue is that of establishing congruency between the different subsystems that comprise the organization. The main emphasis in this issue is the elimination of potential dysfunctions due to the mismatching of the subsystems.

The second issue focuses on the organization being defined in terms of interrelated and interacting subsystems. "Organizations contain individuals (who are systems on their own account), who belong to groups or departments, which belong to larger organizational divisions" (Morgan, 1986, p.45).

The final issue emphasizes the environment and how an enterprise must organize with the environment in mind. A review of the previous definition of a system, leads to a better understanding of the concept of environment. The definition of system incorporates the concept of a set of objects. A set is a collection of elements classed
together. What is in the set is distinguishable from what is not included in the set. The demarcation where the set begins and where it ends can be referred to as the system's boundary. What is internal to the boundary is the system itself. That which is external to the boundary is considered the environment. An environment is the realm of existence external to what has been defined as the "organization".

Two types of environments have been identified for organizations. The first is the task environment that is defined by the organization's interaction with customers, competitors, suppliers and the government. The second environment is the general environment which is the larger contextual environment the organization engages in. The task environment is subsumed in the general environment.

The closed-system approach has its roots in classical management theory which embraces the idea that management is a process of planning, organizing, commanding, coordinating, and controlling (Morgan, 1986). Classical management theorist believe that the purpose of a business organization is to attain the highest economic efficiency. The structure of such an organization and the management system used is deliberately designed to attain this efficiency. The philosophy supporting this organizational approach assumes that the organization is a self-contained, logical,
and orderly unit that is not affected by the uncertainties of the environment in which it exists.

Strengths and weaknesses of these economic-efficiency type organizations exist. The primary strength of this type of organization exists under circumstances where logic and order are in existence, such as in large manufacturing environments. However, in environments that are not logical and orderly these organizations have severe limitations because of the inability to adapt to change in the environment.

The open- and closed-systems designations led to the creation of two "pure" forms of organization. This has resulted in the polarization of organizational analysis and created a continuum on which an organization can be placed or categorized. Given the definition of strategic alliances utilized in this study, it follows logic that the strategic alliance phenomenon falls within the realm of the open-system approach to organizational analysis.

Due to the nature of a strategic alliance there is a call for an open-system approach to understanding this phenomenon. This allows the researcher to simultaneously analyze the relationships between and within the organizations (Borys & Jemison, 1989). The use of the metaphor of an organization as an organic open system provides the foundation for analyzing the organization as an open system.
A strategic alliance can be viewed as one open system interacting with other open systems in symbiotic relationships within a given environment. Therefore, the contributions of organizational theorist who view the organization as an open system provide important principles to apply to the understanding of strategic alliances. This approach was adopted for use in this study as a vehicle through which conceptual understanding of the HAM Accord Crankshaft Alliance would be enhanced.

**Organizational Interdependence** The impact of the environment on an organization has been widely noted (Thompson & McEwen, 1958; Katz & Kahn, 1966; Buckley, 1967; Evan 1966; Dill, 1958). There has been a great deal of literature generated attesting to the importance of external environment to the behavior of organizations (Aldrich, 1976; Aldrich & Pfeffer, 1976; Jacobs 1974; 1967; Pfeffer & Salancik, 1978; Thompson, 1967). The connection between the environment and the behavior of an organization are of central importance to the understanding of interactions between organizations in an environment. Having developed the organization-environment nexus, it was necessary to define the nature of the interaction between organizations in an environment.

Over the years, the development of various conceptual frameworks has assisted scholars in understanding interorganizational phenomena. Two major theoretical
perspectives that emerged to help more fully explain interorganizational activity include human ecology (Hawley, 1950) and organizational exchange (Jacobs, 1974; Levine & White, 1961; Blau, 1964; Cook, 1977; Benson, 1975), which is the basis of the resource dependence model (Aldrich, 1976, 1979; Pfeffer and Salancik, 1978; Aldrich and Pfeffer, 1976;). "Based on this perspective, cooperative interorganizational relationships will be formed as a managerial response to the need for critical resources controlled by others in the environment" (Provan, 1984, p. 494).

The basic thesis of these seminal works is that the interactions between organizations within an environment can be interpreted in terms of the resource requirements of each of the organizations. That is to say, all organizations are dependent, to some extent, on other organizations in the external environment. This dependency is due to the control by one organization of the resources needed by another organization to function and survive. Pugh and Hickson (1989) suggest that organizations are not self-directed and autonomous. They need resources including money, materials, personnel, information, specified products or services, regulatory approval, etc. If each organization is incapable of full self-sustenance and other organizations in the environment possess the resources needed by a given organization, then each organization must, to some degree,
depend on other firms to help supply its required resources. To get these, they must interact with others who control the resources. The institution's survival and autonomy are threatened if the resource dependencies are too great. Therefore, organizations must manage the dependencies to accomplish their goals (Kotter, 1979). This line of reasoning is the foundation of the concept of organizational interdependence.

Based on the work of Fombrun & Astley (1982) and Pennings (1981), it can be concluded that three types of organizational interdependence can be distinguished. The first is horizontal interdependence which "... exist when all members of an organization-set compete with each other in obtaining similar resources and disposing of similar goods and services" (Pennings, 1981, p. 434). In this type of interdependence the inputs into the organizational systems and the outputs are the same or similar and typically exists between firms competing in the same market. Thompson and McEwen (1958) referred to this as competitive interdependence. Astley & Fombrun (1983) and Dollinger (1990) used the term commensal for this type of competitive relationship where firms are of the same type and level in the production chain.

The second type of interdependence is referred to as vertical interdependence and exist "... between firms operating in different markets but linked by sequential work
flows where the output of one is the input for the other" (Bresser & Harl, 1986, pg. 408). Thus vertical interdependence is sequential existing among organizations located in different stages in the production of a good or a service (Pennings, 1981).

Finally, the third type of organizational interdependence is symbiotic interdependence. This type of interdependence occurs when firms complement each other in providing their goods and services to their respective customers. Pfeffer and Nowak (1976) confirm this by suggesting that symbiotic interdependence exists between organizations vertically related in a production process. The relationship among symbiotic interdependent organizations is typically characterized by complimentary resources and output. These organizations generally do not manipulate each other to optimize individual growth or survival but rely on collaboration (Pennings, 1981). Dollinger (1990) suggests that symbiotic interdependence refers to relationships between firms of different types, usually customers and suppliers.

Strategies Having identified the major types of organizational interdependence, it was necessary to discuss how organizations manage the interdependence through the utilization of strategies. Before delving into the discussion of the various interdependence-altering strategies, it is important to briefly discuss the process
through which organizations develop strategies. This process is referred to as strategy formulation.

Probably, the most universally-used model of strategy formulation is that developed by Hofer and Schendel (1978). In addressing the issue of strategy formulation, Hofer and Schendel first defined strategy as the match between an organization's resources and skills and its environment's risks and opportunities. Hambrick (1980) and Mintzberg (1978) define strategy as a pattern of important decisions that (a) guides the organization in its relationship with its environment, (b) affects the internal structure and processes of the organization and (c) affects the organization's performance.

Hofer and Schendel (1978) viewed strategy formulation as unstructured problem-solving which consisted of the (a) identification of issues, (b) generation of alternatives, (c) evaluation of the generated alternatives and (d) the selection of an alternative. (They did not include goal formulation nor strategy implementation as a part of strategy formulation.)

From the definition of strategy and the distinction of different strategy levels (functional, business, and corporate) Schendel and Hofer (1979) conceptualized the strategic management phenomenon. There are six major tasks in the managing of strategy. They are (a) organizational goal formulation, (b) environmental analysis, (c) strategy
formulation, (d) strategy evaluation, (e) strategy implementation, and (f) strategic control or evaluation.

Building on this model, others have identified the relationship between the internal and external environments as central to the theme of strategic management (Christensen, Andrews, Bower, Hamermesh, and Porter, 1982). Jemison (1981b) defines strategic management as "... the process by which general managers of complex organizations develop and use a strategy to co-align their organization's competencies and the opportunities and constraints in the environment" (p. 633). The strengths, weaknesses, opportunities, and threats are evaluated relative to the organization's mission, goals, and objectives. This evaluation results in the development of various strategies. These strategies are the avenues through which the firm, given its internal and external circumstances, can achieve its particular strategic ends. The strategies are evaluated and a selection is made for implementation (Mintzberg, 1990).

Utilizing the strategy formulation process, managers of complex organizations can develop strategies that address the interdependence their organizations face in their environments. Scholars have identified several categories of strategies to assist an organization in balancing the interdependencies that exist in a given environment. Pfeffer and Nowak (1976) refer to interdependence altering
strategic options as interorganizational linkages which enable organizations to control the constraints and contingencies confronted by them in their environments.

The first strategy to be discussed is that of adaptation. Adaptation is a concept rooted in biology and refers to the ways in which alignment or fit is achieved between systems. In applying this concept to organizational systems, Pfeffer and Salancik (1978) suggest adaptation means to adjust or conform to the external constraints by developing the ability to manage the interdependence as it exists and to then function in a manner that leads to the attainment of strategic objectives. Selznick (1949) realized that organizations must come to terms with their environments and termed the mechanism that realized this accommodation as coaptation. Dunford (1987) terms this strategy as absorption where a firm reduces interdependence through relocating in an environmental niche where dependency is reduced or resources are increased. Absorption mitigates the negative consequences of other organizations. Adaptation is also accomplished through organization design by (a) creating separate functional subunits to deal with external dependence, (b) centralizing or decentralizing decision-making, and (c) engaging in horizontal or vertical integration of activities (Fottler, Schermerhorn, Wong, & Money, 1982)
Political action is also a strategy used to govern and stabilize interorganizational relations (Bauer, Pool, & Dexter, 1963; Hall 1969). One way in which organizations have attempted to orchestrate control over the interdependencies in their economic environments is to obtain favorable conditions through political means. Pfeffer (1985) noticed that organizations will often use strength or power developed in one environment to obtain more favorable conditions in another environment. Other methods of applying this strategy are the utilization of government and judicial channels (Dunford, 1987).

Another strategy an organization may use to balance its dependencies in the environment is that of altering the interdependent relationships. The methods of balance are via diversification and growth (Pfeffer and Salancik, 1978), interlocked boards of directors (Dooley, 1969; Levine, 1972; Pfeffer, 1972a); personnel flows (Baty, Evan, and Rothermel, 1971; Pfeffer and Leblebici, 1973; Pennings 1981; contractual and non-contractual relations (Macaulay, 1963), mergers (Pfeffer, 1972b; Pennings, 1981), and joint ventures (Aiken & Hage, 1968). All are viewed as ways in which the interdependent relationships can be altered.

Pennings (1981) suggests another category of interdependence-altering strategy is what he terms forestalling. Forestalling prevents or controls the emergence of unpredictable behavior of other organizations.
via merger, joint venture, innovation, product
differentiation, regulation, and overlapping membership.
Khandwalla's (1981) work on interdependence altering
strategies can be used to support Pennings concept of
forestalling action. Khandwalla's confederate and conjugate
strategies are further specifications of forestalling
action. The confederate strategy is viewed as an attempt to
avoid competition through point pricing, uniform price
lists, standard costing and product standardization
(Khandwalla, 1981). The conjugate strategy is a network
that has contractual and legal sanctions and include
arrangements such as joint ventures, corporate board
interlocks, vertical integration, research and development
(R&D) partnerships, etc.

Finally, the last strategy is negotiation and involves
the development of relationships among the interdependent
organizations such that the entities can negotiate the terms
of their relationships (Pfeffer and Salancik, 1978). This
entails negotiation of dependence through collaborative
arrangements with other organizations in the environment
(Dunford, 1987).

Warren (1967) noted that the specific means used to
facilitate interorganizational coordination may vary as
conditions in the interorganizational field vary. The
selection of an interdependence-altering strategy is
contingent upon the organization's strategic goals, the pros
and cons of a given option, and the type of interdependence an organization faces. Given the varying strategy options an organization can employ and the variables that will influence the strategy choice, it was important to delineate the strategy applicable to this study's purpose.

In adopting an interdependence-altering strategy a manufacturing firm such as Honda of America Manufacturing, Inc. must make that choice with its manufacturing function strategy in mind. Hayes and Wheelwright (1984) make a clear distinction between two kinds of choices a firm may make in positioning itself in its environment. The first kind of choice is the product position which concerns the portfolio of markets in which the firm sells. The second kind of choice is process positioning which entails strategic decisions concerning the means chosen for production, logistic, R&D, distribution, etc. This latter choice is the focal point of the manufacturing strategy. Decisions are made by the management of every industrial organization as to internalize the means of production or not. "Almost every company at some time faces the question of whether to broaden the span of its operations, that is to be responsible for more of its products final market value" (Barreyre, 1988, p. 507).

In response to addressing the previous question, managers typically select between internalizing the entire manufacturing process or handing over the responsibility of
all or portions of it to other firms. This is the classic "make or buy" decision which is a much studied subject in the marketing discipline, specifically in the area of industrial purchasing. The author deemed it unnecessary to incorporate in this text a formal review of the voluminous literature in the area of industrial buyer-seller relations but felt it necessary to raise the issue of the "make or buy" decisions as it is an underlying principle of the strategic alliance under study.

The decision to delegate portions of the manufacturing process to external firms and the resulting arrangements stemming from that decision range from agreements based in short-term, arms' length contracts to long-term, non-contractual, cooperative partnerships. In fact Barreyre (1988) refers to the deliberate choice of delegating manufacturing processing external to the firm as "impartition" (also know as outsourcing). This option is made in order to allocate the resources of the firm to activities which seem more profitable for it or more congruent with its strategic objectives. The key distinguishing characteristic of impartition is a cooperative attitude in dealing with impartees (partners) in the arrangement.

Impartition is the method used in the application of a general interdependence-altering strategy termed a collective strategy. Collective strategies are defined as
"systematic response by a set of organizations that collaborate in order to absorb the variation present in their environment" (Astley & Fombrun, 1983, p. 580). Yet another definition suggests that a collective strategy "attempts, by sets of organizations, to manage their mutual interdependence and the system dynamics of their interorganizational environment" (Bresser, 1988, p. 375).

Bresser and Harl (1986) defined collective strategy as " . . . a systemic approach by collaborating organizations to deal with the variation in their interorganizational environment" (p. 408). Dollinger (1990) states that the collective strategy is the attempt to overcome strategic weakness through interorganizational and collective activity. He further suggests that the collective strategy represents a search for predictability and stability, and is an attempt to control the environment and to negotiate order among organizations.

Population

When taking into consideration the issue of impartition and collective strategy, an appropriate research population would have to meet certain minimum criteria. The population must (a) engage in a complex, multiple-process, manufacturing activity, (b) have made the decision to delegate portions of the manufacturing process to external firms, © have the ability to engage in a cooperative
relationship with the providers of the external manufacturing service.

The automobile manufacturing industry meets all of the criteria. The first criterion of engaging in a complex manufacturing activity is evident. An automobile is a complex product possessing some five thousand components, which can be disassembled into more than twenty thousand individual pieces (Odaka, Ono, & Adachi, 1988). In general, the whole process of auto production is divided into processes that are self-contained and independent of each other. The sub-processes consist of either the manufacture of complete parts and components (e.g., bolts and nuts, shock absorbers, spark plugs, etc.) or industrial services process (e.g., plating, painting, etc.). The entire automobile manufacturing process can be broken down into multiple specialized operations. These operations can be done either internally ("make") or subcontracted out ("buy" or "outsourcing").

Having established the potential for subcontracting portions of the overall manufacturing process, the second criterion was addressed. Subcontracting favorably increases the economic efficiency of the auto manufacturer by (a) reducing inventory cost, (b) achieving a higher utilization rate of its production facilities and (c) promoting competition among suppliers (Odaka et al., 1988). For the supplier, some of the benefits include (a) developed
independent engineering capabilities, (b) transfer of technology and technological support from the manufacturers, (c) acquisition of new managerial skills, (d) financial support, and (e) stable production volumes. Given the benefits of subcontracting, it is evident that the manufacturing industry engages heavily in subcontracting. Ramsay (1990) reports that the general manufacturing industry allocates an average of 60% of total cost to purchased materials and services. The global automobile manufacturing industry's proportion of supplies and assemblies that are bought external to the firm is more than 50% (Turnbull, Oliver, & Wilkinson, 1992; Shimokawa, 1994).

The result of such a high percentage of outsourcing is that subcontracted components are major cost items in the production of automobiles. Consequently, buyer-supplier relationships have a significant impact on the efficiency and competitiveness of the automobile manufacturers. Turnbull, Oliver, and Wilkinson (1992) suggest that the competitiveness of any manufacturing firm is determined by two major factors, namely the internal efficiency and the management of external relationships, with respect to both customers and suppliers. The ability to engage in a cooperative relationship with the providers of the external manufacturing service (i.e., suppliers) is the third criterion to be met by a population appropriate for this study. Thus, the remainder of this section will develop the
automobile manufacturing population's ability to meet this criterion.

A review of the evolving buyer-supplier relationship in the automobile manufacturing industry was warranted in order to understand how the current status of these relationships met the third population criterion. Historically, automobile buyer-supplier relationships in the western industrialized countries were characterized by stable, high-volume, low variety production. The competitiveness of the supplier's price was the primary criterion used by manufacturers in awarding supplier contracts. Typically, suppliers based their bids on design specifications handed down from the manufacturers or the supplier and would design the component with little to no collaboration with the manufacturer. Regardless of the option taken, the design effort tended to be one-sided. After selecting the supplier based on the lowest bid and appropriate delivery times, the relationships typically progressed at an even-keel until reactive measurers were required for unforseen or unanticipated problems. The relationship, although not optimal, was beneficial for both parties. The manufacturers secured good prices and the production volumes on the subcontracted parts and assemblies were stable enough to allow reasonable capacity utilization on the behalf of the supplier while providing adequate profit margins for both parties (Turnbull et al., 1992).
By the mid-seventies, the emergence of the first Middle East oil crisis, the automobile manufacturing industry was faced with an overwhelming demand from its consumers for small, fuel-efficient models. This change in consumer demand resulted in a negative effect on the already mediocre buyer-supplier relationships. Turnbull and his associates (1992) describe the environment of the automotive buyer-supplier relationship as follows:

Under a more competitive environment and more unstable operating conditions, the traditional buyer-supplier relationship came under increasing stress. Raw material prices and energy cost were increasing at a time when motor manufacturers were seeking to reduce cost, and component prices became an obvious target for cost reduction. (p. 162)

Western supplier relations tended to be openly adversarial in nature, relying of multiple suppliers to provide a kind of buffer against supply interruptions. The reliance on multiple suppliers allowed the manufacturers the ability to develop power over their suppliers through competitive pressures (Ramsay, 1990). Manufacturers began to realize the cost advantages of multiple sourcing which, for the suppliers, put further downward pressure on prices. But multiple sourcing only reduced the production volumes of the suppliers which helped to exacerbate the adversarial relations between the suppliers and the manufacturers. This environment resulted in manufacturers making demands for more and more cost concessions from the suppliers. Unable to concede to the demands of the manufacturers and faced by
stiffer competition in the supplier community many suppliers faced the possibility of liquidation and bankruptcy.

Through the remaining 1970s and the 1980s a wide array of forces tested the limits of the automotive supplier. According to Pochiluk and Snyder (1992) suppliers had to come to terms with the following in their competitive environments (a) increasing worldwide competition, both low-wage and high-technology; (b) severe credit crunches; (c) a sustained recession in the North American light vehicle market; (d) globalization; and (e) rapid technology changes.

Coming to the realization that the then current buyer-supplier relationship was not beneficial to either party, many manufacturers began experimenting with various new approaches to supplier relations, such as supplier-base reduction, single or limited sourcing arrangements, and tighter integration with supplier planning and scheduling (DeRose, 1987). The focus of the manufacturers began shifting toward reducing parts and assembly unit cost by changing the nature of the relationship between the two parties. By shifting from multiple supplier, low-bidder, short-term contracts to long-termed partner relationships with one or a few suppliers, unit cost could be reduced. This could be achieved via "partner" resolution of design issues, technical difficulties, scheduling problems, etc. through a process of cooperation rather than adversarial relations.
The "new" relationship between suppliers and buyers in the automobile industry was characterized by:

...far greater dependency as it involved suppliers in design, research and development work, and quality control and this in turn facilitated more commitment from suppliers by allowing them to engage in more forward planning. Greater commitment and dependency were also signaled by the motor manufacturers awarding larger, longer-term contracts to suppliers often as the sole or "preferred" supplier of the components in question. (Turnbull et al., 1992, p. 163)

The shift in the buyer-supplier relationship paradigm suggested a move from adversarial, short-termed relations to more cooperative, long-termed relations. Karlsson (1989) noticed that in the U.S., the trend was for automobile manufacturers to have fewer direct suppliers which resulted in a hierarchy of suppliers. "Such a development ha[d] already come far in Japan and [was] on its way in the Western World" (Karlsson, 1989, p. 187). This "new" buyer-supplier relationship was viewed as more like the Japanese model of buyer-supplier relationships. The Japanese model of supplier relations, characterized by a very high degree of dependency between organizations is summarized by Turnbull et al. (1992).

In Japan, motor manufacturers have a largely dedicated supplier base consisting of an industrial grouping (or kyoryokukai) of affiliated companies. The major suppliers in turn create groups of subcontractors, usually to perform the more labor intensive operations. Thus there are 11 vehicle manufacturers in Japan and approximately 1,400 parts suppliers, around 500 or [sic] whom are 'first tier' suppliers. These 500 companies supply approximately 85 percent of the parts needed by the motor manufacturers and are
closely involved as 'sole suppliers' in product development work, design, and technology transfer. These suppliers each in turn depend on a group of around 20-60 subcontractors, while a tertiary group of subcontractors numbering more than 10,000 perform simple press work, cutting, welding, forging and casting. Each individual motor manufacturer therefore stands at the top of a pyramid of suppliers through which they effect operational coordination via a system of 'vertical contractual dependence'. . . . (p. 163)

As a result of this subcontractor system, Japanese manufacturers are viewed as having developed exemplary relationships with those entities with whom they subcontract (Ouchi, 1981; Schomberger, 1982). The view of the relationship between Japanese manufacturers and their suppliers is that of "everlasting, supplier-partners" (Hayes, 1981). Hayes further suggest that the objective of the partnerships is a mutually beneficial long-term relationship or what is referred to by many Japanese managers as a co-destiny. "One cannot but notice the leading role played at present by Japanese firms in these relatively new symbiotic strategies". The high performance of the Japanese auto makers is credited in part to "very efficient manufacturing and materials management based on a reliable network of parts suppliers: in other words, effective partners with whom they are closely associated (Barreyre, 1988, p. 519).

The shift toward the Japanese-style of supplier relations is not without its critics. The primary complaint against the model is the development and use of a large
network of small cottage industries that supply a hierarchy of upper-tier suppliers and the unequal balance of power between the large and small companies. Large sections of Japanese industry rest on a foundation of very low cost, subcontracted cottage or "home" labor. The majority of Japanese firms are small businesses consisting of home workers, one-person businesses, and small family enterprises subcontracting to much larger organizations. Some critics (Ramsay, 1990; Shimokawa, 1994) draw the conclusion that significant numbers of single-source Japanese suppliers inevitably find themselves in weak bargaining position with respect to their much larger customers. Large differentials exist in pay between large and small firms in Japan. When an economic downturn occurs, the smaller companies often bear the brunt end of reduced volume (Turnbull et al., 1992; Shimokawa, 1994). Dore (1987) suggests that the obligations of the automotive Japanese buyer-supplier relationship are unequal and that the subcontractor has to show more earnest good will, more "sincerity" to keep its orders than the parent company to keep it supplies.

Ramsay (1990) summarizes this line of criticism as follows:

It would appear that the Japanese business veneer of courtesy, tolerance, and good will may occasionally conceal an interior of considerable ruthlessness. And we may tentatively conclude that although Japanese trading relationships have been offered up as shining examples of the cooperative ideal, in practice the balance of power in many, if
not most of these relationships is heavily weighted in the buyer's favor. (p. 10)

Criticism withstanding, the nature and structure of the Japanese automotive subcontractor hierarchy is well entrenched in the Japanese automotive industry. The advantages obviously outweigh the disadvantages given the success the Japanese have had is using this model of supplier relations. The apparent success of the model has attracted the attention of American automobile manufacturers. General Motors, Ford, and Chrysler are all adopting and adapting for American use the Japanese model of supplier relations. "Big Three automakers, anxious to preserve the health of a solid, though smaller, corp of supplier companies, are working with the most flexible suppliers" (Pochiluk & Snyder, 1992, p.1). Furthermore, the growing number of transplanted Japanese manufacturers and suppliers and the close ties of Japanese automakers to their domestic component suppliers are the two major reasons for their penetration and acceleration in the U.S. auto market (Alster, 1989). The response to this development by American suppliers and manufacturers was to engage in more collaborative efforts.

The utilization of an adapted Japanese-styled model by American auto manufacturers was expedited by the presence of Japanese transplant automobile manufacturing facilities in the U.S. (e.g., Toyota, Mazda, Honda, Nissan, Diamond-Star, Subaru-Isuzu). A leader in the approach to building and
improving the manufacturer-supplier relationship in the U.S. was Honda of America Manufacturing, Inc. HAM was among the first in the wave of Japanese transplants to seek North American suppliers (Pochiluk & Snyder, 1992). Honda's large scale transfer of parts sourcing for North American manufacturing operations from Japanese to North American suppliers and Japanese transplant suppliers has been largely successful with few failures (Pochiluk & Snyder, 1992). HAM's supplier relations philosophy is anchored in Honda's philosophy of building cars in the markets where they are sold and to purchase parts from suppliers in those markets whenever possible.

As demonstrated in this section, the automobile manufacturing industry provided an appropriate population through which the central problem of this study can be addressed. More specifically, within the large automobile manufacturing population, Honda of America Manufacturing, Inc. was an appropriate case study sample given its apparent success in supplier relations.

**Interorganizational Relationship Characteristics**

Hunt, Ray, and Wood (1985) conducted an extensive review and synthesis of the literature on the behavioral dimensions of interorganizational relations. The result of the review suggested the behavioral dimensions most commonly researched were (a) bargaining, (b) conflict, (c) cooperation, (d) power, (e) performance, (f) member
roles, (g) member satisfaction, and (h) political economy. The authors concluded:

Conflict and power have received the majority of research attention to the neglect of other behavioral constructs. For this reason, . . . cooperation, performance, roles, and satisfaction constructs previously found to be useful in behavioral research merit investigation. . . . (Hunt, Ray, and Wood, 1985, p. 17)

Given the previous advice and the results of the pilot case study, several specific characteristics of interorganizational relationships were selected for further examination. Cooperation, trust, and interorganizational management, were selected because they either (a) have their origin in the established theoretical framework, (b) warrant further study as suggested by Hunt and associates, and/or (c) assist in the understanding and conceptualization of the two relationship characteristics discovered in the pilot case study. A discussion of each characteristic ensues.

Cooperation and Trust Interorganizational cooperation is rooted in the human ecology, social exchange theory and resource dependence models (Dollinger 1990). In social exchange theory cooperation and trust are viewed as mechanisms used to explain why organizations engage in interorganizational activity. Some scholars have suggested social exchange theory as a framework for the analysis of cooperation and trust in buyer-seller relationships (Dwyer, Schurr, and Oh, 1987). Consequently, there is little surprise that the vast majority of research on these
interorganizational relationship characteristics among industrial organizations is contained in marketing literature. This literature utilizes the buyer-seller population in general and the distribution channel population in particular as focal contexts.

Logic dictates that organizations cannot develop and maintain successful collaborative efforts without a reasonable relationship existing between them. This notion has been noticed by scholars as there is a growing literature on interorganizational cooperation. However, the body of literature resulting from this attention is not without its criticism. This literature is criticized for "theoretical insufficiency" and for a lack of empirical research (Schermerhorn, 1975). Additionally, Schermerhorn complains of the failure of researchers to integrate their contributions with those contributions of others in the field. Criticism aside, the concepts of cooperation and trust are of great importance to interorganizational relationships, given the nature of social exchange and dependence that exists among organizations in this kind of relationship (Provan, 1984).

To enhance an understanding of the cooperation characteristic, it is necessary to address some conceptual confusion that stems for the various terms used to denote interorganizational cooperation (e.g., organizational interdependence [Aiken & Hage, 1968]; component
interdependence [(Baker & O'Brien, 1971); cooperation [Gueztkow, 1966]; exchange [Levine & White, 1961)]. The variability in the terms forces the observer to question the central underlying concept. According to Schermerhorn, (1975) the lowest common denominator in all of the terms is organizational interdependency. "Accordingly, interorganizational cooperation may be defined as the presence of deliberate relations between otherwise autonomous organizations for the joint accomplishment of individual operating goals" (Schermerhorn, 1975, p. 847).

The seminal works on interorganizational cooperation support several propositions that can be placed into two categories. They are the motivation to cooperate and the associated cost of cooperation (Schermerhorn, 1975; Provan, 1984). Concerning the former category, the first proposition is that organizations are motivated to cooperate when faced with situations of resource scarcity or poor performance (Evan, 1965; Levine & White; 1961; Thompson & McEwen, 1958). The next proposition addresses the issue of value expectancy, and its creation of the feeling that cooperation is a valuable activity (Schermerhorn, 1975). If individuals in an organization value cooperation, this value is said to be a factor in motivating cooperation at the organizational level (Evan, 1965; Guetzkow, 1966). Finally, the last motivator is the demand on one organization for

The second category of propositions supported by the classical literature on interorganizational cooperation is the associated costs of cooperation. The literature provides three observations regarding these potential costs. The first associated cost is the loss of autonomy. The mere act of engaging in interrelated activities with one or more organizations is are obvious infringements on operating and decision-making autonomy of each organization and represent a cost of cooperation (Thompson & McEwen, 1958; Aiken & Hage, 1968). The second cost is the potential for unfavorable ramifications on the organizations' images. Some cooperative efforts may negatively affect organization prestige, identity, or strategic position (Gueztkow, 1966; Levine, White, & Paul, 1963).

The final cost comes in the form of the requirement of direct expenditure of organizational resources. Cooperation among interorganizational participants requires resources to develop and maintain the relationship (Litwak & Rothman, 1970). Some examples of resource expenditures in interorganizational cooperation include the cost of transportation and communication (Gueztkow, 1966), the cost of organizational coordination (Aiken & Hage, 1968), and the cost of time (Reid, 1964).
Based on the previous discussion one could surmise that those theorists who contributed to the foundational literature on interorganizational cooperation emphasized the impact of interdependency, defined as organizations' willingness to cooperate when they depend on each other or share assets. At the individual level of analysis, the interactive approach suggests that interorganizational cooperation develops in the context of a specific relationship and unfolds through ongoing interaction between individuals (Cook, 1977; Levinthal & Fichman, 1988; Van de Ven & Walker, 1984; Zeitz, 1980; Kumar, Stern, & Anderson, 1993; and Ring & Van de Ven, 1994). Interactive theorists "have emphasized the development of trust or commitment between participants as precursors to cooperation" (Heide & Miner, 1992, p. 266). The interactive framework has been used to explore interorganizational cooperation between industrial buyers and sellers (Heide & Miner, 1992; Young & Wilkinson, 1990).

While cooperation in interorganizational relationships has been identified as important and has been theoretically investigated, the underlying reason for cooperation is still elusive. Through the interactive approach to interorganizational cooperation there is a connection between cooperation and trust. This connection is strengthened through the wealth of social science literature which suggests that trust is a primary component of many
different types of social situations, particularly cooperative situations (Young & Wilkinson, 1990). In this literature there is often a strong relationship indicated between trust and cooperation.

The building of trust is a crucial element in the social exchange processes (Hallen, Johanson, & Seyed-Mohamed, 1991) and theoretical work since the late 1980's has suggested that trust is a critical component of interorganizational cooperation (Alter & Hage, 1993; Fichman & Levinthal, 1991; Granovetter, 1992; Jarrillo, 1988; Powell, 1990; and Reve, 1990). Despite the substantial theoretical interest in the relationship between interorganizational cooperation and trust, there have been relatively few empirical-based tests of the relationship (Young & Wilkinson, 1990; Currall & Judge, 1995). To help facilitate the advancement of the knowledge of the relationship between interorganizational cooperation and trust, there exists a need to operationalize and measure the trust construct, but researchers have devoted scant effort toward this end (Currall & Judge, 1995; Reve, 1990).

Since the interactive framework is one way interorganizational cooperation and trust are viewed, the method of operationalizing trust in this study had to be consistent with the framework. An approach to operationalizing trust consistent with the interactive model, is to focus on the level of trust between the
individuals who provide the linking mechanism across organizational boundaries in interorganizational relationships (Adams, 1976; Currall & Judge, 1995). A look at the personal relationships between boundary-spanning individuals in collaborating organizations could serve to shape and modify the evolving relationship between cooperation and trust (Jarrillo, 1988; Ring & Van de Ven, 1994).

At the time this study was conducted, there existed no universally-accepted way of operationalizing and measuring trust in boundary-spanning personnel that was consistent with the interactive model. Since the data collection period for this study, Currall and Judge (1995) completed a study designed to develop and test the construct validity of a questionnaire that assesses trust between boundary-spanning personnel. The result of the study was that it did not establish the construct validity of the measure of Boundary Role Person (BRP) trust. "It simply furnishes the initial groundwork for a construct valid measure" (Currall and Judge, 1995, p. 34).

Given the status of investigating trust in those individuals who serve as boundary personnel in interorganizational relationships other alternatives had to be explored. Another way of addressing trust in boundary spanning personnel was through Lundsted’s (1966) Interpersonal Risk theory (IR). The basic idea of IR is
that an individual voluntarily chooses to give away influence and control to others with whom he or she is in contact. This behavior is expected to lead to cooperation between people while the opposite form of behavior will most likely lead to competition and conflict.

To elaborate, IR theory seeks to explain and predict those social relationships characterized by the act of voluntarily giving away influence and control over to others. Each individual in the interaction makes a decision to give away influence and control based on a subjective calculation of the risk and utility for himself or herself if he or she does so. The determination of subjective risk and utility is derived from past experiences of rewards resulting from such behavior and from the perception the other parties have also behaved in a similar manner. In giving away influence and control to others, the individual accepts an "interpersonal risk" since the recipient(s) of the influence and control may use these to help or injure the individual who gave the influence and control away. Lillibridge (1967) summarizes the effects of this behavior in the following way:

The person who behaves in this way might be referred to as one who trust other people and depends on them. Two or more individuals who are mutually engaging in such behavior to a high degree might be described as cooperating with each other. (p. 6)

Lundstedt posed key questions that are central to an understanding of IR theory. Lillibridge (1967) formulated
those questions as follows: "If someone has personal influence and control over another, how much of it is he willing to give away to the other? Conversely, if the other person has personal influence and control over the first, how much of this power is he willing to give away to that person?" (p. 36).

Traditionally, the question of how much personal influence and control a person is willing to give away has been addressed through the application of concepts such as "trust", "confidence", "reliance", and "dependence". Lundstedt (1966) argued that these terms, when used to describe social relationships, are tautological and that explanations of cause and effect are circular. In other words, "instead of analyzing the relationships in terms of cause and effect, the term 'trust' as well as the terms 'confidence', 'reliance', and 'dependence' merely name behaviors and therefore create circularity when an attempt is made to use them as explanations" (Cohen, 1968, p.33).

Lundstedt presented his theory as an alternative to reduce the need to use the terms trust, confidence, reliance, and dependence. He summarizes his theory as follows:

The phenomenon . . . is more inclusive than trusting behavior alone. It involves an element of risk and utility, in addition to giving away influence and control. If one gives away influence and control of any kind, one can find them used for one's welfare or against it. Such a risk factor always seems to be calculated by the individual on the basis of prior learning in which subjectively
perceived risk is affected by the patterns of reward coming from the exchange in the interaction. If past experience has been rewarding then the amount of subjective risk should be low. One should be increasingly apt to give away influence and control under this condition. The opposite would tend to be true if the amount of subjective interpersonal risk is high. (p. 4)

In his further conceptualization of IR, Lundstedt introduced the concept of IR behavior. He proposed that an individual engages in IR behavior whenever he or she performs the act of voluntarily giving away influence and control over to others. If the individual expresses his or her willingness to act in this manner, either verbally or in writing, then the individual is considered to be engaging in IR behavior.

Lundstedt (1966) specifies several components of IR behavior:

Some kind of concept of subjective risk and utility is necessary to understand the IR element in social relations. In addition, IR behavior must be considered in objective, as well as subjective, terms. And it is logically necessary to think about the range and domain of objective and subjective IR behavior. It is apparent that the objective and subjective domains can vary concomitantly and inversely. The range of influence and control given away can vary, and it can be in the subjective domain, or subset of that domain, or in the objective domain. (p. 6)

Stated another way there are three components of IR behavior that must be taken into consideration. They are the (a) level of subjective IR behavior, (b) level of objective IR behavior, and (c) level of objective risk in the environment (risk condition). The level of subjective
IR behavior refers to a person's willingness to give away influence and control based on his or her perception of the amount of risk to himself or herself in acting in such a manner. It also refers to the individual's anticipation of the personal risk that would be involved if he or she continued to behave in that manner. High levels of subjective IR exist when the person reports he or she feels it is safe to take risks in the situation.

Objective IR behavior refers to the actual, observable behavior of laying oneself open to risk, that is risk-taking. The level of objective risk is the actual probability of rewards and punishments that follow from a behavior in the situation. Objective risk is the amount of realistic risk in the environment. It is expected that the perception of risk (subjective IR) and actual risk taking (objective IR) behavior to be mutually consistent in most situations.

In high or low risk conditions, continued high levels of subjective and objective risk lead to approach behavior and cooperation. Continued low levels lead to avoidance behavior and conflict. Mutually high levels of IR behavior lead to social relationships characterized as trusting, compatible, low in hostility, and as exhibiting confidence, reliance, and dependence. In contrast, mutually low levels of IR behavior lead to relationships described as alienated,
mistrustful, hostile, and as lacking in confidence, reliance, and dependence (Lillibridge, 1967).

The decision to give away influence and control is viewed as a social exchange "... to the extent that once the appropriate level or amount of IR behavior is subjectively and objectively determined by the individual, rewards are usually expected" Lundstedt, 1966, p. 6).

The willingness of an individual to give away personal influence and control is an important and basic social process and is one form of the many social relations among people. This special form of social interaction and exchange underlies many other basic forms of social behavior, such as socialization, leadership, superior-subordinate relations, and the traditional social contract. (Lundstedt, 1966, p. 9)

Interorganizational Management The third and final interorganizational relationship characteristic to be discussed is interorganizational management. Based on exchange theory and the resource dependence portions of the interorganizational relations framework, organizations enter into cooperative relationships with other organizations to derive some kind of benefit (Provan, 1984). As mentioned previously there are cost associated with linking with one or more organizations. One of the primary costs is the potential for increased complexity resulting from two or more organizations cooperating. There is a need to reduce the complexity caused from the linkage and this can be addressed from the perspective of proper management of the linkages.
To gain further insight into the management of linkages it is important to first discuss the levels of analysis that are used when investigating interorganizational relationships. Interorganizational relationships are studied from several different levels of analysis which are important to keep in mind when discussing interorganizational relationship characteristics (Marrett, 1971; Van de Ven, Walker, & Liston, 1979). The simplest approach is to study the relationship between two organizations which is called a dyad (Hall, Clark, Giordano, Johnson, & Van Roekel, 1977; Van de Ven 1976). At the dyadic level, researchers can very easily gain insight into and understanding of issues that would typically be missed in a more complex linkage relationship.

Escalating upward in level of analysis is the view of interorganizational arrangements in clusters of dyads. The first theoretical discussion of clusters was conducted by Evan (1966). He discussed what he termed organization-set. This and other foundational studies on dyads and dyad clusters have been instrumental in helping researchers understand the relations among organizations. However, in reality, interorganizational relationships are far more complicated and complex than their theoretical dyad or dyad-cluster relatives.

Therefore, a third level of analysis incorporated an entire network of linked organizations. A network is
defined as a group of organizations that share common organizational ties and can be recognized as a bounded interorganizational system (Provan, 1983). Because of the inherent complexity, linkage networks have been addressed primarily in theory (Aldrich, 1979; Benson, 1975; Cook, 1977). Minorities of attempts have been made on the empirical level (Stern, 1979; Van de Ven, et al., 1979). Most of the current research emphasis among organizational theorists is on a specific type of linkage network called a federation. In federations, the linked organizations agree to give up control of certain activities and relinquish them to a separate entity created to manage the network linkage. This management arrangement differs from a situation where the organizations involved in the network retain control over their own interorganizational management activities.

If retention of control of management activities is retained by the participants in the relationship, one could address the management issue from the standpoint of the boundary spanning personnel. At the individual unit-of-analysis, there are several key characteristics that boundary-spanning personnel in the organizations must have in order to have success in interorganizational arrangements. Increased satisfaction and decreased conflict among interorganizational personnel have been identified as criteria for success (Hall, Giordanno, Johnson, & Van Rockel, 1977). These authors suggest that satisfaction is
increased and conflict decreased if the following exists: (a) consensus, (b) favorable performance evaluation, © frequent contacts, and (d) high quality communications. If the management systems in the individual organizations of an interorganizational arrangement possessed these and/or other characteristics conducive to success, then a viable piece of information would be available to better understand the joint management of interorganizational relationships. The utilization of a theory that addresses increased satisfaction and decreased conflict between boundary-spanning personnel and the management of the linkages in the interorganizational arrangements warranted review.

In 1961, Likert published, *New Patterns of Management*, which afford him the opportunity to publicize what he referred to as a generalized theory of organization and management based on the management practices of "high producers". Likert contended, "... managers achieving better performance (i.e., greater productivity, higher earnings, lower costs, etc.) differ in leadership principles and practices from those achieving poorer performance" (1961, p. 3). This variation in performance reflects important differences in basic assumptions about ways of managing people. Likert's research findings indicated a general pattern of operation utilized by the highest-producing managers which differed from that of mediocre and
low-producing managers. The pattern of operation of the highest-producing managers was characterized, in part by:

A preponderance of favorable attitudes on the part of each member of the organization toward all the other members, toward superiors, toward the work, toward the organization-toward all aspects of the job. These favorable attitudes toward others reflect a high level of mutual confidence and trust throughout the organization... (Likert, 1961, p.98)

Additionally, this highly favorable, cooperative environment was said to be achieved by harnessing several motivational forces which function in a cumulative and reinforcing manner to yield favorable attitudes. These motives include (a) ego motives which are the desire to achieve and maintain a sense of personal worth and importance, (b) security motives, (c) curiosity, creativity, and the desire for new experiences, and (d) economic motives. "By tapping all the motives which yield favorable and cooperative, attitudes, maximum motivation oriented toward realizing the organization's goals as well as the needs of each member of the organization is achieved" (Likert, 1961, p. 98).

The characteristics of an organization utilizing the general pattern of operation of the highest-producing mangers are as follows:

The organization consists of a tightly knit, effectively functioning social system. This social system is made up of interlocking work groups with a high degree of group loyalty among the members and favorable attitudes and trust between superiors and subordinates. Sensitivity to others and relatively high levels of skill in
personal interaction and the functioning of groups are also present. These skills permit effective participation in decisions on common problems, Participation is used, for example, to established organizational objectives which are a satisfactory integration of the needs and desires of all members of the organization and of persons functionally related to it. High levels of reciprocal influence occur, and high levels of total coordinated influence are achieved in the organization. Communication is efficient and effective. There is a flow from one part of the organization to another of all the relevant information important for each decision and action. The leadership in the organization has developed what might well be called a highly effective social system for interaction and mutual influence. (Likert, 1961, p. 99)

Organizations applying Likert's participative group management system will have specific characteristics relative to (a) the nature of the organization, (b) the operating procedures, and (c) overall performance. The characteristics of the nature of the organization include an integrated, internally consistent management system where the operating procedures for all processes are complementary in the manner indicated in Table 1. Secondly, the structure of the organization requires an overlapping group form of organization which is necessitated by the principle of supportive relationships. The key integrating principle in Likert's theory of management is the "principle of supportive relationships". Basically, the principle suggests that leadership and other processes of the organization must maximize the probability that each member of an organization will "view" the work experience as supportive and it contributes to his or her personal worth
and importance (Likert, 1961). Utilizing the principle of supportive relationships, Likert and his associates identified the work group as the central entity that facilitates the environment where the theory is most applicable. They concluded that

...management will make full use of the potential capacities of its human resources only when each person in an organization is a member of one or more effectively functioning work groups that have a high degree of group loyalty, effective skills of interaction, and high performance goals. (Likert, 1961, p. 104)

The principle of overlapping work groups means that work groups in an organization are linked, with managers serving as linking pins between work groups. That is, each manager (except the highest ranking official in the organization) is a member of two groups. One is a work group that he or she supervises and a management group comprising the manager's peers and their supervisor. According to Likert, coordination and communication grow stronger when the managers perform the linking function by sharing problems, decisions, and information both upward and downward in the groups comprising the manager's peers and their supervisors.

Using the group as the central focal point, Likert developed an organization design he called "the human organization". This organizational design rests on the assumption that people work best in highly cohesive groups oriented toward organizational goals. This approach is
centered on the principles of supportive relationships, employee participation, and overlapping work groups. The principle of supportive relationships referred to Likert's belief that in all organizational activities, individuals should be treated in such a way that they experience feelings of support, self-worth, and importance. Participation means that the work group needs to be involved in decisions that effect it, thereby enhancing the sense of self-worth and a sense of support.

The next characteristic of the nature of an organization utilizing Likert's theory of management concerns leadership. The leadership of the organization is assumed to possess all the technical and managerial skills ordinarily required in the given organization. Additionally, "... the philosophy of management and leadership skills required to build and operate an interaction-influence system consisting of highly effective groups is present" (Likert, 1961, p. 238). Consequently, the personnel of the organization must also posses the appropriate aptitudes and training to perform the functions they are responsible. Along with this, they must have adequate interpersonal and group-process skills necessary for functioning well in face-to-face groups. Additionally, the organization's atmosphere must provide a supportive, ego-building atmosphere, in which the employees feel valued and respected and in which confidence and trust are able to
grow. In a supportive atmosphere, the members of the organization have sufficient interaction with other members to achieve a high level of confidence and trust and an effective flow of information and of influence. This describes the organizational characteristic of cooperative working relationships.

Finally, the nature of the organization is characterized by the availability of accurate, current measurements which reflect the state of the organization, its environment, and present performance. The measurements "...facilitate sound decisions based on accurate, objective information and thereby permit the 'authority of facts' and the 'law of the situation' to prevail" (Likert, 1961, p. 238).

The next set of characteristics in an organization applying Likert's theory of management concerns the operating characteristics. As a result of the supportive relationship principle, conditions will exist that lead to a full and efficient flow or relevant information in all directions -upward, downward, and horizontally- throughout the organization. Secondly, just as the principle of supportive relationship facilitates proper information flow, it also facilitates the exercise of personal influence. That is, every person in the organization feels he or she can and does exercise influence upon the decision and behavior of all those with whom he or she is in regular
contact. Through the contacts, an individual exerts some influence upon the entire organization.

The efficient flow of communication and exercise of influence throughout the organization affects decision-making, the third operating characteristic. Because all relevant information and technical knowledge, ideas, experience, and suggested solutions existing in the organization on a particular problem flow to the point or points where the decisions on the problem are made, the resulting decisions are sound and are based on more adequate facts. Additionally, the overall objective-related decisions facilitated by efficient communication flows and the exercise of personal influence are in harmony with the departmental, workgroup, and individual objectives. This facilitates behavior focused on achieving the organization's objectives.

The final operating characteristic is a high level of effective, coordinated motivation. This characteristic uses fully, in an additive manner, all motivational forces which are accompanied by favorable attitudes. The principle of supportive relationships is used as a guide to accomplish this through (a) universally embracing the organization's objectives, (b) providing an equitable and effective reward system, and (c) recognizing that the more adequately the organization's objectives are met the greater the extent to which individual objectives are fulfilled.
The third and final set of characteristics of an organization applying Likert's theory of management concerns overall performance characteristics. Likert and his associates have this to say about this final characteristic:

An organization should be outstanding in its performance if it has competent personnel, if it has leadership which develops highly effective groups and uses the overlapping group form of structure, and if it achieves effective communication and influence, decentralized and coordinated decision-making, and high performance goals coupled with high motivation. (Likert, 1961, p. 240)

These characteristics of high-producing organizations were further developed into a theoretical system of management extrapolated from the methods utilized by high-producing managers and other research referenced by Likert in his 1961 book. This theoretical management system was termed by Likert as the participative group system of management. The pattern of interrelationships among the characteristics of this theoretical management system became more evident when compared with other systems of management. Therefore, various systems of management were examined by arraying them along the continuum of two dimensions. The first dimension was the amount of control exercised by the system which ranged from a minimal amount of control to large amounts of control. The second dimension involved the motivational forces used to control and coordinate the activity of people operating under the system.
With the amount-of-control dimension on the horizontal axis and the motivational characteristics plotted on the vertical axis, four discrete types of organizational systems were identified from the continuum. They are the (a) exploitive authoritative system, (b) benevolent authoritative system, (c) consultative system, and (d) participative group system. Depending on the motivational force and the amount of control, there will be a corresponding attitudinal response evoked as indicated in the cells of Table 1.

The exploitive-authoritative system can be characterized as the classic bureaucracy. System 4, the participative group, is on the opposite end of the systems' continuum. System 2, the benevolent authoritative system, and System 3, the consultative system, are less extreme than either System 1 or System 4. Likert described all four systems in terms of eight organizational variables. They are leadership processes, motivational forces, communication processes, interaction-influence processes, decision-making processes, goal-setting processes, control processes, and performance goals and training. "The four different systems really blend into one another and make one continuum with many intermediate patterns" (Likert, 1961, p. 234).

Research support for Likert's theory of management and the 'human organization' design emanates primarily from Likert and his associates' work at the Institute for Social
Research at the University of Michigan. Beginning in 1947, more than 500 studies were conducted in more than 350 organizations. These studies took place in widely different industries including, electronics, appliances, consumer goods, petroleum, automotive, pharmaceutical, investment banking, insurance, delivery service, publishing, utilities, textiles, office equipment, heavy equipment, packaging, paper making, and railroads. Research has also been conducted in government, hospitals, schools, colleges, correctional institutions, military organizations and voluntary organizations. Data was obtained from more than 20,000 managers at all hierarchical levels and from more than 200,000 non-supervisory employees (Likert, 1977).

In terms of the business organization there were two kinds of studies that were examined. One compared the performance of organizations that are similar in their technology and other characteristics but differ in their management systems. The other kind of study was based on situations where a change in the management system was attempted (Likert, 1977).

Although Likert's research has upheld the basic research propositions of the approach, it is not without its critics. At the time of the development of Likert's theory, many investigators of the subject produced findings that were contrary to those of Likert's (Herzberg, Mausner, Peterson, & Capwell, 1957; Miller & Form, 1967). The
summary of these critics charge is that their research showed "'no consistent dependable relationship between the management system and leadership style of an organization and its performance' and that there is similarly no consistent pattern between employee attitudes and satisfactions and the performance of the organization (Likert, 1977, p. 7). Likert countered the charge by conducting studies on low productivity organizations that in an attempt to increase productivity, shifted to a System 1-type management system and leadership style. In the short-run the plants did improve in productivity and lowered cost. This improvement came "along with a worsening in the human component scores and in the capacity of the human component to be highly productive and efficient" (Likert, 1977, p.9). Likert concluded that his critics' conclusions failed to take into consideration the short-term nature of the improvements and the long-range adverse effects of the deterioration in the productive capability of the human component of the organization.

A contemporary criticism of the approach stems from a review of the evidence and suggests that although research has shown characteristics of System 4 to be associated with positive worker attitudes and, in some cases, increased productivity, a clear causal relationship between these two variables and the characteristics of the human organization cannot be established (Miner, 1982). Additionally, others
(Katz & Kahn, 1978; Moorehead & Griffin, 1992) criticize Likert's design for having a focus almost exclusively on individuals and groups and does not deal extensively with structural issues. "Support for System 4 as a universally applicable organizational system is not strong" (Moorehead & Griffin, 1992 p. 595).

In summary, Likert's theory concerns people who are faced with the problems of organizing human resources and activity. His works presents a theory of organization based on the management principles and practices of the managers who were achieving the best results in American business and government at that time. The theory is both descriptive and normative. Likert combined a method for measuring the characteristics of an organization with a prescription for the ideal state of the organization. The few partial tests of the theory suggest that important increases in organizational effectiveness and productivity can be achieved through its use.

Given the pros and cons of Likert's theory it was deemed a viable perspective from which to address the issue of interorganizational management.
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>SYSTEM 1: EXPLOITIVE AUTHOR.</th>
<th>SYSTEM 2: BENEVOLENT AUTHOR.</th>
<th>SYSTEM 3: CONSULTATIVE AUTHOR.</th>
<th>SYSTEM 4: PARTICIPATIVE GROUP</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEADERSHIP</td>
<td>None</td>
<td>None</td>
<td>Substantial</td>
<td>Complete</td>
</tr>
<tr>
<td>-Trust in subordinates</td>
<td>Seldom used</td>
<td>Sometimes used</td>
<td>Usually used</td>
<td>Always used</td>
</tr>
<tr>
<td>Motivational FORCES</td>
<td>Security, status</td>
<td>Economic, ego, and others</td>
<td>All motives</td>
<td></td>
</tr>
<tr>
<td>-Motives tapped</td>
<td>Overall dissatisfaction</td>
<td>Some moderate satisfaction</td>
<td>Moderate satisfaction</td>
<td>High satisfaction</td>
</tr>
<tr>
<td>Communication</td>
<td>Very little</td>
<td>Little</td>
<td>Moderate</td>
<td>Much</td>
</tr>
<tr>
<td>-Amount</td>
<td>Downward</td>
<td>Mostly downward</td>
<td>Down, up</td>
<td>Down, up, lateral</td>
</tr>
<tr>
<td>INTERACTION/ INFLUENCE</td>
<td>Very little</td>
<td>Little</td>
<td>Moderate</td>
<td>Much</td>
</tr>
<tr>
<td>-Amount</td>
<td>None</td>
<td>Virtually none</td>
<td>Moderate</td>
<td>Substantial</td>
</tr>
<tr>
<td>DECISION MAKING</td>
<td>Top</td>
<td>Policy decided at top</td>
<td>Broad policy decided at top</td>
<td>All levels</td>
</tr>
<tr>
<td>-Locus</td>
<td>Not at all</td>
<td>Sometimes consulted</td>
<td>Usually consulted</td>
<td>Fully involved</td>
</tr>
<tr>
<td>GOAL SETTING</td>
<td>Orders</td>
<td>Orders with comments</td>
<td>Set after discussion</td>
<td>Group participation</td>
</tr>
<tr>
<td>-Manner</td>
<td>Covertly resisted</td>
<td>Frequently resisted</td>
<td>Sometimes resisted</td>
<td>Fully accepted</td>
</tr>
<tr>
<td>CONTROL PROCESS</td>
<td>Top</td>
<td>Some below top</td>
<td>Nearly all levels</td>
<td>All levels</td>
</tr>
<tr>
<td>-Level</td>
<td>Incomplete, inaccurate</td>
<td>Often incomplete, inaccurate</td>
<td>Moderately complete, accurate</td>
<td>Complete, accurate</td>
</tr>
<tr>
<td>-Information</td>
<td>Mediocre</td>
<td>Fair to good</td>
<td>Good</td>
<td>Excellent</td>
</tr>
</tbody>
</table>

Table 1: Characteristics of Likert's Four Management Systems
CHAPTER 3

RESEARCH METHODOLOGY

Introduction

The purpose of this chapter is to set forth the plan of action, the logical sequence of events, needed to link the research questions to the empirical data and ultimately to answer the research questions. This research methodology includes (a) the identification of the research paradigm, (b) research design selection, (c) population specification, (d) sampling, (e) units of analysis selection, (f) study participant selection, (g) pre-data collection tasks, (h) data needs assessment, (I) qualitative data collection characteristics, (j) qualitative data collection techniques, (k) development of the qualitative data collection tool, (l) development of the quantitative data collection tool, (m) data collection procedure, and (n) data analysis procedure.

Identifying the Research Paradigm

As stated in Chapter 1, the purpose of this research is to discover relationship characteristics present in an established, successful strategic alliance. This purpose, and the resulting research objective, must be linked to
empirical data and finally to the research questions. In order to accomplish this linkage, a researcher must first determine the perspective of the reality of the phenomenon needed to ultimately answer the research questions.

A given perspective of the reality of a phenomenon is referred to as a paradigm. Lincoln and Guba (1985) define a paradigm as "... a systematic set of beliefs, together with their accompanying methods" (p. 15). That set of beliefs consists of a system of ideas that give the researcher some judgement about the nature of the reality of the phenomenon being studied. A given paradigm falls at some point on a continuum anchored by two opposing interpretations of world reality. On one end of the continuum is the hypothetico-deductive paradigm and on the other end of the spectrum is the holistic-inductive paradigm (Bruyn, 1986). Along this spectrum are various philosophical orientations to reality, each orientation having its own historical roots, assumptions, focuses, and methods of inquiry (Glesne & Peshkin, 1992).

Given the various paradigms, the researcher must match the research purpose with the paradigm that will ultimately lead to answering the research questions. In other words, the purpose of a research inquiry forces a researcher to accept a set of assumptions about the nature of the world. This paradigm then sets the beliefs, assumptions, axioms, and research methods applicable to a research purpose.
Since paradigms are based on beliefs, assumptions, axioms, etc., the best method of determining research purpose/paradigm fit is by evaluating the applicability of the axioms to the purpose. The selection of a paradigm depends upon how well the axioms match the research purpose.

Lincoln and Guba (1985) selected five axioms they felt were crucial to the understanding of the positivistic (holistic-inductive) paradigm. The five axioms concern the issues of (a) the nature of reality, (b) the possibility of generalization, (c) the possibility of causal linkages, (d) the role of values in inquiry, and (e) the relationship of the inquirer to the object under study.

The first axiom deals with the issue of how reality is constructed. From the hypothetico-deductive point of view there is a single, tangible reality that can be fragmented into parts and studied independently. The holistic-inductive viewpoint suggests reality is constructed, multiple, and holistic. Constructed reality refers to the opinion that reality is made or constructed in the minds of individuals. There are "infinite . . . constructions that might be made and hence there are multiple realities" (Lincoln & Guba, 1985, p. 83). The holistic factor refers to the belief "that realities are wholes that cannot be understood in isolation from their contexts, nor can they be fragmented for separate study of the parts" (Lincoln & Guba, 1985, p. 39). As a result, these multiple, constructed
realities are considered as a whole and can only be studied holistically. In other words, the whole is more than the sum of its parts. Therefore, to understand the unit a researcher must not separate the unit into its parts but must consider them collectively.

The first axiom is applicable to this study's purpose given the nature of the subject phenomenon. The strategic alliance by definition is a relationship between two or more firms. The first unit of analysis in a strategic alliance is at the organizational level. There must be multiple (at least two) firms to be considered an alliance. Each of the alliance firms comprises numerous individuals. The reality of a strategic alliance can be viewed as the compilation of the reality constructions of each individual in each firm participating in the alliance relationship. As a result, the collective, constructed realities of a strategic alliance can be studied holistically. That is, an individual person's perspective of the reality of the alliance can only be meaningful when it is considered in the context of the overall strategic alliance.

The second axiom addresses the possibility of generalizing or applying the findings of the study to each and all of a class or kind of phenomenon. In a study guided by the holistic-inductive paradigm, only time-bound and context-bound working hypotheses and/or conclusions are generated. That is, the findings are based on the
particular focal subject of the study. The given time frame and the context in which the subject exists makes the result of the study ideographic in nature given that there are always differences in context from situation to situation, and a single situation differs overtime.

The essence of this inquiry's research purpose was based in the need to discover relationship characteristics in successful strategic alliances. This purpose prescribed assessing a specific alliance relationship in order to discover the characteristics. A specific alliance will inevitably exist in a context and time frame unique to itself. These context-bound and time-bound characteristics of a successful alliance made the second axiom directly applicable to the purpose of the research. The final conclusions resulting from the study are bound by time and context to the focal case. Therefore, the conclusions do not pertain to, affect, or are directly applicable to any other strategic alliance and generalizing, in the strictest sense, is not applicable.

The third axiom looks at the possibility of causal linkages. In a study where the aim is to achieve prediction and control, the understanding of causes and effects is of utmost importance. A cause resulting in a given effect ultimately leads to prediction and control. If every action can be explained as the result of a cause that precedes it, then causal linkages are possible. However, in the
holistic-inductive paradigm the belief is that "all entities are in a state of mutual simultaneous shaping . . ." (Lincoln & Guba, 1985, p. 38) and therefore determining causes from effects is impossible.

This research inquiry's purpose required the discovery of new knowledge. Discovery research requires the researcher to make sense of the situation without imposing preexisting expectations or preconceived notions on what the researcher expects to find in the research setting. This requires an approach where the interest is on what emerges from the study. Therefore, the new information from this study was handled as it emerged. The notion of the impossibility of distinguishing causes and effects made the holistic-inductive paradigm applicable to the subject research purpose.

The fourth axiom addresses the role of the investigator's values in a scientific inquiry. Lincoln and Guba (1985) provide a simplistic definition of values. "That is to say, a value is simply that criterion, or touchstone, or perspective that one brings into play, implicitly or explicitly, in making choices or designating preferences" (p. 160). These authors suggest values encompass axioms, theories or hypotheses, perspectives, social and cultural norms, and personal or individual norms.

According to Lincoln and Guba (1985), holistic-inductive paradigm inquiries are value-bound in different
ways. First, inquiries are influenced by the inquirer's values as expressed in the choice of a problem and the way in which the researcher has framed, bound, and focused the problem. Secondly, the research is influenced by the choice of the substantive theory the researcher selected to guide the selection and collection of the data and to interpret the findings.

A review of Chapter 1 will reflect the author's values as expressed in the manner in which the research problem has been framed, bound, and focused. Additionally, the application of the theories inherent in Likert's Profile of Organizational Characteristics and Lundstedt's Interpersonal Risk as ways of conceptualizing previously identified alliance relationship characteristics are all indicators of the influencing values possessed by the principal researcher. Based on the above, it is obvious that the inquiry is value-bound, and therefore the holistic-inductive paradigm is applicable to this study.

The fifth axiom concerns the relationship of the research inquirer and the object under study. The belief is that the researcher and the object of inquiry have a three-pronged relationship that results in bidirectional influence (Lincoln & Guba, 1985). The nature of this dyadic relationship is shaped by reactivity, indeterminacy, and interaction. Reactivity is the object's awareness of being tested. Indeterminacy occurs when the researcher's
observation disturbs and shapes the object. Finally, interaction is the shaping of the investigator's and the object's behaviors and responses as a result of exposure to each other.

The applicability of the fifth axiom is evident in the history of the development of this research. The initiation of this inquiry was the direct result of the final conclusions and recommendations of the 1992 HAM alliance pilot case study. The framed problem, purpose, objectives, and questions of this inquiry reflect the need to extend the line of research initiated by the pilot case study. Consequently, the relationships that were initiated and established with key informants in the crankshaft alliance companies during the generation of the pilot case study have resulted in the possibility of reactivity, indeterminacy, and interaction effects for the current research inquiry. The extent of this effect is unknown. However, it is a logical conclusion that an effect has occurred.

This cursory discussion of paradigms and the applicability of the holistic-inductive paradigm's axioms to this study's purpose resulted in the adoption of the holistic-inductive paradigm orientation. This naturalist orientation was used as the basis for developing the methodology needed to address the problem, purpose, objective, and questions of this inquiry.

Research Design Selection
A research design is a plan of action or manner in which empirical evidence is collected so as to answer the research questions. "A research design is the logic that links the data to be collected (and the conclusions to be drawn) to the initial questions of a study" (Yin, 1989). The main purpose of the research design is to ensure that the empirical evidence addresses the research questions. Research designs fall into one of four general design modes. They are experiments, surveys, archival analysis, and field research. Each of these designs requires a specific way of collecting and analyzing empirical data.

Several factors contribute to the selection of an appropriate design for a research inquiry. The first contributing factor is the purpose of the research. According to Kidder & Judd (1986), there are four different categories in which a research purpose can be placed. They are discovery, demonstration, refutation, and replication. Discovery is the attempt to determine what is responsible for some phenomenon or behavior. Demonstration is the attempt to gather data in an effort to support a hypothesis. Refutation is the process of proving false hypotheses that compete with a hypothesis of interest to the researcher. Finally, replication is the attempt to reproduce previously conducted studies with the goal of extending the original hypotheses.
In research inquiries where the emphasis is on discovering what might be responsible for some phenomenon or behavior, the researcher will function in an inductive manner. Induction is the process of reasoning from the specific to the general. The induction process leads to the generation of hypotheses that emerge from the data. Since the specific purpose of this inquiry is to discover and understand some of the basic relationship characteristics present in an established, successful strategic alliance, an inductive method was chosen.

The research question is the second factor that contributes to the appropriateness of a research design. Lundstedt (1968) espouses that if one discovers how to ask "good" research questions then "the pursuit of scientific discovery . . . is likely to be advanced" (p. 229). The way the investigator asks the research question is extremely important because it helps determine the applicable research design (Strauss & Corbin, 1990). "If the form of the question is poor, its substance may not become apparent" (Lundstedt 1969, p. 86). Therefore, Yin (1989) uses the basic categorization scheme for types of research questions based on the "who", "what", "where", "how", and "why" series. If the research question is a "what" question then "this type of question is a justifiable rationale for conducting an exploratory study, the goal being to develop pertinent hypotheses and propositions for further inquiry"
(Yin, 1989, p. 17). A review of this inquiry's research questions in Chapter 1, will reveal the "what" nature of the questions. The nature of these questions requires a research design that allows the freedom and flexibility to explore the phenomenon in depth to ascertain the specifics being sought.

Finally, the paradigm orientation required by the research purpose effects the research methods to be employed and the role of the researcher in the inquiry. As discussed in the previous section, this study's purpose was accomplished best by the application of the axioms of the holistic/inductive paradigm.

Proponents of holistic-inductive inquiry have identified various characteristics associated with this type of inquiry which according to Lincoln and Guba (1985) are justified by their logical dependence on the axioms of the paradigm and by their coherence and interdependence. Holistic-inductive or naturalist inquiry is characterized by (a) an emphasis on "real world" situations, (b) the use of a holistic perspective, (c) the acknowledgment of dynamic systems, (d) design flexibility, (e) the utilization of the unique-case orientation, (f) purposeful sampling, (g) the utilization of tacit knowledge, (h) the use of qualitative methods and data, (I) the human researcher as the primary data-collection instrument, (j) the adoption of empathic neutrality, (k) the use of inductive analysis, (l) special
criteria for trustworthiness, (m) negotiated outcomes, (n) context sensitivity, (o) ideographic interpretation, (p) tentative application, and (q) grounded theory. The discussion of the first three characteristics of holistic-inductive inquiry completes the research design selection section. Each remaining characteristic is discussed in the applicable section of this chapter.

Characteristics concerning the research design include a natural setting, a holistic perspective, and the acknowledgment of dynamic systems. A holistic-inductive inquiry places emphasis on "real-world" or natural situations. This characteristic is dependent on the axioms of the paradigm suggesting that the phenomenon cannot be separated from its context. Therefore, the inquiry must be conducted in the natural setting of the entity without any purposeful manipulation, obtrusion, or control of the situation. This allows emphasis on what emerges from the situation and results in a lack of predetermined constraints on outcomes.

Corresponding with the emphasis on natural setting is the use of a holistic perspective. The phenomenon under study and in its natural setting is viewed as a whole, complex system, that is more than the sum of its parts. It is often necessary to dissect the system into its parts but not at the expense of ignoring the context of the system.
The researcher must also focus on the complex interdependencies of the parts to make sense of the whole.

In addition to viewing the phenomenon as a whole, the researcher must acknowledge the system as dynamic. This characteristic requires that attention be paid to the process of the system being investigated. The researcher assumes "change is constant and ongoing whether the focus is on an individual or an entire culture" (Patton, 1990, p. 40).

Design flexibility is the final characteristic to be considered in this section. The real-world situations, holistic perspective, dynamic system, and other naturalistic qualities prohibit qualitative inquiry designs from being completely specified in advance of fieldwork. Therefore, researchers using the holistic-inductive paradigm "elect to allow the research design to emerge (flow, cascade, unfold) rather than to construct it preordinately (a priori) because it is inconceivable that enough could be known ahead of time about the many multiple realities to devise the design adequately . . . " (Lincoln & Guba, 1985, p. 41). Therefore, flexibility in constructing a research design for naturalistic inquiry is imperative. Patton (1990) reiterates this notion.

While the design will specify an initial focus, plans for observations and interviews, and questions to be explored, the naturalistic and inductive nature of the inquiry makes it both impossible and inappropriate to specify operational variables, state testable hypotheses, and finalize either instrumentation or sampling schemes. A qualitative design unfolds as fieldwork unfolds.
The design is partially emergent as the study occurs. (Patton, 1990, p. 61)

Given the purpose of the research, the nature of the research questions, and the research paradigm, this inquiry required an inductive approach with a qualitative research design characterized by the previously listed characteristics and utilizing qualitative methods.

**Population Specification**

It is appropriate in any research inquiry to specify the population being studied. "A population is the aggregate of all the cases that conform to some designated set of specifications" (Kidder & Judd, 1986, p. 145). The development of the population concept is crucial for two primary reasons. First, utilizing a designated set of specifications, the population defines the set of entities from which the research sample is to be drawn. Secondly, the selection of the appropriate population controls extraneous variation and clarifies the domain of the findings (Eisenhardt, 1989).

For this inquiry, the general subject population was defined as an industrial strategic alliance. Industrial being defined as pertaining to manufacturing enterprises. Therefore, an industrial strategic alliance is defined as a non-equity based, long-term, relationship between two or more independent, but complimentary industrial firms where there is a reciprocal exchange of goods, services, and/or expertise. The firms in the alliance have common, mutually
beneficial goals and share the benefits and risks of the relationship equally. The relationship is characterized by cooperation, commitment, and the pooling of resources and skills to result in some synergistic end. The result of the alliance for each firm is a long-term competitive advantage defined as "an edge over rivals in securing customers and defending against competitive forces" (Thompson & Strickland, 1992, p. 102).

A stratum, or subunit of the larger population, is defined by one or more specifications that divide the population into mutually exclusive segments. The specific stratum of the general population, previously discussed, has five characteristics. The primary characteristic of the sub-population is the organizational structure of the alliance. The structure of the alliance is developed around a focal Japanese-transplant automobile manufacturer located in the United States and utilizing a combination of American and Japanese-transplant suppliers for the manufacturer of a part or component crucial to the manufacture of an automobile. The focal manufacturer has internal entities (departments, subsidiaries, etc.) which actively participate (administratively, technically, etc.) in the process that renders the key component.

The nature of the alliance structure is characterized by a set of sociotechnical, sequential systems where the output of one firm's system is the input of the next firm's
system. Each firm's system has two kinds of input variables. The first is a social input where organizational and human factors of each participating company combine in the form of key personnel. The second kind of input variable is some form of physical material. These two types of inputs are transformed via a technological process possessed by each participant and results in some physical output.

The second specification is this: the strategic alliance must be established and in the maintenance phase of the alliance life cycle. That is, the initiation of the relationship must have already occurred and the relationship is fully operational and not in jeopardy of being dissolved.

The final characteristic of the sub-population is successful performance. In this inquiry, success was defined as the accomplishment of the goals and objectives for the alliance relationship and for the individual firms involved in the alliance. Therefore, the overall performance of the alliance and the performance of the individual participants must result in the accomplishment of the corporate and individual firms' objectives.

Sampling

From the identified population and stratum, a sample must be selected unless it is feasible in terms of time, resources, researcher skills, etc. to study the entire population. A sample is one or more elements from an
identified population. An element is a single member of a population. Once the population has been identified and a determination has been made that it is not feasible to study the entire population, as is the case in this inquiry, then a sampling strategy must be adopted.

The requirement to select a sampling strategy must be considered in light of the unique-case orientation of naturalistic inquiry. The unique-case orientation characteristic assumes that each case is special and unique (Patton, 1990). Patton further defines a case as a contemporary phenomenon within its real-life context. Here, the boundaries between the phenomenon and its context are not clear. Therefore, a case study which is the empirical study of a case, does not deliberately divorce a phenomenon from its context as in an experiment nor deal with phenomena of a historical nature as in an archival study. Thus, the first level of inquiry seeks to capture the uniqueness of individual cases and follow-up inquiry would involve cross case analysis to determine any patterns or generalizations.

Case studies . . . become particularly useful where one needs to understand some special people, particular problem, or unique situation in great depth, and where one can identify cases rich in information - rich in the sense that a great deal can be learned from a few exemplars of the phenomenon in question. (Patton, 1990, p. 54)

This characteristic of a holistic-inductive inquiry makes purposeful sampling a logical choice. "Purposeful sampling is used as a strategy when one wants to learn
something and come to understand something about certain select cases without needing to generalize to all such cases" (Patton, 1980, p. 100).

Within purposeful sampling, there are several possible sampling strategies. The purposeful sampling strategies are (a) sampling extreme or deviant cases; (b) sampling typical cases; (c) maximum variation, which involves sampling several representative cases; (d) sampling critical cases; (e) sampling politically important or sensitive cases; and (f) convenience sampling. (For detailed discussion of each of these strategies, see Patton [1980].) The factor common to all these strategies is selecting information-rich cases. "Information-rich cases are those from which one can learn a great deal about issues of central importance to the purpose of the research . . . " (Patton, 1990, p. 169).

The purposeful sampling strategies most appropriate for this study were the sampling of an extreme case, the sampling of a critical case, and the sampling of a convenient case. This combination of purposeful strategies was applicable to this study because of the nature of their respective purposes. According to Patton (1980) the purpose of sampling extreme cases is to provide information about unusual cases that may be particularly enlightening. In this study an unusual case is defined as a strategic alliance that has achieved its overall and individual firm goals and objectives on a consistent basis.
The critical case sampling strategy permits logical
generalization to other cases. This is important because
the relationship characteristics in the HAM Accord Strategic
Alliance may very well be applicable to other supplier
alliances which have HAM serve as the focal manufacturer.
One could argue if the information generated by this study
is valid for the HAM Accord Crankshaft Alliance it is likely
to be true for other supplier alliances with HAM as the
focal manufacturer.

Finally, the convenience sampling strategy was
applicable to this inquiry given the access to the subject
case resulting from the development and completion of the
case pilot study. The application of the previous
purposeful sampling strategies resulted in the selection of
the HAM Accord Crankshaft Strategic Alliance.

Units of Analysis Selection

Having generated the sample from the population, the
next consideration was to determine what unit or units of
analysis the inquiry would require. The entire strategic
alliance system or a formal subunit could be the focus of
the study or the unit of analysis. The general guide line
in selecting the appropriate unit of analysis is related to
the way the initial research questions are defined (Yin,
1989).

With this general guide in mind, the research questions
were reviewed and found to require answers at three units of
analysis. The primary unit of analysis was at the alliance system level (Research Question 1) where, ultimately, conclusions were made about the characteristics of the relationship among the alliance participants. The second unit of analysis was at the organizational level (Research Questions 2 and 3) where ultimately conclusions about organizational management style were. The organizational level separates the alliance into independent organizational units (HAM, CSC, TFO Tech, and MSI). The final unit of analysis was at the individual level (Research Question 4) where conclusions were made about the level of interpersonal in each participant.

Participant Selection

Having identified the need to collect data from individuals, a participant selection strategy was needed. Glesne and Peshkin (1992) suggest a stratification selection strategy. To select study participants, the researcher stratified the strategic alliance sample by position - managerial versus non-managerial, and by participation time in the maintenance phase of the alliance (one year or more versus less than one year.) Therefore, for this inquiry, the key informants were defined as the managerial personnel in each alliance organizational unit who had been involved in the maintenance phase of the strategic alliance at least one year.
The first stratum was selected because of the desire to gather data from those individuals who had a deep, well-rounded knowledge of the phenomenon and its context. It was determined that the line personnel and the executive management perspectives of the alliance relationship would be too narrow. The middle managerial personnel's perspective would provide a broader viewpoint since middle managers can be viewed as a liaison between upper management and the line personnel. The time stratum reflects the contextual requirement mandated by the research problem and an arbitrary minimum length of time to have adequate exposure to the functioning of the alliance.

The two criteria used in the stratified participant selection strategy served as a starting point for participant selection. The emergent nature of qualitative inquiry precludes the specification of all pertinent selection criteria. The selection criteria can evolve as the researcher collects data (Glesne & Peshkin, 1992). However, in this inquiry as the data were collected there never arose the need to alter the original selection criteria.

The previously discussed selection criteria led to the selection of the following eight key informants: Fred Epp (CSC), Bill Mallory (TFO Tech), Kim Young (MSI), Dave Kindel (MSI), Jay Kromalic (HAM - Anna Engine Plant), Al Anthony (HAM - Anna Engine Plant), Wayne McCulty (HAM - Purchasing),
and Todd Kelly (HAM - Purchasing). Of the eight identified informants, all but two were available to participate in the study. Each of these key informants was determined to be individuals who have "the knowledge and experience the researcher requires, has the ability to reflect, is articulate, has the time to be interviewed, and is willing to participate in the study" (Morse, 1994, p. 228).

**Pre-data Collection Task**

In naturalistic research, several tasks must be performed prior to the onset of data collection. Various experts in qualitative and case research have identified the pertinent pre-data collection tasks (Yin, 1989; Lincoln & Guba, 1985). These tasks include prescribed methods for making initial contact, gaining access to the research site, negotiating consent, building and maintaining trust, and identifying and using informants.

Given that this inquiry (a) is the extension of a previous pilot study, (b) utilized a single case, and (c) utilized a single principal investigator (namely the author of this dissertation), the appropriate pre-data collection tasks were identified. Appropriate to the history, purpose, and resources available to this inquiry, it was determined that there existed a need to gain access to the research sites and negotiate the consent of the key informants.
Gaining access refers to the researcher's "acquisition of consent to go where you want, observe what you want, talk to whomever you want, obtain and read whatever documents you require and do all of this for whatever period of time you need to satisfy your research purpose" (Glesne & Peshkin, 1992, p. 33). The first step in the process was to contact a "gatekeeper" or individual who must give the researcher his or her consent before the investigator could enter the research site.

The primary gatekeeper for the strategic alliance was identified as Dave Nelson, who was at that time, Vice President of Purchasing at HAM. The relationship with Nelson had previously been established during the formative period of the 1992 pilot case study on the alliance. The initial contact for this inquiry was made by Professor Sven Lundstedt, (dissertation chairperson) in September 1992. After an informal meeting between Lundstedt and Nelson, permission to access was given. Nelson provided a letter of introduction and support for the research effort to be given to each key informant in HAM and the supplier firms. See Appendix B.

Although the relevant gatekeeper had given consent, ethical practice demanded fully informed consent from each of the respondents from whom data would be sought (Lincoln & Guba, 1985). Therefore, copies of the letter of support and a cover letter were mailed to each key informant. The cover
story is a verbal or written presentation of the researcher which also tells what the study is about, prepares others to take part in the study and allows the option of withdrawing from the study at a later time without prejudice (Glesne & Peshkin, 1992; Lincoln & Guba, 1985).

Glesne and Peshkin (1992) prescribe twelve elements in a cover story. They are information on (a) who the investigator is, (b) what the study is about, (c) why the study is being conducted, (d) what will happen with the results of the study, (e) how the study site and participants were selected, (f) the benefits and risk of participation, (g) the assurance of confidentiality and anonymity to participants and the research site, (h) how often study participants would be required to meet for data collection, (i) how long each meeting period would be, (j) how observations and words would be recorded, (k) clarification of the researcher's presence [to understand and not to judge or evaluate], (l) clarification that there are no right or wrong answers. Incorporating these 12 criteria, a cover letter was generated for this inquiry. See Appendix C.

The entry procedure for this research project was as follows. After identifying the key informants and gaining access, each potential participant was called on the telephone and given a synopsis of the proposed research. During the phone call the researcher was identified, the
purpose of the call stated, a brief explanation of the proposed research given, and a request to send more detailed information about the proposed study was made.

The cover letter (Appendix C) and the Nelson support letter (Appendix B) were sent together as a follow-up measure to the initial telephone call. Within one week of receipt of the letters, the researcher made a second telephone call to request the key informants' participation in the study and to establish meeting times and sites for data collection. (In the case of Wayne McCulty, the agreement to participate in the study was made during the initial telephone call.)

Data Needs Assessment

The nature of the phenomena under investigation and the objectives of the study determine what approaches should be taken and what data are gathered by what methods. The objective of this inquiry was to conduct an exploratory-descriptive study which would discover and develop the relationship characteristics of the HAM strategic alliance. Stated another way, the objective of the inquiry was to discover and gain an understanding of the essential features of the relationship between the HAM strategic alliance partners. The need to discover the essential features of the alliance relationship required a qualitative approach. Where qualitative means pertaining to quality, and quality
means a typical and essential feature or characteristic of some phenomenon.

Therefore, the qualitative understanding of a social phenomenon requires an intimate familiarity with the social context under investigation and with the humans who comprise that context (Wechsler, 1986). The qualitative approach is concerned with the subjective experiences and interpretation of those experiences of the people involved in the phenomenon because the social world is considered nonexistent outside of human thought and action (Wechsler, 1986). So, the reality of a phenomenon is expressed in the thoughts and actions or multiple realities of the individuals germane to the phenomenon.

To access the information contained in these collective thoughts, actions, subjective experiences, multiple realities, etc., the researcher must utilize tacit knowledge and propositional knowledge "because often the nuances of the multiple realities can be appreciated only in this way" (Lincoln & Guba, 1985). Tacit knowledge is defined as knowledge that is intuitive, felt, and unvoiced whereas propositional knowledge is knowledge expressible in language form. The extraction of tacit and propositional knowledge comes from the accumulation of evidence through the researcher's direct experience with and observation of the thoughts and actions of the subjects as expressed by them.
Therefore, the tacit and propositional knowledge will come in the form of detailed, descriptive, in depth, direct quotations capturing the respondents' personal perspectives and experiences. Direct quotations are a basic source of raw data in qualitative inquiry (Patton, 1990).

In regards to the descriptive aspect of the research objective, the researcher had a hunch, from the pilot case study, that at least two relationship characteristic constructs (alliance leadership and trust) existed. The application of two theoretical variables was used to help operationalize the constructs. This operationalization required measurement of the two of variables (Likert's Profile of Organizational Characteristics and Lundstedt's Interpersonal Risk) through the use of scales.

Researchers agree that both qualitative and quantitative methods can be used effectively in the same research project and specifically in case studies (Strauss & Corbin, 1990; Yin, 1984). In this study, the intent was to use the quantitative data to help validate previously collected qualitative data on the two specific constructs. Therefore, concerning alliance leadership and trust, the primary emphasis was on collecting the quantitative data and the secondary emphasis was on collecting any additional qualitative data.

Qualitative Data Collection Characteristics
Concerning the required qualitative data, it is important to briefly discuss the characteristics of qualitative data collection. This aids in establishing a frame of reference for the remaining sections of this chapter. In naturalistic research, the human researcher is considered the primary data-gathering instrument because of a human's "sufficient adaptability to encompass and adjust to the variety of realities that will be encountered" (Lincoln & Guba, 1985, p. 39). There is a dependence on the researcher's personal contact and insight with the individuals and situation under study. Therefore, his or her personal experiences and insights are important and critical to understanding the phenomenon under study. "The requisite skills for doing qualitative research . . . are these: to step back and critically analyze situations, to recognize and avoid bias, to obtain valid and reliable data, and to think abstractly" (Strauss & Corbin, 1990, p. 18). Only a human instrument is capable of acquiring these requisite skills.

Complimenting the previous characteristic of qualitative data collection is the concept of empathic neutrality. In qualitative inquiry, the researcher is the instrument by which the data is both collected, analyzed, and interpreted. Also, the researcher has direct and personal contact with the people and the situation under study. Therefore, it is impossible not to subject the study
results to some degree of the researcher's subjectivity and values. However, "only the human is in a position to identify and take into account (to some extent) [the] resulting biases" (Lincoln & Guba, 1985, p. 40). Consequently, empathic neutrality is the requirement that the investigator adopt a stance of neutrality which simply means that he or she does not set out to prove a particular perspective or manipulate the data to arrive at predisposed truths.

The investigator's commitment is to understand the world as it is, to be true to complexities and multiple perspectives as they emerge, and to be balanced in reporting both confirming and disconfirming evidence. (Patton, 1990, p. 54)

**Qualitative Data Collection Techniques**

While it is the case that on most occasions the only data collection instrument utilized in a qualitative inquiry is the human researcher, the sources the human instrument utilizes may be both human and nonhuman (Lincoln & Guba, 1985). Nonhuman sources include documents (letters, agendas, news clippings, proposals, progress reports, etc.); archival records (service records, organizational charts, maps, charts, census records, diaries, etc.); and physical artifacts (technological devices, tools, works of art, other physical evidence).

Since the qualitative approach applicable to this inquiry was concerned with the subjective experiences and multiple realities of the individuals germane to the
phenomenon, the obvious data source for this study was human. Specifically, the key informants previously identified. Various data collection techniques are available to extract tacit knowledge from human sources. Human-source data collection techniques are classified as either observations or interviews. These techniques are used because they are more capable of exposing the nature of multiple realities of the phenomenon being investigated when compared to quantitative methods (Lincoln & Guba 1985). Observations and interviews are the appropriate vehicles for exposing the tacit (intuitive, felt) knowledge characteristic of multiple realities.

Observation entails the systematic description of events, behaviors and/or artifacts in the social setting chosen for the study. An observation is further defined as "the recording of a unit or units of interaction occurring in a concrete social situation" (Denzin, 1989, p. 73).

Interviews are used in a variety of settings where the objective is to gain access to the meaning that individuals give to their social situations/context/environment. An interview is defined as the process of asking questions and getting answers. The interview allows the researcher to generate detailed accounts of events and actions as seen from the perspective of the subject (Wechsler, 1986).

The data from interviews consists of direct quotations from people about their experiences, opinions, feelings, and
knowledge. As a result of conducting an interview, the nature of the data gathered is described as detailed, descriptive, in depth, direct quotations capturing people's personal perspectives and experiences. The data from observations consist of detailed descriptions of people's activities, behaviors, actions, and the full range of interpersonal interactions and organizational processes that are part of observable human experience (Patton, 1990).

The requirement of the research objective was to discover and develop relationship characteristics of the HAM strategic alliance. It is a given that alliance relationship characteristics cannot be directly observed. This phenomenon can only be assessed through the tacit knowledge of the humans comprising the alliance. Therefore, the qualitative data collection technique of interviewing was most applicable to the qualitative component of this case study.

Development of the Qualitative Data Collection Tool

The previous discussion on the various qualitative data collection techniques provides the background needed to begin the development of the tool the researcher used to gather the required data. The underlying guideline for the development of a data collection tool stems from the objective of the study. Therefore, the data collection tool appropriate for this study must involve a qualitative component and a quantitative component. The discussion of
the development of this study's research tool begins with the development on the qualitative component.

As determined previously, there exists a need to employ the interview technique of data collection. Interviews are often categorized by the level of interaction between the interviewer and the respondent, and by the degree of structure of the interview. Both classifications can be placed on a continuum where the degree of intensity of the category is the greatest on one end of the continuum and the least on the opposing end.

In terms of the interviewer-respondent interaction classification, the interaction ranges from a high degree of personal interaction (face-to-face) to no personal interaction at all (self-administered questionnaires). "The most common type of interviewing is individual, face-to-face verbal interchange, but it can also take the form of fact-to-face group interviewing, mailed or self-administered questionnaires, and telephone surveys" (Fontana & Frey, 1994, p. 361).

The degree of structure of an interview refers to the extent to which the interview questions are determined and standardized before the interview occurs (Patton, 1990) and the degree of specification of response categories for those questions. Patton discusses four types of interview structure from the continuum. The least structured is the informal conversational interview which relies solely on the
spontaneous generation of questions in the natural flow of the interview process. The responses to the questions are at the discretion of the interviewee. The next option on the continuum is the general interview guide which involves the development and use of a checklist of issues to be explored with each respondent. This is to ensure all relevant topics are covered. In this approach no standardized questions are utilized. The key task is to ensure that each respondent address the list of issues and responds freely. The standardized open-ended interview is characterized by questions which have had exact wording and sequencing of each question determined before the interview commenced. All respondents are asked the same questions in the same sequence. Responses are not dictated by the inquirer. Finally, the closed quantitative interview has the questions and response categories determined in advanced. All interviewees are asked the same questions and must choose from among the predetermined fixed response categories.

Having identified the interview categories, a decision was made as to which interview characteristics were appropriate to this study. This was done by keeping in mind the research objective, the data collection skills of the principal investigator, and by weighing the pros and cons of each type of interview. The face-to-face, interview guide was determined to be the appropriate interview strategy for
this study. In order to understand the rationale for selecting this interview strategy it is important to consider a more detailed description of the interview guide.

An interview guide is a list of questions or issues that are to be explored in the course of an interview. An interview guide is prepared in order to make sure that basically the same information is obtained from a number of people by covering the same material. The interview guide provides topics or subject areas within which the interviewer is free to explore, probe, and ask questions that will elucidate and illuminate that particular subject. Thus, the interviewer remains free to build a conversation within a particular subject area, to word questions spontaneously, and to establish a conversational style, but with a focus on a particular subject that has been predetermined. (Patton, 1990, p. 283).

The face-to-face, interview guide was the appropriate selection because it (a) would render the kind of qualitative data mandated by the research objective, (b) corresponded with the principle investigator's data collection skills and experience, and (c) possessed the desired strengths while having minimal weaknesses.

The major strength of the interview guide is that it allows for the systematic and comprehensive interviewing of many respondents in a very timely manner. This systematic collection of data also facilitates organization and data analysis. Additionally, it allows both the interviewer and the interviewee to explore the meaning of words, questions, and answers and provides flexibility and adaptability to individual situations (Kerlinger, 1986; Patton, 1990).
Disadvantages cited for the interview guide strategy, are (a) large time, labor, and resource investment; (b) opportunity for bias to occur; (c) possible distortions in data transformation by researcher; and (d) the possibility of important topics being inadvertently omitted (Kerlinger, 1986; Patton, 1990). A final disadvantage is offered by Patton (1990). He suggests "interviewer flexibility in sequencing and wording questions can result in substantially different responses from different perspectives, thus reducing the comparability of responses" (p. 288).

In utilizing any interview strategy, a researcher must make a decision on each of the following issues: (a) what kind of questions to ask, (b) how to word the actual questions, (c) how much detail to solicit, (d) how to sequence the questions, and (e) how long to make the interview (Patton, 1990). The process of addressing each of these issues served as the guideline for developing the interview guide for this inquiry.

The underlying rule in determining question generation for the interview guide was to ensure that the questions asked would result in data needed to address Research Question 1. The quality of the interview guide questions would have a direct and crucial impact on the quality of the data and the ability of the research effort to address the research question. As a first step toward ensuring the desired level of quality in the data, the subject and object
constructs of the naive hypothesis foundational to Research Question 1 were isolated. (The subject construct, relationship characteristics, is associated with the object construct, success.)

Next, in deciding what questions to ask about the constructs, Patton (1990) identified six kinds of questions that could be asked about the constructs. They are (a) experience questions, (b) opinion questions, (c) feeling questions, (d) knowledge questions, (e) sensory questions, and (f) background questions. "On any given topic it is possible to ask any of these" (Patton, 1990, p. 290).

Experience questions are designed to extract detailed description of a person's experiences, behaviors, and activities in a given context and time period. Opinion questions are cognitive in nature and are designed to elicit what an individual thinks about some issue. The ability to answer an opinion question is dependent on the respondent's rationality and decision making abilities. Feeling questions tap the affective (feeling, emotion) domain of an individual and are aimed at drawing out the respondent's emotional responses to their experiences and thoughts. "Knowledge questions are asked to find out what factual information the respondent has" (Patton, 1990, p. 292). These questions focus on the known facts of the phenomenon or more specifically the key informant's understanding of the "facts". Sensory questions are designed to gather
information on the experiences of the interviewee as captured via the five physical senses (seeing, hearing, feeling, tasting, and smelling). Finally, background questions identify the characteristics of the respondent and help determine what the relationship of the respondent is to others and to the environment.

In addition to the six categories of question, Patton (1990) also suggests the utilization of time when developing questions for an interview. Given linear time, each of the six types of questions can be asked relative to the past, present, or future. Therefore, using the subject and object construct category, the kind of question designation, and the time frame of questions, the 16 questions in Appendix D were developed. (Appendix E contains a matrix, adapted from Patton, [1990] which illustrates the question options made for this inquiry's interview guide.)

Questions 1 is a past-tense, experience question that seeks up-to-date information from the respondent about the organization. Question 2 is a past-tense, background question aiming at information about the respondent's personal involvement in the Honda Accord Crankshaft Alliance. Questions 3, 4, 6, and 7 are all present tense knowledge questions concerning the object construct, success. The investigator numbered present-tense opinion questions about success five and eight. Questions 9 through 15 are all relationship characteristics knowledge questions.
Questions 10 through 14 query the respondent in the context of the present tense. Question 9 is a past tense query while Question 15 is a future tense question. Finally, Question 16 is a general reference, present tense, knowledge question designed to elicit any additional information about the subject matter. The reader will note that, there were no feeling or sensory questions incorporated into the mix of questions. In the opinion of this study's investigator, feeling and sensory questions were not useful in eliciting data needed to address the central issue in Research Question 1.

There were two general principles applied during the development of the interview questions. The first principle was the proper wording of the interview questions and the second was the use of probes. The first principle focuses on the fact that the primary objective of a qualitative interview is to allow respondents to tell their own story, in their own terms. This required questions that would elicit the interviewee's story.

They accomplished this through application of the minimal criteria for good question development. "For purposes of qualitative inquiry, good questions should be, at a minimum, open-ended, neutral, singular, and clear" (Patton, 1990, p. 295). Every effort was taken to ensure the questions were open-ended by allowing no imposition of predetermined responses and no use of dichotomous questions:
those answered by "yes" or "no". Eliminating presupposition questions incorporated neutrality. Singularity was addressed by determining that each question had no more than one idea in it. The use of language enhanced clarity that the key respondents understood. Special care was given to ensure the absence of "scholarly jargon" and other terms that might be foreign to those outside academia.

Once Patton's guideline for good questions was carried out, attention was turned to the second principle: that is, the use of probes. The rationale is that once the inquirer has developed a "good" set of questions, the respondent is prompted to tell even more of his or her story through well-placed probing questions. "Probes are used to deepen the response to a question, to increase the richness of the data being obtained, and to give cues to the interviewee about desired response levels" (Patton, 1990, p. 324).

There are several kinds of probes identified by question development experts. Probes can be verbal or nonverbal. The detailed-oriented probe uses the basic "who", "what", "where", "when", and "how" questions to go deeper into the interview's responses. Another type of verbal probe is the elaboration probe, which is any statement or question used by the investigator to keep a respondent talking about a particular subject. A contrast probe helps a respondent to compare a word, experience, action, etc. with some other word, experience, action to
help define boundaries of a response. The clarification probe is used when additional definition or understanding is needed about something that was previously said.

The second category of probes is nonverbal and falls under the auspices of paralinguistics. Nonverbal prompts include the "eyebrow flash" where the inquirer raises his or her eyebrows at the end of the respondent's statement as a cue to return to what was said. Silence at the end of a statement often serves as an indicator that additional information is needed from the respondent (Patton, 1990). Finally, various body movements, like nodding one's head, leaning forward in one's chair, tilting the head to the side with an inquisitive expression are some of the many nonverbal probes available to inquirers.

In general, probes are seldom formally written out in an interview schedule (Patton, 1990). The use of probes stems from the interviewing skills possessed by the investigator. "Probing is a skill that comes from knowing what to look for in the interview, listening carefully to what is said and what is not said, and being sensitive to the feedback needs of the person being interviewed" (Patton, 1990, p. 327). In this inquiry there was the utilization of all of the described probes (with the exception of contrast probes) Theses were used in seeking full information from the key informants. Since the probes were not formally written, this claim can be verified via a review of the
transcribed copies of the interviews conducted for this research.

Given the development of good questions and the use of probes, the investigator was reasonably confident of the quality of the interview guide questions. However, in a qualitative study characterized by an emerging research design, it is naive to believe that the developed set of question would remain intact throughout the data collection process. The questions were viewed as the best effort but were thought of as tentative and, therefore, modifiable.

The questions, typically created by the researchers, may be fully established before interviewing begins and remain unchanged throughout the interview. Questions may emerge in the course of interviewing and may be added to or replace the preestablished ones . . . (Glesne & Peshkin, 1992, p. 64)

The next decision to be made was that of sequencing the questions in the interview guide. The investigator used the sequencing guidelines of Sudman & Bradburn (1982) in ordering the questions. The first question (see Appendix D) was considered a salient, easy, non-threatening question which would serve as an "icebreaker" to put the interviewee at ease and establish rapport between the two parties. It also was intended to focus the respondents' attention on the subject matter of the interview. Question 2 continued to focus on the subject matter, in a more personal way. Questions 3 interrupted the flow of the previous questions and "shifted gears" into another issue. Between Questions 2
and 3, the interviewer used introductory statements, announcing the ensuing change. This helped ease the transition between the questions. Although not written in the interview guide, transitional statements were used and can be verified in the transcribed copies of the interviews.

Questions 3-8 specifically asked about the respondents' knowledge or opinion of the success construct. These questions were ordered in a hierarchy beginning with a broad definition of alliance success and ending with a specific knowledge of success indicators. All of the success questions (3-8) were asked together for two reasons. First, "once a respondent is thinking carefully about a topic, it is logical to ask all the questions about that topic before switching to another topic" (Sudman and Bradburn, 1982, p. 222).

Secondly, context effect was generated as a result of the previous ordering and grouping. Context effect is defined as the contextualized response to one question based on the context of the questions asked previously. Typically, context effects are not desired. However, in this case, success was an imbedded construct meaning that the success of the alliance has an effect on the success of the individual companies, which ultimately affects the informants' personal opinions of success. Therefore, context effect was appropriate. The rationale used in
ordering Questions 3-8 was also appropriate for the ordering of Questions 9-15.

The sequencing step concluded the process for developing the data collection tool for the qualitative component of the research objective. At this point qualitative research experts suggest the conduct of a pilot study. During a pilot study, the investigator tests his or her questions, the ways of relating to the respondents in general, and the ways of interviewing them in particular (Glesne & Peshkin, 1992). A pilot study to test interview guide questions was not conducted. The reason for this was that a pilot testing of a data-collection tool involves the use of a sample of the subject population. Given that there were only eight key informants (the sample) with two informants ultimately declining participation, use of this group in the pilot and the actual study was not reasonable. The potential for bias resulting from exposure was too great in the opinion of the investigator. The inability to conduct a pilot study was rectified by soliciting the help of the investigator's adviser and other academicians to provide their insights and critiques during the development of the interview guide (Glesne & Peshkin, 1992).

**Development of the Quantitative Data Collection Tool**

In an effort to construct the quantitative data collection tool, two previously developed scales were adopted for use in this study. The Lundstedt Interpersonal
Risk Scale (Form B) was used to measure the subjective interpersonal risk of the key informants in the study. Likert's Profile of Organizational Characteristics (POC) Scale (Form E) was used to describe the management-style systems used in each of the participating companies. A discussion of the historical development of each scale follows.

**Lundstedt's Interpersonal Risk (IR) Scale**
The Lundstedt Interpersonal Risk Scale is a Likert-type summated scale designed to measure the subjective interpersonal risk of an individual. Subjective IR is defined as "a domain of behavior that refers to a person's willingness, based on subjective probability and risk taking, to give away influence over others" (Lillibridge & Lundstedt, 1967, p. 120). Acting on this willingness is called subjective interpersonal risk behavior. Objective interpersonal risk behavior designates that form of IR behavior that takes place in the actual social interactions between two people. Objective IR is described as that which two or more people are actually doing to or for each other at a given moment (Lillibridge & Lundstedt, 1967). Objective risk is a set of risk conditions that covary with the subjective and objective IR. "Varying conditions of risk and threat in the physical environment may be expected to affect the perception of the amount of interpersonal risk that is feasible to take in a given situation and the actual
interpersonal risk behavior that takes place in the interaction itself" (Lillibridge & Lundstedt, 1967, p. 120.)

Lundstedt's Interpersonal Risk scale was designed as an instrument to measure the construct of subjective interpersonal risk. (Objective interpersonal risk and objective risk the remaining elements in Lundstedt's IR theory are not addressed by this instrument). Form A of the scale included 70 dichotomized statements describing situations where elements of subjective risk and utility were involved and where personal influence and control were distributed or exchanged. The respondent indicated, on a 10-step modified Likert-type scale, the degree of his or her agreement or disagreement with each statement. For half of the statements, agreement indicated a high level of subjective interpersonal risk. For the remaining half of the statements agreement reflected a low level of subjective IR.

As a reliability check, Form A was administered to a sample of 120 college students and industrial personnel and item analysis resulted in the retention of 30 statements (items) which allowed the highest correlation with the total score. Together these items constitute Form B (Appendix F) of the IR scale and is the scale utilized in this study. (See Appendix G for permission to use Lundstedt's IR scale, Form B.)
For 15 of the 30 retained items, agreement is scored in the high IR direction while for the other 15 items agreement is scored in the low IR direction. Disagreement with high IR items is scored in the low IR direction and disagreement with low IR items is scored in the high IR direction. The respondent's final score is the difference between the subtotal of scores for high IR items and the subtotal for low IR items.

The validity issue of the IR scale, Form B was addressed in several works. In a preliminary validity study (Lundstedt and Long, unpublished), subjects were asked to complete an essay describing the strategy or procedure they would follow to end the war in Viet Nam if they had the authority of a highly-placed government official. It was assumed that the respondents having a high level of subjective IR would choose a strategy which would characterize them as "doves" on this issue. Similarly, those respondents having a low level of subjective IR were expected to adopt a "hawk" strategy. While a trend toward a positive relationship between IR level and dove-like strategy was found, the results were not clear-cut.

The next critical effort at establishing the validity of the IR Scale (Form B) was initiated by Lillibridge (1966). The aim was to help in the development and validation of IR theory through establishing the validity of
some of its key constructs and their interrelationships (Lillibridge, 1966).

As a result of the study, Lillibridge (1966) assessed the "internal" validity of the IR scale in terms of item discrimination, scale reliability, and distribution of observed scores. He concluded that the internal validity of the IR scale was adequate. He states, "For the IR Scale, summing the items to form a total score appeared justified, internal consistency indicates that the scale is quite homogeneous, the distribution of observed scores was normal, and the effects of response set seems minimal" (p. 126). Additionally, the writer concluded that a moderate degree of support had been established for IR Theory. Ten of 15 hypotheses tested were confirmed relative to direction predicted. The two independent variables (trust and risk taking) whose relationships with subjective IR were directly confirmed are of special relevance to IR theory.

Likert's Profile of Organizational Characteristics (POC) Scale The Profile of Organizational Characteristic scale (Form E), is a 24-item questionnaire designed to measure the nature of the management system employed by a particular organization. See Appendix H. The items in the questionnaire portray the components of a management system. The components of a management system include (a) structures; (b) controls; (c) leadership behavior; (d) the attitudes, motivations and perceptions of the employees of a
business organization. From the data collected via the POC, it is possible to prepare a profile of organizational characteristics and to identify the organization as System 1 (Exploitative-Authoritative), System 2 (Benevolent-Authoritative), System 3 (Consultative), System 4 (Participative Group), or somewhere in between.

According to Likert (1961, 1967), the type of management system operative in a business organization is a reflection of the amount of control exercised by the organization and the characteristics of the key components of a management system. The POC examines four distinct systems of management arrayed along a continuum. On the horizontal axis is plotted the dimension which represents the amount of control an organization exercises over its members. In theory, this amount of control ranges from laissez-faire to total control. However, the systems of management represented in the scale involve at least a moderate amount of control. Therefore, the laissez-faire system of control is not represented but exists on the extreme right of the control dimension's continuum.

The components of a management system are plotted on the vertical axis of the scale and the amount of control is plotted on the horizontal axis. The original components were intended to be illustrative and did not attempt to cover all aspects of leadership and organizational behavior nor all characteristics of an organization. The
characteristics were based on a rough integration of Likert's research results emerging from qualitative and quantitative studies as well as on patterns observed in different cultures (Likert, 1961).

The history of the development of the Profile of Organizational Characteristics began after the publishing of Likert's book *New Patterns of Management* in 1961. Utilizing information from that study, a form of questions was devised to measure the nature of the management systems employed by an organization (Likert, 1967). To test how well this form would work as a method of measuring the management system of an organization, an initial questionnaire, Form A, was developed. (For the specifics of Form A, please see Table 3-1, pages 14-24 in Likert's book, *The Human Organization: Its Management and Value* [1967].) In the process of developing Form A it became evident that the questions could be used not only to discover what an individual believes are the present characteristics of his organization but also to find out what he or she would like the characteristics of the organization to be in the future (Likert, 1967). Changes were made to accomplish this additional intent and resulted in the development of an updated questionnaire, Form B.

To test their usefulness, both forms were tried experimentally with middle-level and upper-level managers of large U.S. corporations. A frequency distribution was
prepared consolidating the answers the managers gave on Form A concerning the management system they believed their organizations used. The majority of the responses fell under System 2 and System 3. Similarly, the responses of the managers to Form B were analyzed and indicated that "virtually every one of these managers" would like to have his company use System 4 (Likert, 1967, p. 26). A comparison of the two sets of data indicated that there existed a large discrepancy between the management system the managers were using and the one they felt they should use. As a result of this study and others Likert concluded:

The descriptive statement of characteristics under each system of organization for each item in Forms A and B proved to be clear. Managers in a wide variety of working situations seemed to feel that the resulting descriptions and profiles of their organizations were valid. (Likert, 1967, p. 26)

In further developing the questionnaire, Likert and his associates noticed that the answers of each person on each item when compared with his answers on each of the other items of the scale were highly correlated.

Leadership styles and related organizational characteristics seem to display a remarkable consistent set of interrelationships. System 1 style of leadership results in System 1 organizational characteristics; System 4 style of leadership yields the System 4 syndrome.... (Likert, 1967. p. 116).

To get an understanding of this development the answers of each person on each item were compared with his answers on each of the other items in the scale. The intercorrelations were computed among all the items in the questionnaire and a
resulting correlation matrix was developed. An analysis of the correlation matrix resulted in the following conclusion:

An examination . . . reveals extraordinarily high intercorrelations between the items and between each item and the total score. Apart from the performance items . . . , all the correlation coefficients between an item and the total score are greater than +.73. There is also an unusually high correlation (+.97) between the sum of the odd- and the sum of the even-numbered questions. This yields a very high corrected split-half reliability coefficient (Spearman-Brown), namely +.98. When these data were factor analyzed, only one dominant factor emerged with which the total score correlated +1.00. (Likert, 1967. p. 116)

The extremely high correlations raised questions as to whether spurious factors might be contributing to the high interrelationships. Steps were taken to determine the extent to which the high intercorrelations were spurious and/or due to three conditions identified by the researchers (Likert, 1967). A new form of the questionnaire was designed to eliminate the effect of the conditions. The new form was administered to three groups of managers. After taking the steps to remove or reduce the possible influence of the identified conditions, the intercorrelations among the items for the three groups of managers were still sizable. The result of this study indicated that the new form of the questionnaire could "be used as a reliable instrument to measure the nature of the management system of any organization in which there is at least a minimum level of control or coordination . . . " (Likert, 1967, p. 122).
Additionally, the data from the study confirmed the validity of the underlying concept of Likert’s theory of management developed in *New Patterns of Management* (1961). These results suggested that "every component part of a particular management system fits well with each of the other parts and functions in harmony with them" (Likert, 1967, p. 123). For example, the decision-making process of System 1 is compatible with the communication process of that system. But the decision-making process of System 1 is not compatible with the communication nor any other process of System 3 or 4.

The basic form of the questionnaire has been adapted for use in many kinds of organizations. These organizations include, business (POC in various forms), civilian government agencies, the military (Army, Navy, and Air Force), school systems (Profile of a School), institutions of higher education (Profile of a College or University), health care institutions, correctional institutions, and libraries.

The POC (Form E) was adopted for use in this study. Permission to use this scale was granted via the letter contained in Appendix I. The questionnaire contains 24 items. The items are divided among seven distinct management system components which are referred to as organizational variables. These organizational variables include (a) the leadership process, (b) the character of
motivational forces, (c) the communication process, (d) the interaction-influence process, (e) the decision-making process, (f) the goal setting or ordering process, and (g) the control processes.

Each item has a set of four general patterns of either action, behavior, attitude, etc. appropriate for that item. Each pattern in the set corresponds with one of the four types of management systems denoted by Likert and his associates. For example, in Appendix H, Item #3.a asks the respondent about the direction of information flow in the communication process employed by the organization. The set of patterns included (a) downward; (b) mostly downward; (c) down and up; and (d) down, up, and with peers. Each pattern corresponds with one of Likert's four systems of management. That is, System 1 through 4, respectively. The ordering of the patterns as either System 1 to System 4 or System 4 to System 1 was done arbitrarily and blindly. (By blindly it is meant that there was no indication to the respondent of the order of the patterns.) This was done in order to reduce response set. Response set occurs when all of the questions are of the same type or pattern and the respondent develops the habit of answering every question the same (Sudman & Bradburn, 1982).

In administering the POC (Form B), respondents were instructed to place an "N" (where "N" means now) at the point on the horizontal axis line below each organizational
variable (item) that best described the organization at the present time according his or her own experience. Additionally, the respondents were instructed to place a "P" (where P means previously) on each line at the point which, in their experience, described the organization as it was one to two years ago. These two sets of responses provide two sets of data per respondent for future analysis and conclusion drawing.

Data Collection Procedure

As the reader may recall, each initial interview was contracted during the gaining-access period via cover letters and telephone calls. Having verified times, date, and site directions several days in advance, upon arriving at the designated interview sites the investigator would provide the resources necessary for collecting the data. Specifically, a micro-cassette recorder, extra batteries and blank audio cassettes, #2 lead pencils, and copies of the interview instrument. The interview instrument consists of (a) the instrument cover sheet, (b) a respondent information sheet, (c) OSU Consent for Participation in Social and Behavioral Research, (d) an interview transcript request form, (e) instructions for Part I [interview], (f) the interview guide, (g) instructions for Part II [Likert's Profile of Organizational Characteristics], (h) the Profile of Organizational Characteristics scale, (i) instructions for part III [Lundstedt's Interpersonal Risk Scale], (j) the
Interpersonal Risk Scale, and (k) Part IV [demographic information collection sheet]. See Appendix J for the complete instrument.

The interview instrument cover sheet was completed by the interviewer. A respondent identification number was assigned by the investigator to each respondent to ensure anonymity. The interview date and starting time were entered in the appropriate places. The Respondent Information Sheet was handed to each informant with instructions to read thoroughly. Upon completion, informants were requested to sign and date the sheet to indicate that they had read and understood the information.

Next, consent for participation was formalized by having the respondents read and sign two copies of the consent form. The interviewer was also required to sign the consent forms. One copy of the signed consent form was retained by the investigator. The second copy was given to the respondent for his personal records. To request or decline copies of the transcribed interviews respondents were required to complete the Request for Interview Transcription Form. Each respondent that requested a transcript was sent one with the cover letter in Appendix K.

The previous steps concluded the administrative work required for data collection. Therefore, instructions were handed to the respondents for Part I (qualitative interview) with directions to read thoroughly. After the respondent
gave a verbal affirmation of his understanding, the interview began. Each question in the interview guide was read out loud, twice by the investigator and then the respondent was allowed to respond. At the conclusion of Part I, the interviewee was thanked for his responses and told that Part I had concluded.

Part II consisted of the Profile of Organizational Characteristics. The respondent was handed a copy of the instructions for this portion of the interview tool and instructed to read it thoroughly. Once the investigator ascertained complete understanding, the respondent was handed a copy of the POC and asked to complete it. Upon completion, the scale was collected from the subject. The same procedure was used in administering Part III (the Interpersonal Risk scale).

The final part of the instrument (Part IV - Demographic Information) was left for last since the request for demographic material is considered threatening (Sudman & Bradburn, 1982). Upon completion of the demographic information the pages were collected and put with the other parts of the instrument and the session was considered completed.

**Data Analysis Procedure**

Data analysis is the process of organizing what the researcher has either read, heard, or seen in the process of collecting data to make sense of what has been learned from
the study (Glesne and Peshkin, 1992). Therefore, the purpose of this section is to document the methods used to draw valid meaning from the data collected for this study. The first portion of this section will focus on the methods of analysis adopted for use in analyzing the qualitative data. The underlying reason for the selection of the analytical methods specified below is that they are practical, communicable, and will result in reliable knowledge. The second portion of this section will focus on the analytical methods used to analyze the quantitative data collected for this study.

**Qualitative Data Analysis** The type of inquiry in question necessitates the use of inductive analysis. "Inductive analysis means that the patterns, themes, and categories of analysis come from the data; they emerge out of the data rather than being imposed on them prior to collection and analysis" (Patton, 1980, p. 306). This exists when the researcher attempts to make sense of the phenomenon without imposing preexisting expectations. The details and specifics of the collected data are used to discover important categories, dimensions, and/or interrelationships. These specifics are further used to build a general pattern.

The strategy of inductive designs is to allow the important analysis dimensions to emerge from patterns found in the cases under study without presupposing in advance what the important dimensions will be. The qualitative methodologist attempts to understand the multiple
interrelationships among dimensions that emerge from the data without making prior assumptions or specifying hypotheses about the linear or correlative relationships among narrowly defined operationalized variables. (Patton, 1990, p. 44)

Given the inductive nature of the study, the researcher sought to adopt a data analysis design compatible with an inductive research approach. To this end, Miles and Huberman (1984, 1994) developed a model of qualitative data analysis consisting of three linked processes: data reduction, data display, and conclusion drawing/verification. Data reduction is the process of selecting, focusing, simplifying, abstracting, and transforming the word-form data derived from a study. "Data reduction is a form of analysis that sharpens, sorts, focuses, discards, and organizes data in such a way that 'final' conclusions can be drawn and verified" (Miles & Huberman, 1994, p. 11).

Data display consist of visual displays of organized, compressed, and assembled information that aids the researcher in drawing conclusions. Examples of data displays are matrices, graphs, charts, networks, or any other visual devices that allow the assembly of organized information into a form where conclusions can be drawn.

Conclusion drawing/verification is a twofold step. During the process of conclusion drawing the qualitative analyst decides what the data mean by noting "regularities, patterns, explanations, possible configurations, causal
flows, and propositions" (Miles & Huberman, 1994, p. 11). The verification process is the testing of the conclusions or meaning of the data for plausibility. Verification of conclusions is subsumed in a more general category of establishing trustworthiness.

These components, data reduction, data display, conclusion drawing, and establishing trustworthiness, constituted the basis for qualitative analysis in this study. A detailed discussion of the data reduction sub-process ensues. Following that discussion, a brief and general description of the methods used for data display and conclusions drawing is presented. The qualitative data analysis section concludes with a detailed discussion of the process used to establish trustworthiness of data.

DATA REDUCTION Data reduction included, data examination, coding, and memoing. Parts of the data reduction process will be discussed in detail in the following text.

Data Examination According to Patton, (1990) data reduction should begin with the evaluation of the completeness of the collected data. Specifically, he recommends that the investigator must ensure (a) the data are all there, (b) the data is of high quality, and (c) all gaps in the data have been filled. In ensuring completeness of the data for this study, the investigator examined all of the interview instruments completed by the key respondents.
Each instrument was examined to determine if all parts were present and complete. As a result of this examination, the investigator concluded that all instruments were present, complete, and accounted for.

The second part of the data examination sub-process focused on the processing of the audio tapes into written-form. As discussed earlier, the key respondents' interviews were recorded on audio micro-cassette tapes. Each of the cassette tapes was transformed into written form via the use of a professional transcriber. The transcriber recorded verbatim the entire contents of each audio tape and provided the investigator with a master copy of each transcript. The transcripts were examined for completeness and quality by listening to the audio cassettes while simultaneously reading the transcribed copy and making any entries or changes as required. As a result, the transcripts were found to be complete and were acceptable.

After ensuring the completeness of the data, Patton (1990) suggests that collected data be duplicated.

It is wise to make copies of the data as they are collected, being certain to put one copy in a safe place where it will not be disturbed, cannot be lost, and will not be destroyed. In any case, one complete copy of the data should be stored, preferably in a safe deposit box in a bank, for safekeeping. It is no exaggeration to say that these data are priceless. They are unique. The exact observations you have made, the exact words people have spoken in interviews—these can never be recaptured in precisely the same way, even if new observations are undertaken and new interviews are conducted. (Patton, 1980, pp. 298-299)
Following this advice, the investigator made multiple sets of the completed instruments as well as each corresponding transcribed interview which were compiled as sets. The master copies of these sets were bound and stored and made a part of the case study data base to be used for future reference. The remaining copies of the raw data were used in the actual data analysis.

Data Coding  The next step in the data reduction process was coding. Coding is the part of analysis that "involves how you differentiate and combine the data you have retrieved and the reflections you make about this information" (Miles & Huberman, 1994, p. 56). The purpose of classifying qualitative data as apart of data analysis is to facilitate the search for patterns and themes within the phenomenon under study. "A classification scheme is critical; without classification there is chaos. Simplifying the complexity of reality into some manageable classification scheme is the first step of analysis" (Patton, 1980, p. 300).

Before coding could occur, the data had to be unitized. Unitizing is the identification of sections of the data that will serve as the basis for defining categories (Lincoln & Guba, 1985). Coding is the process of assigning a label to some unit of data. Miles and Huberman (1994) define codes as follows:

Codes are tags or labels for assigning units of meaning to the descriptive or inferential
information compiled during a study. Codes usually are attached to 'chunks' of varying size words, phrases, sentences, or whole paragraphs, connected or unconnected to a specific setting. (p. 56)

Lincoln and Guba (1985) term the "chunks" to be coded as units. These units of information have two characteristics:

First, it should be heuristic, that is, aimed at some understanding or some action that the inquirer needs to have or to take. Second, it must be the smallest piece of information about something that can stand by itself, that is it must be interpretable in the absence of any additional information other than a broad understanding of the context in which the inquiry is carried out. (Lincoln & Guba, 1985, p. 345)

These units, according to Lincoln and Guba, can be either simple factual sentences or paragraphs. The raw data in the transcripts were reviewed to identify units. A unit was formed by identifying (a) the construct [success, relationship, or other]; (b) the interview question that solicited the response; and (c) the informant. The newly discovered units were then given identification codes.

The identification code was an alphanumeric label used in organizing and retrieving the units of data. The first and/or second place of the code was either S, RC, or OT. These letters corresponded to the study's constructs (success, relationship, or other). The next two spaces in the identification code were an abridged version of the respondent's identification number. The next space or spaces identified the respondent's interview question from which the unit was derived. Often a response to a question
would contain more than one unit, therefore, each unit was assigned a number. The unit number occupied the next spaces in the identification code. Finally, the last space in the code indicated which page number the unit was on in the respondent's interview transcript.

In the identification code RC11101511, RC indicates the unit concerns the relationship characteristics construct. This unit is from respondent 001-001 (the abridged code is 11). The unit is contained in the response to the respondent's tenth question. This was the 15th unit taken from that particular response. The unit is located on page 11 of the informant's transcript.

The identification coding process utilized in this study was inductive in nature. As the investigator reviewed the raw data, the units were identified, coded and written on index cards. In terms of unit identification, error was made on the side of over inclusion of units as pertinent information, given at this stage it was difficult to tell what mattered and what did not (Miles & Huberman, 1994; Lincoln & Guba, 1985). As the number of identification coded units grew, the emphasis was shifted to the development and coding of descriptive categories.

The development of descriptive categories was accomplished via the constant comparative method of qualitative data developed by Glasser and Strauss (1967). The constant comparative method is a specific joint coding
and analysis procedure Glasser and Strauss developed to generate theory. The constant comparative method consists of four stages or steps: "(1) comparing incidents applicable to each category, (2) integrating categories and their properties, (3) delimiting the theory, and (4) writing the theory" (Glasser & Strauss, 1967, p. 105).

The originators of this method developed it as a means for generating theory. The development of a theory goes beyond the scope of this research endeavor. However, others (Lincoln & Guba, 1985) have utilized the data processing aspects of the constant comparative method (step 1 and step 2) to analyze qualitative data without having as their end the generation of a theory. Consequently, the constant comparative method's first two steps were adopted to aid in the analysis of this study's data.

Lincoln and Guba (1985) operationalized the steps of Glasser and Strauss' constant comparative method. These operationalized steps served as the basis for the constant comparative procedure developed by the investigator for this study.

Step 1 of the procedure required the investigator to identify all pertinent data units and assign them an identification code. After all of the units had been coded and placed on index cards, Step 2 of the process began. The analyst began the task of descriptive categorizing. At random, an initial identification code was selected and its
contents read. This identification code represented the first entry in the first "yet-to-be-named category" (Lincoln & Guba, 1985). A second file was selected and its contents read. The first rule of the constant comparative method is that while coding an identification code for a category, compare it with the previous identification codes (Glasser & Strauss, 1967). Lincoln & Guba (1985) maintain that the analyst need not have an explicit reason to justify assigning a unit to a category, but what is most important is the comparison of the units. Based on the previously stated rule, the analyst made a decision on tacit or intuitive grounds as to whether this second identification code was essentially similar to the first identification code. The second file was determined not to be similar to the first file so it became the nexus of the second category.

This process continued with the successive identification codes. For each identification code it was decided whether the unit was essentially similar to the units in the provisional categories. If so, it was placed in the appropriate category. If not, it represented the beginning a new category. As additional identification codes were processed some did not fit into existing provisional categories nor did they warrant the formation of a new category. These identification codes were placed in a "Miscellaneous" category and retained for later review.
In Step 3, as the categories accumulated six to eight identification codes, an effort was made to put into a propositional statement the properties that seemed to characterize the identification codes in the category. These properties were combined to form a rule for inclusion. This rule of inclusion described the nature of the category. Thus, the categories were termed descriptive categories. Once the rule was provisionally established, a review was done of the identification codes contained in the category to ensure that their inclusion could be justified on the basis of the rule.

As a result of this review some identification codes were either removed from the category and placed in the Miscellaneous category or the rule was modified to accommodate the questionable identification codes in a more satisfactory way. If the rule was modified all of the identification codes in the category were reviewed again to make sure their inclusion was justifiable, based on the revised rule. Otherwise, they were removed from the descriptive category. As this step was repeated, there was a shift from comparing identification codes to each other on an intuitive basis to a comparison of an identification code to a provisional rule. (This is Step 2 of Glasser & Strauss' comparative method.)

The descriptive categories were given codes that were semantically close to the essence of the rule. Various
writers (Glasser & Strauss, 1967; Patton, 1980; Lincoln & Guba, 1985)) suggest two ways of labeling data that emerge from analysis of the data. They are represented either in the respondents' own terms or in the terms of the investigator (Lincoln & Guba, 1985).

First, the investigator uses the terms developed and articulated in the case by the participants to organize presentation of the data. Patton (1980) terms these as indigenous typologies. Concerning indigenous typologies Patton commented:

This kind of approach requires an analysis of the verbal categories used by participants . . . to break up the complexity of reality into parts. It is a fundamental purpose of language to tell us what is important by giving it a name and therefore separating it from other things with other names. Once these labels have been identified . . . the next step is to identify the attributes or characteristics that distinguish one thing from another. (Patton, 1980, p. 307)

The value of the indigenous typologies to data analysis is that they serve as clues to the investigator that the phenomena to which the labels refer are important to the people in the setting. To fully understand the setting, it is necessary to understand and to use those terms and their implications (Patton, 1980).

Although case study participants develop their indigenous typologies for the reality they experience, the investigator may become aware of data for which the participants in the study did not have labels or terms. In
this case, the analyst developed terms to describe these incidents and these are referred to as analyst-constructed typologies.

In naming all of the various codes, Miles & Huberman (1994) suggest that a code should be given a name that is closest to the concept it is describing. That is, they must be semantically close to the terms they represent. "The rationale is that the analyst must be able to get back to the original concept as quickly as possible, without having to translate the code into the concept" (Miles & Huberman, 1994, p. 64).

Definition of codes was also a major concern to the study's investigator. Precise operational definitions of all descriptive and pattern codes (to be discussed in the upcoming text) were developed so that they could be applied consistently by the investigator over the course of the study. Additionally, good operationalized definitions were created so that future researchers utilizing the data from this study would know precisely what each code meant to the original investigator.

The codes are defined in Appendix L and are the end results of a progressive revision of the initially generated codes. As the data were analyzed, some codes were found to be obsolete and were eliminated. Other codes flourished and new codes replaced those that had been eliminated.
Continuing on with the comparative method, Step 4 involved a general review of all the generated descriptive categories. Once the identification codes were exhausted, the entire category set was reviewed. The first category to be reviewed was the "Miscellaneous" category. Each identification code in this category was reread and compared to each category's inclusion rule. Some of the codes were reassigned to different descriptive categories while others were judged to be clearly irrelevant and were placed in a "Discard" category. The irrelevant data was not physically eliminated, but placed in a special category. (This step was taken so that in the future, investigators using the data from this study will have access to all of the categorized data.).

Other identification codes from the "Miscellaneous" category remained unresolved; there was no clear-cut rule of inclusion that would incorporate them, yet the information was not considered irrelevant. They were placed in the "Unassignable" category and retained for the study's data bank. According to Lincoln & Guba (1985) the number of unassignable files "ought not exceed more than 5 to 7 percent of the total; a percentage in excess of that figure probably signals a serious deficiency in the category set" (p. 349).

In Step 5, the category set was evaluated. The categories were compared to two criteria. Guba, (1978)
provided the criteria by which to judge the emerged categories. They are "internal homogeneity" and "external heterogeneity". The first criterion concerns the extent to which the data that belong in a certain category fit together in a meaningful way. The second criterion concerns the extent to which differences among categories are distinctly clear. "The existence of a large number of unassignable or overlapping data items is good evidence of some basic fault in the category system" (Guba, 1978, p. 53).

Glesne and Peshkin (1992) described the progression to this point as follows:

Coding is a progressive process of sorting and defining and defining and sorting those scraps of collected data (i.e., observation notes, interview transcripts, memos, documents, and notes from relevant literature) that are applicable to our research purpose. By putting like-minded pieces together in data clumps, we create an organizational framework. It is progressive in that we first develop, out of the data, major code clumps by which to sort the data. Then we code the contents of each major clump, thereby breaking down the major code into subcodes. Eventually, we can place the various data clumps in a meaningful sequence . . . (Glesne & Peshkin, 1992, p. 133)

Following the evaluation for internal homogeneity and external heterogeneity, the set of categories was examined for possible relationships among the categories. This was Step 6 of the comparative method.

At this step, the study shifted into the second phase of the coding sub-process, that is pattern coding. Pattern codes are explanatory or inferential
meta-codes used to put together a first-level coded (identification and descriptive) units of data that are indicative of repeatable regularities or emerged patterns. "They pull together a lot of material into more meaningful and parsimonious units of analysis. They are a sort of meta-code" (Miles & Huberman, 1994, p. 69). The process of pattern coding in this study was based on the need for the investigator to reduce and channel the categories into a small number of concepts.

The pattern-coding process began with the analyst looking for commonalities or differences among the emerged categories. Specifically, the analyst looked for three types of patterns based in those espoused by Miles and Huberman (1994). They were (a) emerging construct patterns, (b) relationship among the constructs patterns, (c) explanation of the previously emerged and newly emerged constructs patterns, and (d) themes. (For this study, a theme was referred to as a cluster and was defined as a subject that forms the underlying idea in a group of categories.)

The pattern codes were used to help develop the conceptual framework of the alliance relationship characteristics. Specifically, the pattern codes were "mapped". That means the first level codes that rendered a theme or construct were laid out in a
network display to illustrate how the components were interconnected. The mapped patterns served as the basis for conclusion generation.

The development of the pattern codes was written in memos (see the next section for details on memoing) to expand on the significance of the code. "This process helps the writer become less fuzzy about the theme or construct . . ." (Miles & Huberman, 1994, p. 71).

Memoing is the final task in the data reduction sub-process of data analysis. Memoing is the process of instantaneously recording the thoughts, questions, concerns, observations, etc. resulting from the coding of the data. Glasser (1978) provides a more formal definition of this crucial process: "[A memo is] the theorizing write-up of ideas about codes and their relationships as they strike the analyst while coding . . . It can be a sentence, a paragraph or a few pages . . . it exhausts the analyst's momentary ideation based on data with perhaps a little conceptual intent" (pp. 83-84). Patton (1980) defines memos as notations about what the investigator should do with the different parts of the data. The writing of memos allows the analyst to develop thoughts by getting those thoughts down as they occur, no matter how preliminary or in what form they are in (Glesne & Peshkin, 1992).
Various types of memos were created in the analysis of this study's data. Memos were created for (a) idea clarification, (b) differentiating newly-emerged codes from already existing codes, (c) retaining useful ideas or thoughts to be used later in the analysis, (d) pulling together incidents that had commonalities, and (e) noting investigator bias.

Following the advice of Miles and Huberman (1994), the memos created in this study were numbered, given titles with the key concept contained in the memo and linked to specific places in the data. See Appendix L. The memos were kept "sort able" via their titles and numbers so that they could be stored and retrieved in much the same manner as the coded units. Finally, the memos were retained for inclusion in the study's data bank.

DATA DISPLAY The next processes in the data analysis task is data display. A brief description of the type of data displays generated for this study is presented in the following text. The actual data displays developed for data analysis are presented, in full, in Chapter 5.

The basic idea of data display incorporates the notion of using a "visual format that presents information systematically, so, the user can draw valid conclusions and take needed action" (Miles & Huberman,
The rationale for displaying data is to describe and explain. Bernard (1988) defined description as the process of making a complicated thing understandable by reducing it to its component parts. Explanation means making complicated things understandable by showing how the component parts fit together relative to some rule.

The primary data display used in this was the cognitive map. The cognitive maps developed for this study display the investigator's conceptual representation of the subject phenomenon by showing the relationships among the emerged constructs. These maps were instrumental in generating conclusions.

CONCLUSION DRAWING  Having created the various data displays, the data were examined for conclusion drawing purposes, which was the next step in the data analysis process. The conclusions drawn from the data displays appear in what is called analytic text, located in Chapters 4 and 5. Analytic text is the written text containing the discovery of the meaning of the data discerned by the investigator as she ruminated over the data in the data displays. "Analytic text draws attention to the features of the displayed data and 'makes sense' of them, knitting them together and permitting the analyst to draw conclusions and to add interpretations" (Miles & Huberman, 1994, p. 100).
Miles and Huberman explain the interaction between the data displays and the emerging analytic text in the following manner:

Looking at the display helps you summarize and begin to see themes, patterns, and clusters. You write analytic text that clarifies and formalizes these first findings, helps make sense of the display, and may suggest additional comparisons to be made via the display. Those new comparisons, in turn, help you discover new relationships and propose explanations. The resulting analytic text then may suggest ways of elaborating the display, integrating or rearranging it to permit what amounts to re-analysis. That reanalysis helps deepen the initial explanations. (1994, p. 101)

The conclusions drawn in the analytic text were made via a variety of tactics for generating meaning. These tactics included (a) pattern and/or theme noting, (b) plausibility, (c) deduction, (d) clustering, (e) if-then tests, and (f) noting relations between variables.

In pattern and theme noting the investigator notes "gestalts" which pull together many separate pieces of data. According to Miles and Huberman (1994) there are two kinds of patterns. The first is a pattern of variables involving similarities and differences among categories. Next, there are patterns of processes involving connections in time and space within a context. The first type of pattern was of primary importance to this study.

The plausibility and deduction tactics are used when conclusions are based on intuition or on something "making good sense". The plausibility basis for conclusion-drawing
was used as an indicator or a pointer to a conclusion that looked reasonable and sensible on the surface. In each case, the conclusions that resulted from a plausibility basis were followed-up with one or more of the other more substantial or verifiable tactics for conclusion drawing.

"Clustering is a general name given to the process of inductively forming categories, and the iterative sorting of things-events, actors, processes, settings, sites-into those categories" (Miles & Huberman, 1994, p. 249). By utilizing the clustering tactic, the analyst understands the phenomenon better as a result of the process of grouping and then conceptualizing objects that have similar patterns or characteristics. The categories may be preexisting or may have emerged from the data. In this inductive study, emphasis was placed on emerged categories.

The use of if-then tests sought to test the "truth" of expected relationships. Emerged relationships were tested using the classic formal statement, "If p, then q". "Assuming p to be true (an important condition), then we look to see whether q is true. If q is true, then we have a building block for understanding" (Miles & Huberman, 1994, p. 271).

The final tactic of noting relations between variables was utilized late in the analysis process after the primary variables had been identified and substantiated. Once the investigator was reasonably clear about what variables were
applicable, the next step was to attempt to determine how the variables related to each other. "The basic analysis tactic here involves trying to discover what sort of relationship-if any-exists between two (or more) variables" (Miles & Huberman, 1994, p. 258). The most that could be said about the relationships between the variables is that they were correlational in nature. A determination was made as to the direction of the relationship, either direct association or inverse. No attempt was made at determining the strength of the relationship nor was causality among the variables an issue.

ESTABLISHMENT OF TRUSTWORTHINESS The establishment of trustworthiness is the final process of data analysis. In general, the process is concerned with how well the drawn conclusions can be trusted and how the researcher and others will know whether or not the final findings are "good". In any inquiry, regardless of which paradigm it is grounded, the investigator must be concerned with this issue. In other words, researchers must be concerned with the acceptability of the investigation's findings to self, peers, critics, authoritarians (i.e., a dissertation committee, research funding agencies), and the like.

In the hypothetico-deductive paradigm this notion of acceptability is typically referred to as validity and reliability of the data. Correspondingly, in research based in the holistic-inductive paradigm the issue of the
trustworthiness of the data is at stake. "The basic issue in relation to trustworthiness is simple: How can an inquirer persuade his or her audience (including self) that the findings of an inquiry are worth paying attention to, worth taking account of?" (Lincoln & Guba, 1985, p. 290).

Qualitative study trustworthiness places an emphasis on the truthfulness of the data claims, the strength of the generated evidence, and the plausibility of the interpretations. To this end, various researchers predisposed to naturalistic research have developed criteria to assist naturalistic inquirers in assuring the trustworthiness of their data. Paralleling the "truth" standards of hypothetico-deductive research (internal validity, external validity, and reliability) are the qualitative standards of credibility and transferability (Lincoln & Guba, 1985).

In this study, the credibility dimension of trustworthiness addresses the quality of the method designed to answer the research questions, the authenticity of the data rendered by the study, the documentation of the research process, and the control for researcher bias.

The first underlying issue in the credibility dimension of trustworthiness is whether or not the process of the study is consistent and reasonably stable over time, across researchers and methods or in other words, having done things with reasonable care (Miles & Huberman, 1994). The
multiple researcher issue is not applicable to this study. Therefore, reliability in this study is in reference to the method used. Credibility was achieved, in part, by the painstaking development and application of the appropriate research methodology for the research purpose, objective, and questions. The research methodology was presented in great detail in the previous portions of this chapter. Each of the parts of the research method was meticulously joined together to link the empirical data with the research questions. A study's general methods and procedures described explicitly and in detail are ways of ensuring quality of a study's final findings (Miles & Huberman, 1994). The next hallmark of the credibility dimension of trustworthiness is authenticity (internal validity) of the collected data. Authenticity is a demonstration of the fact that the inquirer has represented the multiple reality constructs of the key informants adequately. Integrated in the development of the methodology were guidelines suggested by Huberman & Power (1985) on increasing the accuracy of the reports of key informants. These guidelines included the selection of the informant with the most knowledge about the issue of interest. This process was discussed in the section concerning informant selection.

Huberman & Power also suggest the removal of any disincentives to responding. This was accomplished by ensuring complete anonymity and confidentiality of responses
via the gain-access cover letter contained in Appendix C. The final Huberman and Power guideline utilized to ensure credibility was the proper framing of questions for accurate data. In particular, this was accomplished via the process and guidelines used to generate the interview guide.

The third component of the credibility dimension of trustworthiness is documentation. This is necessary for readers who need to know what was done and how, as a way of assessing the credibility of the findings (Miles & Huberman, 1994). Documentation in this study came in the form of a study data base. Typically, a case study data base consists of documents and tabular materials (Yin, 1989). The form of the data for this inquiry lent itself very readily to Yin's data base components. The document component consists of a copy of each of the key informants' transcribed interview, the completed instruments, the investigator's memos, and other documents considered necessary by the investigator. The results of the completed quantitative scales (Likert's POC and Lundstedt's IR scale) in tabulated form comprised the tabular material component.

The final component of the credibility dimension of trustworthiness is control for researcher bias. The basic question surrounding researcher bias is relative to "neutrality, and reasonable freedom from unacknowledged researcher biases that exist" (Miles & Huberman, 1994, p. 278). At first glance, this requirement appears to
contradict two axioms of the paradigm that govern this study. (Those axioms are the researcher's value-boundness and the relationship between the researcher and the object under study.)

Unity and separation define the paradoxical relationship between the observer and the observed in holistic-inductive studies. The fact that a researcher has an effect on the object of study is a given tenet in qualitative studies. "The issue is not whether or not such effects occur; rather, the issue is how to monitor those effects and take them into consideration when interpreting the data" (Patton, 1980, p. 189). The monitoring of the effects was achieved by instituting the practice of writing "Self-awareness" memos. Memos were generated to document the investigator's personal assumptions, values and biases toward the study's subject and how the biases may have an effect on the conclusions drawn from the study.

These "self-awareness" memos served two functions. The first was to assist the investigator in being continually aware of what her personal biases were. The heightened consciousness allowed the investigator to identify any biases that might have appeared in the conclusions. Any conclusions containing any of the researcher biases were subjected to the conclusion verification tactics previously discussed.

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The second dimension of trustworthiness is transferability (external validity). In the naturalist paradigm this dimension is synonymous with generalizability in the positivist paradigm. Great caution is exercised with this component of trustworthiness. This caution reflects one of the basic characteristics of holistic-inductive research. That characteristic is tentative application (Lincoln & Guba, 1985). Tentative application refers to the hesitation about making broad application of findings from one case to another case. This hesitation, has it origins in the differing multiple realities, the uniqueness of the inquirer/respondent interaction, the unique contextual factors, etc. of a given subject case.

Although each case is unique there may be some empirical similarities where the extent to which the findings in one study may be applicable to other studies. This transferability is dependent upon the empirical similarity of the two contexts. For those instances where the contexts are similar and information generated in the first context may hold true in a second context, transferability is established. In order to determine transferability to other cases, the investigator provided proper description of this case’s context.

There were no specific guidelines as to what constitutes proper context description (Lincoln & Guba, 1985). To facilitate future judgements of transferability
from those who will conduct similar studies in the future, a thorough description of time, place, context, and culture in which the conclusions were identified was provided. In Chapter 1, a detailed background of the HAM alliance was given. Also, the 1992 pilot case study was made a part of the case data base and can be referenced for contextual similarities.

A second principle used in establishing transferability was the development of the case study data base for future reference (Miles & Huberman, 1994; Yin, 1989; Lincoln & Guba, 1985). According to Yin, this tactic is concerned with organizing and documenting the raw data collected for the study for future reference. The key issue here is "every case study project should strive to develop a formal, retrievable data base, so that in principle, other investigators can review the evidence directly and not be limited to the written reports" (Yin, 1989, p. 98). In other words, there must be maintenance of the raw data in some form that researchers in the future could retrieve the data and use it to conduct their own analysis of the data. The results of these subsequent analyses would be compared to the analysis and conclusion of the then current study. A measure of credibility of the study would be indicated by how synonymous the past and current analyses were. In this way the case study data base will increase both the credibility and transferability of the inquiry.
Quantitative Data Analysis

This section presents the procedures used to analyze the data produced as a result of administering the Lundstedt Interpersonal Risk (IR) Scale (Form B) and the Likert Profile of Organizational Characteristics (POC) (Form E).

LUNDSTEDT INTERPERSONAL RISK SCALE (FORM B) The first task in analyzing the data collected via Lundstedt's Interpersonal Risk (IR) scale was to calculate the respondents' IR scores. Lundstedt's IR scale was designed as an instrument to measure the construct of subjective interpersonal risk. As discussed previously, the scale included 30 dichotomized statements or items describing situations where elements of subjective risk and utility were involved and where personal influence and control were distributed or exchanged. The respondents indicated, on a 10-step modified Likert-type scale, the degree of his agreement or disagreement with each statement.

Agreement or disagreement was indicated by placing a check-mark in a numbered box under the "Agree" category or the "Disagree" category. The boxes were numbered sequentially from 1 to 5. The 1 equaled extremely low agreement or disagreement, 2 equaled low agreement or disagreement, 3 equaled moderate agreement or disagreement, 4 equaled high agreement or disagreement, and 5 equaled extremely high agreement or disagreement.
For half of the statements (items 2, 5, 8, 9, 11, 14, 15, 16, 18, 19, 20, 26, 27, 28, and 29), agreement was scored in the high IR direction. Specifically, agreement with a High IR item resulted in the level or score of agreement being assigned a positive sign (+1, +2, +3, +4, or +5). Disagreement with a High IR item resulted in the level or score of disagreement being assigned a negative sign (-1, -2, -3, -4, or -5). All High IR agreement scores were added together and all High IR disagreement scores were added together. The positive agreement score was added to the negative disagreement score to get a High IR item subtotal, designated as $H^a$.

For the remaining fifteen items, (1, 3, 4, 6, 7, 10, 12, 13, 17, 21, 22, 23, 24, 25, and 30), agreement was scored in the low IR direction. Agreement with a Low IR item resulted in a positive score (+1, +2, +3, +4, or +5). Disagreement with a Low IR item resulted in a negative score (-1, -2, -3, -4, or -5). All Low IR agreement scores were added together and all Low IR disagreement scores were added together. The positive agreement score was then added to the negative disagreement score to get a Low IR item subtotal, designated as $L^a$.

A respondent's final IR score is the difference between the subtotal score for High IR items ($H^a$) and the subtotal score for Low IR items ($L^a$). The resulting formula for score generation is
\( H^s - L^s = \text{Individual IR score} \)

All six respondents' final IR scores were calculated using the above formula.

The IR scores were interpreted via the IR score scale. The scale was developed by calculating the highest and lowest IR scores possible. Given that there are 15 High IR items and 15 Low IR items with a maximum level of agreement or disagreement of 5, the maximum High IR score is 75 and the lowest Low IR score is -75. The highest score on the scale was calculated by using the IR score formula and the maximum High IR and the lowest Low IR scores.

\[ H^{s(\text{max})} - L^{s(\text{min})} = \text{IR score(max)} \]

Where, \( H^{s(\text{max})} \) equals 75, and \( L^{s(\text{min})} \) equals -75.

\[ 75 - (-75) = 150 \]

Consequently, the highest IR score a respondent can receive is 150.

Similarly, the lowest score on the scale was calculated by using the IR score formula and the lowest High IR score and the maximum Low IR score.

\[ H^{s(\text{min})} - L^{s(\text{max})} = \text{IR score(min)} \]

Where, \( H^{s(\text{min})} \) equals -75, and \( L^{s(\text{max})} \) equals +75.

\[ -75 - (+75) = -150 \]

Consequently, the lowest IR score a respondent can receive is -150.

With an IR score scale having an absolute low score of -150 and an absolute high score of +150, the scale was
divided into varying degrees of IR. An individual score ranging from -150 to -90 was considered an extremely low IR score. An IR score falling above -90 and below -30 was indicative of a low IR score. Scores falling between -30 and +30 would indicate a person possessing moderate IR. The +30 to +90 point interval was considered a high IR score and a score falling between +90 and +150 was considered extremely high IR.

Having scored the data and developed a way to interpret the score, the next task was to determine what the distribution of the IR variable looked like. The previous discussion of the scoring procedure for the IR scale indicates that the data from the scale is interval in nature. Interval data indicates a quantity without regard to a true zero point. An IR score is not based on a zero level of IR, that being total absence of subjective IR, but divides the subjective IR range into intervals (i.e., points) without any true zero-point.

The interval measurement scale type possesses a continuous data form. Descriptive statistics concerns the description of continuous data found in a study. Consequently, the statistical analysis required for this study was descriptive statistics. The descriptive statistics used in this study were the range, the mean and the median. A brief definition of each descriptive statistic follows.
The range, measures the entire width of a distribution from the lowest to highest score. The range display and all other data displays pertaining to the Lundstedt IR Scale data are presented in Chapter 4.

The other ways the data were described were by identifying what seemed to be a typical IR score. In other words, it was necessary to find a single value that is, in some sense the most typical or representative of all the observed values. The most common way of finding this central tendency of distribution is by calculating the mean. The mean is the average value of the IR scores, computed across all IR scores calculated for the study.

The median is another measure of central tendencies. It indicates the number in which half of the scores lie to the right of it and half of the scores lie to the left of it.

**LIKERT PROFILE OF ORGANIZATIONAL CHARACTERISTICS**

The POC scale (Form E), is a 24-item questionnaire designed to measure the nature of the management system employed by a particular organization. Specifically, it determines what an individual believes are the characteristics of his or her organization. The items in the questionnaire portray the components of a management system. They are; (a) the leadership process, (b) the character of motivational forces, (c) the communication process, (d) the interaction-influence process, (e) the decision-making process, (f) the
goal setting or ordering process, and (g) the control processes. These components of management are plotted on the vertical axis while the dependent variable (amount of control exercised by the organization) is plotted on the horizontal axis. From the data collected via the POC, it is possible to prepare a profile of organizational characteristics and to identify the organization as System 1 (Exploitative-Authoritative), System 2 (Benevolent-Authoritative), System 3 (Consultative), System 4 (Participative Group), or somewhere in between. In Chapter 4, this was done for the present and for one-to-two years in the past.

The first step in analyzing the data was to determine how each item's pattern was listed, either from System 1 to System 4 or from System 4 to System 1. Item numbers 1, 3, 7, 8, 9, 13, 15, 17, 20, 22, 23, and 24 were listed from System 1 to System 4. Item numbers 2, 4, 5, 6, 10, 11, 12, 14, 16, 18, 19, and 21 were listed from System 4 to System 1. The responses to the second set of items were reversed to correspond with the System 1 to System 4 order.

The management system classification for each organization was computed arithmetically. Each item's horizontal line on Form E in Appendix H is divided into 20 segments by short vertical marks. A value of one was assigned to each segment created by the short vertical lines. The mean total score was computed for each
respondent. This was achieved by adding all of the "N" scores together and all of the "P" scores and dividing each sum by 24, the number of items. The mean scores are readily converted to scores along the System 1 to System 4 continuum. System 1 covers the score ranges of 1 to 5, Systems 2 covers 5 to 10, System 3 covers 10 to 15 and System 4 covers the range from 16 to 20.
CHAPTER 4

DATA ANALYSIS RESULTS

Introduction

The purpose of this chapter is to present an account of the results of the data analysis procedure presented in Chapter 3. This is accomplished by presenting the findings for each of the four research questions developed for this study. These findings are presented in the order of the research questions as listed in Chapter 1.

Results

Research Question 1 The first research question reads as follows:

In the strategic alliance consisting of HAM, CSC, TFO Tech, and MSI, what are the characteristics of the relationship between the partners that contribute to accomplishing the objectives of the alliance and the objectives of each individual participating company?

Upon closer evaluation, the dual nature of this question can be detected. The first aspect concerned the discovery of relationship characteristics among the alliance participants. The second facet of the research question concerned the association of the relationship
characteristics with the accomplishment of the alliance's and the participants' objectives. (Success was defined as the accomplishing of objectives.) As a result, the data generated from the administration of the interview guide (Appendix D) was analyzed in terms of the two theoretical constructs: relationship characteristics and success.

The inductive nature of this research question required the qualitative data analysis approach presented in Chapter 3. The data analysis procedure for this study consisted of three parts: (a) data reduction, (b) data display, and conclusion drawing/verification. The results of the first two parts of this data analysis procedure are presented in this section. The discussion of the conclusions are presented in Chapter 5.

In this study, data reduction was the process of selecting, focusing, simplifying, abstracting, and transforming the word-form data collected in the study. The specific subprocesses of data reduction used in this study were (a) data examination, (b) coding, and memoing. A summary of the data examination and coding subprocesses follows. (The memo subprocess is not discussed specifically. Evidence of having engaged in the memoing subprocess is evident in Appendix L, which contains the memos generated from conducting this analysis.)

Data reduction began with an examination of the collected data to determine its completeness. In ensuring
completeness of the data, the investigator examined all data provided by the key respondents to determine if all parts were present and complete. Upon completion of the review, the investigator concluded that all instruments were present and complete.

The second part of the data examination sub-process focused on processing each participants' audio-tape interview into written-form. Each audio cassette was given to a professional transcriber who recorded verbatim the entire contents of the audio tapes. The typed transcripts generated by the transcriber were examined for completeness and quality by the investigator by listening to the audio tape while simultaneously reading the transcribed copy. As a result of the review, the transcripts were found to be complete and acceptable.

Coding was the next step in the data reduction process. The initial step in coding involved unitizing. Unitizing is the identification of the sections of data that would serve as the basis for defining categories (Lincoln & Guba, 1985). Step 1 of the constant comparative method, discussed in Chapter 3 was used for unitizing and for the assignment of identification codes to pertinent units of raw data gleaned from the six informants' transcribed interviews. This procedure resulted in the generation of 190 units. Each unit was given its own unique alphanumeric identification code. As discussed in Chapter 3, the identification code
indicated the theoretical construct, respondent number, interview guide question, a unit number, and the page number of the respondent's transcript where the unit could be found.

A second review of the original 190 units, resulted in nine of the units being reassigned to a theoretical construct different from the original assignment. Three relationship characteristics units were reassigned to the success construct while six success units were reassigned to the relationship construct. See Appendix L, Descriptive Coding Memo #48 for details. All other data in the nine codes were unaffected by the construct change.

As a result of completing Step 1 of the comparative method and reviewing each code for accurateness, the information in Table 2 was generated. Overall, the success-related units accounted for 30.53% of all generated units, while the relationship characteristics-related units accounted for 67.37%. The four units related to a phenomenon other than success or relationship characteristics accounted for 2.10% of the total units. Five memos were generated during the unitizing and identification coding process and are contained in Appendix L.

After all of the units had been identified and assigned an identification code, Step 2 and Step 3 of the comparative method were conducted. These steps guided the investigator
in assigning each identification-coded unit to a category. A category is a collection of units that have some common bond. (Some identification codes were assigned to more than one category.) A total of 47 categories was generated and given descriptive codes.

Following the procedures set forth in Step 4 and Step 5 of the comparative method, the newly formed categories were evaluated. The 47th category was assigned the descriptive code "Discarded" and contained identification codes RC3214211, OT5113111, and S11252. The investigator determined these three units contained irrelevant data that did not pertain to the other categories' inclusion rules. Additionally, the value of the data did not warrant the generation of a unique category for each unit. Consequently, these three units were eliminated from further consideration.

Of the remaining 187 units, 11 identification codes were unassignable, meaning that there was not clear-cut category rule of inclusion that would incorporate the units into a given category, yet the information was not considered irrelevant. These 11 units constitute the 46th category which was coded "Unassignable". See Descriptive Coding Memo # 46 in Appendix L. According to Lincoln and Guba (1985), the number of unassignable units should not exceed 5% to 7% of the total, otherwise the category set would be considered deficient. The 11 units in the
Unassignable Category are 5.79% of the original 190 units and 5.88% of the relevant 187 units. Each percentage lie within the 5% to 7% range of acceptability and, therefore, the category set was considered acceptable.

The remaining 45 categories constitute the descriptive-category set. Each descriptive category in the set was given a descriptive code that was either an indigenous label or an analyst-constructed label that was semantically close to the concept it was describing. Each descriptive code's development is documented in a numbered Descriptive Coding Memo located in Appendix L.

The descriptive-category set was reviewed and judged against two criteria: internal homogeneity and external heterogeneity. The first criterion concerns the extent to which the units that belong in a certain category fit together in a meaningful way. The second criterion concerns the extent to which differences among categories are distinctly clear. Upon completion of this review, it was determined that the descriptive categories did not violate the internal homogeneity criterion.

In regards to the external heterogeneity of the descriptive set, two deletions were made. The descriptive code "Profit" was very similar in nature to descriptive code "Profit (II)". Consequently, the identification-coded unit listed in the "Profit" category was moved to the "Profit (II)" category. The "Low Cost" descriptive category was
determined to be similar in nature to the "Profit (II)" category. Therefore, the identification codes in the "Low Cost" descriptive category were assigned to the "Profit (II)" category which was renamed "Profit/Cost" to better reflect the concepts it was associated with. These developments were documented in Descriptive Coding Memos #1, #33, and #36 and External Heterogeneity Memos #1, #2, and #3 contained in Appendix L.

The second deletion was that of descriptive code "M/Support". It was found to be very close to the concept developed in the Descriptive category coded "M/Hands-on". Consequently, the identification code (RC121467) contained in the "M/Support" category was added to the "M/Hands-on". This change was documented in Descriptive Coding Memo #24 and External Heterogeneity Memo #4.

The next alteration in the descriptive category set was the combination of "Expected Quality" and "Higher Quality" descriptive categories. The two were combined because they were determined to be two measures of the quality concept. Consequently, the new combined descriptive category was coded "Quality". This change was documented in Descriptive Coding Memos #35 and #38 and External Heterogeneity Memos #5 and #6.

The final deletion was that of descriptive code "Future Success". Its contents and that of the descriptive code "Continued Success" were found to be very similar in nature.
Therefore, the data unit in the "Future Success" code was transferred to the "Continued Success" descriptive category. The documentation concerning this change can be found in Descriptive Coding Memos #42 and #44 and External Heterogeneity Memos #7 and #8 in Appendix L.

At the conclusion of comparative method Steps 1-5 there were 40 descriptive codes available for use in pattern coding which was the next step in the qualitative analysis procedure. Table 3 lists the 40 remaining descriptive codes.

The analyst began pattern coding, Step 6 of the comparative method, by looking for commonalities and/or differences among the 40 descriptive categories. Those categories that could be grouped on the basis of (a) similarity; (b) correlation (i.e., when one category appeared, another appeared also); or an explanation were put together to form a pattern. Of the 40 descriptive categories available for use in pattern coding, four ("Individual Effects", "Individual Characteristics", "Quality Ratings", and "Proximity") were determined to be unassignable to any of the emerged patterns. They were consequently, eliminated from further analytical consideration, however they were retained for future reference in the study's data base document.

The pattern coding process rendered four patterns. They were (a) the alliance characteristics pattern, (b) the
manufacturer's characteristics pattern, the suppliers' characteristics pattern, and the (d) success indicators pattern. Each pattern is defined and its contents thoroughly discussed.

Alliance Characteristics Pattern

The alliance characteristic pattern contained those descriptive categories that were applicable to the distinguishing features or qualities of the relationship between the alliance participants. Contained in this first pattern were four distinct clusters of descriptive categories that characterized the nature of the relationship among the alliance participants.

The first cluster discovered was coded as "Longevity". This cluster of descriptive categories pertained to the duration or life span of the alliance relationship. Four descriptive categories were found to be contributors to this cluster. The pattern codes for those categories were (a) "Perspective", (b) "Viability", (c) "Commitment" and (d) "Supplier Continued Improvement". The commonality or regularity among these descriptive codes was that they appeared to be factors necessary for the maintenance of the strategic alliance relationship over the long-run.

The "Perspective" category entailed the concept of the time frame in which the participants viewed the duration of the alliance. Given this, the time frame orientation of both the focal manufacturer and the suppliers was
investigated. The following quotation taken from a HAM respondent established the perspective of the manufacturer.

You need to have relationships with your suppliers and frequently long-term relationships. Typically, in the US, a supplier gets an annual contract and each year they have to meet the criteria to receive that particular contract and be able to be competitive. . . . Honda believes in long-term relationships 25, 30, 40 years." (Identification Code: RC11102413, Descriptive Code: "Perspective")

In reality, chronological time can be placed on a spectrum that begins with zero time at one end and time infinity anchoring the other end. Somewhere along this spectrum lie the perspectives of the alliance participants. Based on the response of the HAM respondent, the short-term time frame is a year and the long term time frame is anywhere from 25-40 years in length.

Given the discovery of the long-term perspective of the focal manufacturer, the concept was then addressed from the standpoint of the suppliers. For the American-owned supplier there appeared to be an acknowledgment of the manufacturer's long-term view of the relationship. However, at the same time when out-of-the-ordinary situations arose in the short-term, the application of a long-term perspective was not as evident. To illustrate this point, consider the reduction of the percentage of crankshafts being normalized by MSI. The percentage fell from 100% of the total volume to 30%, however, the volume nearly doubled since the inception of the alliance. (TFO Tech began normalizing some of the crankshafts produced by the
alliance.) The response of the supplier indicated a difference in time-frame perspective. This production change in the short-run and the perspective of this particular supplier resulted in some degree of discontent on the supplier's behalf. The following excerpts from the "Perspective" category provided support for this reasoning:

Approximately 70% of the total volume of parts is now being done by them [TFO Tech], so the amount of work we [MSI] are doing for them [has] diminished. . . . There is some political motivation involved for keeping us in line and there was also [the] rationale of keeping us in line to produce parts they can't keep up with too! So there [are] a couple of reasons that we are not completely cut out of the picture. In actuality, what we are doing is 30% of the total volume. Now the total volume from 1992 [has] actually doubled, so percentage-wise our business is falling off. It is probably not as proportionally as big a loss as it seems. (Identification Code: OT32111, Descriptive Code: "Perspective")

I don't know of any problems and I think the reason we are getting the small quantity that we are getting right now is because they [TFO Tech and HAM] feel there is still a commitment to us. . . . I think they would want to keep us as a backup in case their furnace [was] to ever go down. (Identification Code: RC31545, Descriptive Code: "Perspective")

I know of no problems. Everything is going good. No conflicts or anything. It's just that our volume has dropped and [after] the next phone call, we could be out of the alliance. (Identification Code: RC3116211, Descriptive Code: "Perspective")

We have been successful in scheduling the quality of the part . . . and the only thing I would say we are not successful with is the fact that the volume [of crankshaft being heat treated] has dropped.... We heard, once you become a supplier to Honda . . . you become part of the family and they just won't drop you. At the same time, we get a little bit of work from them. It's my experience that a lot of these transplant companies subcontract work out for
a time. It could be a year or two years, but, the long-range goal, a long-term plan is to bring that work in-house and do it themselves. (Identification Code: RC31535, Descriptive Code: "Perspective")

Of the nine identification codes that constitute the "Perspective" descriptive category, eight of the units were generated by the two respondents from MSI. The ninth identification code was taken from the response of a HAM respondent. Consequently, there is only evidence of short-run discontent in a long-term environment pertaining to one of the three suppliers in the alliance.

The next descriptive code that contributed to the "Longevity" cluster was "Viability". "Viability" is defined as the long-term successful existence of each of the alliance's participants. Two identification codes constituted the "Viability" descriptive category. The quotations from the two units are as follows.

In long term viability each company is going to have to maintain their long term viability . . . we can't supply successfully to Honda if we're not around. (Identification Code: RC5128118, Descriptive Code: "Viability")

I think Honda expects us to make a profit. They don't want their better base to [lose] money and then have their [HAM] work dumped or something like that . . . [having] a company go out of business and they have to start all over again. (Identification Code: RC31524, Descriptive Code: "Viability")

From the previous data excerpt, it was noted that "Viability" was also associated with the profitability
of each independent supplier. The assumption was that if the suppliers were not profitable then they would not be in existence in the long run. If one or more of the suppliers were not in existence, then the HAM alliance, as it is defined would cease existence.

The next descriptive category discovered to be a contributor to the "Longevity" cluster was "Commitment". "Commitment" was defined as a pledge to the success and continuation of the strategic alliance. This descriptive code was characterized by the willingness to invest financial resources prior to receiving any return on that investment. Additionally, the commitment was required of all of the participants as evidenced by the following excerpt.

Well there had to be a great deal of commitment from all sides. ...a lot of dollars were sunk into the program from all sides, and we were paid for some of that but there was a lot of financial commitment from all sides that was needed before any dollars ever really changed hands, before there was ever any kind of profit made. (Identification Code: RC51312, Descriptive Code: "Commitment")

Commitment was long-term in nature and also entailed the suppliers’ desire to provide a quality part.

...to be successful there had to be a commitment from all the companies. They knew this was going to not be something that you went through for a couple of years and then it just disappeared. There had to be an ongoing relationship over a period of time. . . . (Identification Code: RC51323, Descriptive Code: "Commitment")
The suppliers that we have are committed first of all to giving us a good product. (Identification Code: RC121416, Descriptive Code: "Commitment")

Supplier Continued Improvement (coded as S/Cont. Imp.) was the final contributing descriptive category to the "Longevity" cluster. This factor suggested that, in the long-run, to be a viable supplier to HAM required the additional capability of conducting research-and-development (R&D) to improve quality of the product while lowering the cost. This thought was supported by the following interview excerpt.

...[to ensure] longevity of the success of a relationship between Honda and a company, ... we look at companies...[that have]... capabilities in the area of R&D. ... (Identification Code: RC11102112, Descriptive Code: S/Cont. Impv.)

The second discovered cluster of descriptive codes in the alliance characteristic pattern was coded as "Interaction". Two descriptive categories, "Communication" and "Negotiation", were found to be the contributors to this cluster. This cluster of descriptive codes pertained to how the alliance participants acted upon one another specifically through communication and negotiation. The "Communication" descriptive category was defined as the ability and permission to, in various forms but primarily verbally, to make known ideas, desires, expectations, etc. "Negotiation" was defined as the ability among all participants to bring about resolution of conflict resulting from differing interests and perspectives. The end result
of negotiation was to ensure that all parties' interests were addressed relative to the good of the alliance and the quality, cost, and availability of the part.

"Communication" and "Negotiation" are applicable to the life-span of the alliance but were noted by the respondents to be particularly prevalent in the formative months of the alliance. The following excerpts are evidence of this claim.

...characteristics of the relationship would be the ability to work together, communicate, coordinate all of the efforts, all the scheduling, all the timing, from the very first time we started talking about this project up to the present day. . . . (Identification Code: RC111019, Descriptive Code: "Communication")

So there was a great deal of communication input from all parties. I'm not sure that the input that we provided was always used in their [HAM] final decisions, but never-the-less, we thought it was important; we still put it out on the table. (Identification Code: RC311259, Descriptive Code: "Communication")

It was pure negotiating in the beginning, it was like everybody was trying to make sure they took care of their part . . . everybody was trying to make sure they were not getting into a bad position. But it all worked out. (Identification Code: RC5124116, Descriptive Code: "Negotiation")

We had to sit down in meetings together and "iron-out" details of the specification . . . it evolved between just the two of us . . . it was the little things that we had to deal with TFO directly on . . . those had to all be resolved. (Identification Code: RC5121115, Descriptive Code: "Negotiation")

In continuing the discussion of the components of the alliance relationship pattern, the next cluster in this pattern was identified as the "Unity" cluster. This cluster
pertained to the state of being combined with others to form a greater whole. Four descriptive categories were found to be contributors to this cluster. The codes for those descriptive categories were (a) "Family", (b) "Fairness", © "Cooperation" and (d) "Individual Familiarity". The commonality among these descriptive categories was that they appeared to be factors or qualities needed to facilitate a sense of wholeness or oneness among the alliance participants.

The "Family" category suggested extension, that is, each participant viewed itself as extended into the boundaries of the other participants in the alliance. The two identification codes that comprised the "Family" descriptive category were indicative of this sense of extension.

We don't just try to treat people as suppliers. We try to treat them as part of the entire manufacturing family. (Identification Code: RC121426, Descriptive Code: "Family")

...with the current business climate, the way that it is you need to align yourself with customers and when I say align we don't look at ourselves as a separate company ... we look at ourselves as an extension. (Identification Code: RC3118211, Descriptive Code: "Family")

"Fairness" was defined as an understanding of each participant's role and responsibility and the tendency to not extend expectations beyond those points.

I don't believe that one part of the alliance can ask any of the other people to do more than their fair share. (Identification Code: RC31323, Descriptive Category: "Fairness")
"Cooperation" consisted of 11 identification codes and was summarized as the willingness to work together for a common purpose. This willingness was evident during the formative phase of the alliance (Identification Code: RC218111) and when problems arose throughout the course of the relationship (Identification Code: RC219113). Cooperation was said to be facilitated by the recognition of each participant's capabilities and limitations. "Fairness" and "Cooperation" were linked by the following units.

Basically, I think everyone has to work together and we must realize each others capabilities and limitations. (Identification Code: RC31313, Descriptive Code: "Cooperation")

...the key characteristics of that whole relationship are communication, coordination, the ability for everyone involved to work together. (Identification Code: RC1110410, Descriptive Code: "Cooperation")

I think there was a great deal of cooperation at the beginning. There still is [cooperation]. (Identification Code: RC311218, Descriptive Code: "Cooperation")

I think all of us work well together and it's been an ongoing and matured relationship. . . . (Identification Code: RC21415, Descriptive Code: "Cooperation")

The final descriptive category that contributed to the "Unity" pattern cluster was "Individual Familiarity". This particular descriptive category was applicable to the personal relationships that developed between the contact people in each organization. The following data excerpt illustrated this point.

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I had dinner with my [TFO] contact at [his] house. We met. Our families know each other. Our relationship has developed very nicely. It had to be that way because we do quite a bit with them and we really wanted to make sure that we had a good relationship. (Identification Code: RC5127218, Descriptive Code: "Individual Familiarity")

...We [CSC] conscientiously try to develop a personal relationship at TFO because we knew that we were going to be working very closely with them, so we tried to culture some relationship with them. . . . (Identification Code: RC5127118, Descriptive Code: "Individual Familiarity")

These personal relationships were associated with better problem resolution and minimal animosities.

We'd build closer relationship meaning when there are problems . . . it's easier to deal with people [who] are familiar with each other. They're familiar with the processes; it's easier to solve problems. . . . There's not as much animosity as [occurs] when you're not familiar with each other. (Identification Code: RC121488, Descriptive Code: "Individual Familiarity")

Additionally, the development of non-business relationships among the company contacts fostered a sense of trust between the boundary-spanning personnel.

...getting to know the people involved and the personalities involved, what our capabilities were and trust was developed. (Identification Code: RC5127118, Descriptive Code: "Individual Familiarity")

The final cluster associated with the alliance characteristics pattern was coded as "Reliance". This descriptive category cluster had as its nucleus the concept of mutual dependence between each member of the alliance. "Trust", "Process Knowledge" and "Ethics" were the three descriptive categories that comprise the "Reliance" cluster.
"Trust" was not given a specific definition by the respondents addressing the concept. However, the phenomenon appeared to have multiple facets or sources. "Trust" was based on the ability of the participating companies to meet technical requirements (RC5117313). "Trust" was also determined to be bidirectional or mutual.

I have to trust Copperweld to do its job. Copperweld has to trust me to do my job, I have to trust Metallurgical and Metallurgical has to trust me. So, let's just say it's based on mutual trust. (Identification Code: RC218312, Descriptive Code: "Trust")

Trust was also based in HAM's confidence in and expectation of the suppliers to fulfil their obligations and responsibilities to the alliance (RC5117112). The notion of trust was said to develop over time and the course of the alliance relationship (RC5117112).

Process knowledge was defined as each participant's knowledge of the processes used by all other members in the alliance. This knowledge was said to facilitate "familiarity" and develop "good relationships" between members. See the following data excerpt.

Their people have come in here and gone through our [production] lines so they can better understand why the quality they produce is so important. And on the other hand we go down there and look at their processes and try to help them more. They explain more to us what they do so that we understand how their quality is so much more important to us. Again, it just brings familiarity and it brings a good relationship between customers [HAM] and suppliers [MSI, TPO Tech CSC]. (Identification Code: RC1214119, Descriptive Code: "Process Knowledge")
Finally, the ethical environment established by each participating company was said to foster reliance. Each company provided an ethical environment in which the individuals function. Each individual member in the alliance had the option of conducting himself in an ethical manner or not (Identification Code: RC2110214, Descriptive Code: "Ethics").

In summary, the alliance characteristics pattern contained those emerged characteristics that were applicable to the relationship among the alliance participants. Contained in this first pattern were four distinct clusters of descriptive codes that characterized the nature of the relationship among the alliance participants. Each particular cluster contained one or more descriptive categories. Table 4 summarizes the contents of the Alliance Characteristics Pattern.

Manufacturer's Characteristics Pattern

The second kind of pattern to be discussed is the manufacturer's characteristics pattern. This pattern dealt with an aggregate of traits or qualities found to be evident in the manufacturer (i.e., HAM). The following eight descriptive categories were determined to be the contributors to the manufacturer's characteristics pattern: (a) "M/Motive", (b) "M/Progressiveness", (c) "No Formality", (d) "M/Reputation", (e) "M/High Expectations", (f) "M/Hands-on", (g) "M/Risk Aversion", and (h) "Overkill".
The first descriptive category ('M/Motive') concerned HAM's motive for establishing and maintaining the alliance. HAM's motive for initiating and maintaining the alliance centered around the strong desire to localize the production of the crankshaft for political (Japan/US trade deficits), financial (Yen value), and philosophical (make the product where it is sold) reasons.

They [HAM] had a desire to localize the part. There was a commitment on Honda's part to do that. (Identification Code: RC51424, Descriptive Code: "M/Motive")

The next descriptive category attributable to the focal manufacturer's characteristics was the progressiveness of the manufacturer (M/Progressiveness). HAM was characterized as an organization that advocated cumulative improvement and continual onward movement for itself and its suppliers. This tendency was indicated by expansion into new markets, increasing current markets, and by attempts at doing things differently.

Honda being a progressive company, we're always trying to expand markets, which means sometimes expanding your manufacturing [capabilities]. You're producing more parts; obviously the supplier is producing more parts [and] is making more profit. It's a good business cycle between the two companies. (Identification Code: RC121478, Descriptive Code: "M/Progressiveness")

Honda is a very progressiveness company. We are always trying to do different things. (Identification Code: RC121447, Descriptive Code: "M/Progressiveness")

The lack of traditional American-business formality was yet another descriptive category ('No Formality') ascribed
to the focal manufacturer. This characterization suggested little-to-no formal legal or contractual documentation to govern the alliance. (This lack of formal or legal documentation does not include documentation of quality specifications.) For one supplier, the lack of formality in this area was not viewed positively as suggested in the next data unit.

So maybe if there was a little bit more formality, maybe a little bit more operating in the American business sense, rules or procedures, it might help things a little better. (Identification Code: RC311027, Descriptive Code: "No Formality")

The lack of formal documentation of how things were to be done in the alliance was also connected to the reputation of the manufacturer.

I don't believe that Honda deals with purchase orders. . . .If they say they're going to do it they do it. It's like a gentleman's agreement, a handshake. I'd say a prudent American company wants things in writing. If they're going to spend that amount of money. They want something to fall back on. We received a letter from [HAM] purchasing basically saying that this letter is intended to serve as a purchase order and that was about the biggest [written] commitment made that I know of. (Identification Code: RC311017, Descriptive Codes: "No Formality" and "M/Reputation")

This suggested that the manufacturer's reputation for keeping its word served as a basis for minimal written agreements. The manufacturer's reputation (M/Reputation) was the fourth descriptive category that contributed to the manufacturer's characteristics pattern.
The data analysis next indicated that HAM's high expectation of its suppliers was a descriptive category coded as "M/High Expectations". This descriptive category was considered a contributor to the manufacturer's characteristics pattern. The focal manufacturer's expectations and demands of the suppliers were viewed as high. Reaching and maintaining those expectations was sometimes thought to be a source of frustration and difficulty for the suppliers.

... the relationship will have peaks and valleys, whatever, because of the frustration, the difficulty of maintaining or reaching a level that we [HAM] expect. . . . (Identification Code: RC1110141, Descriptive Code: M/High Expectations)

Related to HAM's high expectations, was the manufacturer's tendency to take a hands-on approach in its involvement in the alliance. Therefore, the descriptive category code "M/Hands-on" was considered next. During the initiation stage of the alliance the focal manufacturer was extremely involved in the development of the quality specifications and manufacturing procedures. This involvement included monitoring, observing, providing assistance, and ensuring success. The hands-on approach was recognized by HAM as acceptable to some suppliers (RC11101311). However, after extended periods of contact, this approach was a source of "frustration" and anxiety for some suppliers (RC11101411, RC1110911). HAM also acknowledged the occasional inability to "handle carefully"
the suppliers' frustrations resulting from the "hands-on" approach, the high demands, and the high expectations (RC1110911).

The following excerpt summarizes the underlying thought of the 11 identification codes in the "M/Hands-on" descriptive category:

Honda was very good about providing any assistance that was necessary to give us all the information or whatever was required to be able to do the job successfully. They set the ground work for what they wanted. Any question we had they were always there to answer them and worked with us closely to develop this all the way through. Again, once we'd gone through the initial stages and were successfully able to produce the part, they sort of stepped out of the picture. (Identification Code: RC321018, Descriptive Code: "M/Hands-on")

The seventh descriptive category attributable to the manufacturer's characteristic pattern was "M/Risk-Aversion". This category suggested a certain risk-aversion tendency identified in the focal manufacturer. Risk-aversion was evident in the number of precautions taken and the press toward perfection especially on the technical side of the alliance.

...we don't like to take risks at Honda. We like to make sure that everything is perfect, as near-perfect as possible. (Identification Code RC11101111, Descriptive Code: "M/Risk Aversion")

The risk-aversion tendency was connected to the final contributing descriptive category, "Overkill". "Overkill" was defined as the manufacturer's demand for details. The requirement for additional effort from the suppliers was
often viewed as unnecessary by the suppliers as evidenced in
the following excerpts.

And lots of times we [HAM] hear . . . [from the
suppliers], "Well that's overkill. You don't need
to do that and we [the suppliers] prove that we can
provide you with the level of quality that you need
and yet we are being asked to provide an additional
few steps just to make sure." (Identification
Code: RC11101211, Descriptive Code: "Overkill")

. . .but many times it takes [from the suppliers]
lots of time, lots of effort, lots of
documentation, much more than is . . . necessary. .
. . (Identification Code: RC11101011, Descriptive
Code: "Overkill")

The effect of the "hands-on" approach, risk-aversion,
and the "overkill" requirements were mitigated by time. The
analyst did not view the descriptive category "Maturation"
as a manufacturer's characteristic but as a mitigating
factor to the previously discussed descriptive categories.
It appeared that as the relationship moved from the
initiation phase to the maintenance phase, changes occurred
in the amount of contact among the participant's
representatives. Specifically, changes occurred in the
amount and kind of contact between HAM and the suppliers as
time progressed. Once the quality and manufacturing
specifications had been developed and HAM certified that the
product was ready for mass production, HAM's "hands-on"
approach began to wane (RC127311, RC21729, RC32827,
RC321018). At the managerial level, contact between the
representatives primarily occurred when critical incidents
occurred. However, on the production control level, there was weekly and sometimes daily contact (RC5126117).

A final important change resulting from time progression was a shift in the focal entity. This meant during the initiation phase, the coordinating entity of the alliance was HAM. However, as HAM's hands-on involvement diminished, the focal entity of the alliance became TFO Tech. In the hierarchy of suppliers, TFO Tech was the primary supplier to HAM, while CSC and MSI were secondary suppliers to TFO Tech (RC32917).

In summary, the manufacturer's characteristic pattern contained those descriptive categories that were applicable to the distinguishing features or qualities of the manufacturer. Contained in this second pattern were eight descriptive categories. Table 5 contains the contents of the manufacturer's characteristics pattern.

**Suppliers' Characteristics Pattern**

The suppliers' characteristics pattern contained those descriptive categories that were applicable to the distinguishing features or qualities attributed to the nature of the suppliers in the HAM crankshaft alliance. This pattern consisted of the five following descriptive categories: (a) "Humility", (b) "S/Flexibility", (c) "Management Attitude", (d) "S/Willingness", and (e) "S/Expertise". Each descriptive category is discussed in detail.
The first descriptive category assigned was "Humility". "Humility" was the suppliers' lack of arrogance or pride as it pertained to learning from the focal manufacturer. Therefore, suppliers were required to adopt changes in their current procedures, methods, etc. after long-term use and success with those procedures or methods. HAM acknowledged the importance of this trait in suppliers.

We [HAM] often go to a supplier . . . a very successful company that is used to providing a high quality part to the US auto makers for years. Then all of a sudden we are indicating that the level [of quality] is not good enough. (Identification Code: RC111039, Descriptive Code: "Humility")

...the whole process of working hands-on with suppliers on the surface sounds very nice, . . . one might suspect that suppliers would be totally open to that and everyone would be happy in that situation. That is not always true. You run into some cases where, for example, a supplier who has been very successful for a number of years in [its] business [and] all of a sudden here's a company [HAM] coming in telling them, "Why don't you try this?" "Do it this way." So in effect we were going in there telling them, they didn't know what they were talking about as far as the part went. And that's very difficult sometimes, especially when you go with . . . a very successful company. . . . (Identification Code: RC1110810, Descriptive Code: "Humility")

The next contributing descriptive category similar in nature to the humility category, was the concept of willingness ("S/Willingness"). This category was defined as the suppliers' ability to be favorably inclined or disposed toward meeting the expectations of the focal manufacturer and the other alliance participants.

Whatever they ask us to do, we try to obligate ourselves to fill those functions within the
framework of a customer relationship.
(Identification Code: RC321219, Descriptive Category: "S/Willingness")

...[a characteristic ascribed to the suppliers is] a willingness to try to achieve what we [HAM] expect. . . . (Identification Code: RC11101912, Descriptive Category: "S/Willingness")

The "Supplier Flexibility" descriptive category was the third category comprising the supplier's characteristic pattern type. "S/Flexibility" refers to the suppliers' ability to respond to out-of-the-ordinary changes or situations quickly and effectively that may occur without adversely affecting productivity. A HAM respondent elaborated on the importance of this characteristic.

...[having] the ability to react and respond to any changes or any situations that occur. A case in point is that there was a fire at Metallurgical Services, . . . [and MSI was] able to handle that situation and maintain the productivity of the [manufacturing line while avoiding the] shut down [of] the Honda Assembly line. (Identification Code: RC111039, Descriptive Code: "S/Flexibility")

Although suppliers are said to possess this characteristic, fluctuations in the amount of raw material steel required by the alliance were not viewed favorably by the steel manufacturer.

...when we said we would make steel on a regular basis, we make it according to schedules they give us and it would be unfair if we made steel and all of a sudden they didn't take the steel. . . . In other words, there's . . . four different [companies] in the program that all have inventories and we're [CSC] at the one end, kind-of-like a yo-yo. We're getting moved up and down quite a bit. But, overall it averages out and that's the key. I mean, as long as they're taking the steel at the rate they're supposed to be taking it, we're satisfied from that aspect.
Possession of or the development of some technological or manufacturing expertise desired by the focal manufacturer was the definition of the next descriptive category contained in the supplier's characteristic pattern. The importance of the "S/Expertise" category is explained in the following data excerpt.

Our company [CSC] is owned by Diado Steel of Japan and they're a major supplier of our material to Honda [in Japan]... They [HAM] knew that through Diado, we would have the proper technology to make material the way it needed to be made. Honda, in general, is very particular about the steel and the processes involved. [HAM has] a really high quality level that is very difficult to attain, especially in this country and without the technology of Diado, the whole program would not have succeeded... (Identification Code: RC51333, Descriptive Code: "S/Expertise")

The final contributor to the suppliers' characteristics pattern was the "Management Attitude" descriptive category. This category suggested that in each participating company, there should exist a certain kind of relationship between management and the workers. This relationship was characterized by (a) viewing the workers as experts, (b) involving the workers, © listening to what they have to say, and (d) providing a physical environment conducive to producing a quality product. HAM explicitly sought these characteristics.

One of the elements we look for... is what we call management attitude. Now what we mean by that is the ability of the management of a company to... have a very good relationship with their
workers or their people who do the actual job on the floor. (Identification Code: RC11101511, Descriptive Code: "Management Attitude")

That, I think is the key characteristic, that management attitude. That also has to be in place, we believe, to provide the level of quality that we need because we believe there is some relationship that [has] to exist between management and workers; a good relationship, [where] workers have to work in a good clean, well lit, ... environment in order, in our minds, to provide a safe environment to provide that high quality part. The management must recognize that. (Identification Code: RC11101711, Descriptive Code: "Management Attitude")

In summary, the supplier's characteristic pattern contained those descriptive categories that were applicable to the distinguishing features or qualities of the suppliers. Five descriptive categories comprise this pattern and are listed in the Table 6.

**Success Indicators Pattern Type**

Given the results of the data analysis on the relationship characteristics constructs, the second half of the first research question required addressing. Specifically, that entailed the discussion of the results of the data analysis concerning the success construct. Before the investigation of any potential relationships between the relationship characteristics and the success construct, the data had to be scrutinized to reveal what the respondents constituted as "success". Again, the definition of success for this study is the accomplishment of the alliance's objectives and each participating organization's particular objectives. By asking the respondents to describe success
in the alliance as they saw it, the investigator could analyze those indicators to extrapolate the objectives.

Collectively, the respondents generated a total of nine descriptive categories interpreted as indicators of success in the HAM crankshaft strategic alliance. Those descriptive categories were coded, "Localization", "Quality", "Production Availability", "Profit/Cost", "Continued Success", "Percent", "Few Problems", "Status Quo", and "Pride". Taken as a whole, these descriptive codes were the fourth and final pattern; the success indicators pattern.

An analysis of the key informants' responses concerning the success indicators provided insight into some objectives of the participating companies as interpreted by the respondents. Table 8 shows which respondents contributed to the various descriptive categories. Admittedly, this is not an exhaustive list of the objectives of each participant. It does provide some insight into what the participants wanted to achieve from participating in the alliance.

The first descriptive code determined to be an indicator of success was "Localization". "Localization" referred to the development of a set of suppliers in the United States that attained the capability of successfully manufacturing the crankshaft. The successful, timely completion of the localization was an indication of success to the HAM respondents as suggested by the following quotations.
...the definition of success in any alliance, where you're trying to localize a part . . . or have a supplier provide a part for you, the number one success you are trying to achieve is of course . . . to successfully develop that part and be able to purchase it from that particular supplier. In this case, it goes a little deeper than that because you have Honda . . . a Japanese company and then several U.S. companies, in particular steel companies. . . . (Identification Code: S11212, Descriptive Code: "Localization")

The success . . . was . . . establishing the alliance to produce the crankshaft locally [and it] was done over a relative short span of time. . . . (Identification Code: S12213, Descriptive Code: "Localization").

The next descriptive category presented as an indicator of success concerned the issue of quality. What was specifically dealt with in the descriptive code "Quality" were two categories or measures of quality. The first quality categorization was an expected level of quality to be attained by meeting HAM's demanding quality specifications.

...quality would be defined as conformance to their [HAM's] requirements. (Identification Code: S21315, Descriptive Code: "Quality")

The second quality categorization was the comparison of the HAM alliance crankshaft with the crankshaft imported from Japan. An indication of success was the fact that the quality of the crankshaft produced in the U.S. exceeded the quality of the crankshaft manufactured in Japan.

Initially, the success of just being able to localize the part was great. But, to be able to exceed the quality of the [Japanese-made] part on a regular basis is a success that really no one expected. [It] really exceeded their expectations.
...the quality of the crankshaft made in the U.S. actually exceeded the quality of the crankshaft made in Japan, which is very high quality. ... (Identification Code: S11412, Descriptive Code: "Quality")

We were told that the product made here in the United States is better than the product made in Japan ... so I'd say in that aspect it has been tremendously successful. (Identification Code: S31726, Descriptive Code: "Quality")

The issue of quality appears to have some relation with two other descriptive categories, namely "Production Availability" and "Profit/Cost". "Production Availability" was the availability of the component for the next phase in the production process. Success was indicated by the ability of each participant to meet the production schedules and provide the component to the next partner for the next step in the crankshaft manufacturing process.

The descriptive category coded "Profit/Cost" suggested that success was indicated by the ability of each participant to generate a "fair" profit margin. It also incorporated HAM's ability to secure a competitively-priced component. The relationship between quality, product availability, profit, and cost are evidenced in the following data. (Each of these data units is cross-assigned to the "Quality", "Production Availability", and "Profit/Cost" descriptive categories.)

...the entire group involved in this has produced a quality product ... in a timely fashion without any significant delays ... everyone has kept up
their end of the operation. (Identification Code: S32615)

...the [success] indicators are...being able to develop and receive parts that meet the quality requirements and costs.... And, ... how those [relationships between the participants] are staying and being maintained on a daily basis. (Identification Code: S11819)

...I would say the success ... would be ... making sure that all of those suppliers as well as Honda coordinate this entire effort to provide a quality product that is going to be successful in the Honda engine. ... (Identification Code: S11222)

So, we've been able to satisfy the end customer which is Honda with a competitively priced product, on time and a high quality product. (Identification Code: S32625)

If everybody's got their goals [objectives] achieved, then Honda should be making a competitively ... priced, good quality crankshaft. That's the bottom-line of the whole program. (Identification Code: S51917)

Success was shown by the attainment of and continual improvement in quality, delivery times, reduction of cost, and increased supplier profits. According to the HAM respondents, continued success will be dependent upon the future ability to provide (a) a higher quality product, (b) lower manufacturer's cost, and © better suppliers’ profit margin. All of this must be achieved while meeting the delivery schedules.

Success is that as the years go on ... the companies that we deal with, ... their quality will improve, ... their cost of delivering the part to us would decrease, ... their ability to provide more quantity as we have need to provide more quantity, ... would improve. ... (Identification Code: S121436, Descriptive Code: "Continued Success")
Over the years we strive to improve . . . capacity . . . success is defined by year after year how many more parts . . . we produce off the same line using a relatively small amount of money for improvement. (Identification Code: S12424, Descriptive Code: "Continued Success")

Another indicator of success was the "Percent" descriptive category. This data suggested that success was indicated by the increase in the percentage of the crankshafts produced by the alliance for HAM Accord production. Initially, the ratio of alliance-made crankshafts to Japanese made crankshafts was 50:50. (Identification Code: S11434). As time and the success of the alliance progressed, the percentage of total production by the HAM alliance increased from 50 to 100.

Success was also suggested by the presence of minimal number of problems during the maintenance phase of the alliance (Descriptive Code: "Few Problems"). The lack of problems was attributed to the fact that each participating company met its obligations and upheld its responsibility to meet schedules and quality requirements.

Success would be defined as basically how many problems you have.... There were relatively few problems. We had with the parts as far as supply and as far as quality. That's how we measure success. (Identification Code: S12223, Descriptive Code: "Few Problems")

I know of very few problems between [MSI] and TFO [Tech]. I know of no complaints really from the [HAM] Anna facility. So, I am going to say that overall the alliance has been pretty successful. (Identification Code: S31616, Descriptive Code: "Few Problems")
To my knowledge I know of no rejects, no significant problems. I think that for the most part we have met the shipping schedules and requirements. (Identification Code: S31333, Descriptive Code: "Few Problems")

So that's what I think makes it successful, I think everybody is doing their jobs. I think Honda measured success in not having to get involved in the situation. I mean right now, during the maintenance state . . . it's a smooth running program, everybody's doing their jobs and that's what makes it successful at this time. (Identification Code: S5117213, Descriptive Code: "Few Problems")

The lack of problems and the next success indicator appeared to have a relationship existing between them. The "Status Quo" descriptive category served as an indication of success in that all of the original suppliers continued to participate in the alliance at the time of data collection. Up to that point, no changes in the suppliers had been made nor were anticipated. See the following data excerpts.

...If the alliance was not successful by this time . . . we would have found another raw material supplier or we would have found another company to do the normalizing. (Identification Code: S21516, Descriptive Code: Status Quo.)

The final contributor to the success indicators pattern was the "Pride" descriptive category. This category involved national or company pride in the alliance's accomplishments. Success was displayed by the American firms' ability to produce a component with quality levels greater than the quality levels of their Japanese counterparts. For HAM pride occurred because of its ability
to be the first Japanese-transplant automobile manufacturer to localize the production of a major engine component.

There has also been a success in terms of establishing ourselves as an American-owned company that has been able to do work for the Japanese [HAM] successfully, to their requirements and receive the accolades that we deserve. (Identification Code S32124, Descriptive Code: "Pride")

Well I think the success of it as merely the ability to take a part that was produced in Japan and sort of Americanize it and give more people here in this country the opportunity to produce an American-made part and therefore, the dollars that were going to Japan are now here. (Identification Code: S32114, Descriptive Code: "Pride")

...Honda, in fact was the first Japanese company in the U.S. to develop the ability to ... make Accord's crankshaft and meet the quality requirements in the U.S. (Identification Code: S11323, Descriptive Code: "Pride")

The success indicators pattern contained nine descriptive categories interpreted as indicators of success in the HAM crankshaft strategic alliance. Table 8 illustrates the contents of this pattern.

In summary, the qualitative data analysis resulted in the identification of 190 units of pertinent data. Further analysis reduced those units into 40 descriptive categories that formed the basis for four pattern types. The discoveries of the first three emerged pattern types, addressed the first task of Research Question One, that is the discovery of relationship characteristics among the alliance participants.
The emergence of the success indicators and any subsequent relationship among the three characteristics pattern types and the success indicators addresses the second issue of the first research question. The discussions of relationships among the identified characteristics pattern types and the success indicators are presented in Chapter 5.

**Research Questions 2 and 3** The second and third research questions sought to discover which of Likert's Management Systems, if any, were applicable to the management style of each participating company in the alliance. Specifically, the research questions read:

Which of Likert’s four management systems is applicable to the focal manufacturer (HAM)?

Which of Likert’s four management systems is applicable to each of the component suppliers (CSC, TFO Tech, and MSI)?

The data required to address these two questions were collected through the administration of the Likert Profile of Organizational Characteristics Scale. This 24-item questionnaire is designed to measure the nature of the management system employed by a given organization. The items in the questionnaire portrayed the components of a management system as defined by Likert. The components are (a) the leadership process, (b) the character of motivational forces, © the communication process, (d) the interaction-influence process, (e) the decision-making process, (f) the goal setting or ordering process, and (g) the control
process. These components are plotted on the vertical axis while the second variable, the amount of control exercised by the organization, is plotted on the horizontal axis. From the data collected, it was possible to prepare for each organization a profile of organizational characteristics and to identify which system the organization employed. The identification of the appropriate system was done for "now", that being the time of data collection, and for one-to-two years before data collection ("previous").

For each of the six respondents, the results of completing the POC are listed in Tables 10 - 15. Each score were summed and divided by the number of items (24) to generate a management system score for one-to-two years previous and for "now". The two management system scores were interpreted by comparing them to the management systems continuum listed in Table 9. System 1 is termed "Exploitative-Authoritative", System 2 "Benevolent-Authoritative", System 3 "Consultative", and System 4 "Participative Group".

The results of this data analysis indicated which of Likert's management systems were applicable to the previous and current management style of all four participants in the alliance. Table 16 contains the summary of the results of management system identification.

The management system indications for HAM and MSI were calculated by adding the scores generated by all of the
respondents from the given organization. Please recall that in the cases of HAM and MSI, each organization had two respondents to participate in the research. Therefore, the participants' scores were summed and divided by 48, (two participants multiplied by the 24 items in the questionnaire) to get the combined system scores and resulting management system designations.

Research Question 4 The final research question sought to discover the level of interpersonal risk possessed by the individual alliance participants. Specifically, the research question read:

What is the level of Interpersonal Risk for each of the key personnel figures in the four participating alliance companies?

The first task completed in analyzing the data collected via Lundstedt's Interpersonal Risk (IR) scale was to calculate the respondents' IR score. The respondents indicated on a 10-step, modified Likert-type scale the degree of his agreement or disagreement to 30 dichotomized statements. These statements described situations where elements of subjective risk and utility were involved and where personal influence and control were distributed or exchanged.

Half the 30 statements described situations were agreement with them, at some level, indicated High IR. The remaining half of the statements indicated Low IR if they were agreed to, at some level. All High IR agreement scores
were added together and given a positive sign. All High IR disagreement scores were added together and given a negative sign. The positive agreement score was added to the negative disagreement score to get a High IR item subtotal ($H^\circ$). The same procedure was followed to generate the Low IR subtotal ($L^\circ$). A respondent's final IR score was the difference between ($H^\circ$) and ($L^\circ$). All six respondents' final IR scores are presented in Tables 17 - 22. Tables 17 - 22 show a range from 34 to 127. The median score was 87 with three scores (34, 57, and 83) below the median and three scores (91, 96, and 127) above the median. The mean is 81.333.

This concludes the presentation of data resulting from the data analysis procedure developed for this study.
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| Total               | 58                        | 128                           | 4               |

Table 2: Analysis Of Respondents' Responses
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Table 3: Final Descriptive Code List
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Table 4: Alliance Characteristics Pattern
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Table 6: Suppliers' Characteristics Pattern
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Table 7: Alliance Participants' Partial Objectives List

236
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Table 8: Success Indicators
System Score 0----------5----------10----------15----------20

[________][________][________][________]

Management System 1 2 3 4

Exploitative  Benevolent  Authoritative  Participative
Authoritative  Authoritative  Authoritative  Group

Table 9: Likert's Profile of Organizational Characteristics Management Systems Continuum
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**Total**

P=405  
N=408

**System Score**

\[
\frac{405}{24} = 16.875 \quad \frac{408}{24} = 17
\]

**Management System**

P = System 4  
N = System 4

---

Table 10: Respondent #001-001 POC Results
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Total  P=407  N=432

System Score  407/24 = 16.958  432/24 = 18

Management System  P = System 4  N = System 4

Table 11: Respondent # 001-002 POC Results
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**Total**

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<tr>
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<tbody>
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**System Score**

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<tr>
<th>P = System 2</th>
<th>N = System 3</th>
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<tr>
<td>232/24 = 9.667</td>
<td>319/24 = 13.292</td>
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**Management System**

Table 12: Respondent # 002-001 POC Results
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<th>&quot;Now&quot; (N) Score</th>
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Total  P=231       N=228

System Score  231/24 = 9.625  228/24 = 9.500

Management System  P = System 2  N = System 2

Table 13: Respondent # 003-001 POC Results
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Total  | P=291                                  | N=334                          |

System Score  | 291/24 = 12.125                      | 334/24 = 13.916                |
Management System  | P = System 3                         | N = System 3                  |

Table 14: Respondent # 003-002 POC Results
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</table>

**Total**  
\[ P = 213 \]  
\[ N = 311 \]

**System Score**  
\[ \frac{213}{24} = 8.875 \]  
\[ \frac{311}{24} = 12.958 \]

**Management System**  
\[ P = \text{System 2} \]  
\[ N = \text{System 3} \]

Table 15: Respondent # 005-001 POC Results
HAM
Combined "Previous" System Score = 16.916 System 4
Combined "Now" System Score = 17.500 System 4

TFO Tech
"Previous" System Score = 9.667 System 2
"Now" System Score = 13.292 System 3

MST
Combined "Previous" System Score = 10.875 System 2
Combined "Now" System Score = 11.708 System 3

CSC
"Previous" System Score = 8.875 System 2
"Now" System Score = 12.958 System 3

Table 16: Alliance Participants’ Management System Indications
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<th>Item #</th>
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Total | 64          | 0             | 0     | 63          |

High Item Score: 64 - 0 = 64  
Low Item Score: 0 - 63 = -63

Subjective IR Score = $(H^s) - (L^s)$

\[ \begin{align*}
    &=(64) - (-63) \\
    &= 127
\end{align*} \]

Table 17: Subjective Interpersonal Risk Scoring Sheet
Respondent #001-001
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High Item Score: 30 - 8 = 22
Low Item Score: 1 - 35 = -35

Subjective IR Score = \((H^s) - (L^s)\)
= \((22) - (-35)\)
= 57

Table 18: Subjective Interpersonal Risk Scoring Sheet
Respondent #001-002
<table>
<thead>
<tr>
<th>Item #</th>
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<th>Item #</th>
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<th>Disagree Level</th>
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High Item Score: 47 - 4 = 43  
Low Item Score: 2 - 55 = -53

Subjective IR Score = \((H^s) - (L^s)\)

= (43) - (-53)

= 96

Table 19: Subjective Interpersonal Risk Scoring Sheet
Respondent #002-001
<table>
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</tr>
</tbody>
</table>

High Item Score: 20 - 12 = 21  Low Item Score: 8 - 21 = -13

Subjective IR Score = (H^s) - (L^s)

\[= (21) - (-13)\]

\[= 34\]

Table 20: Subjective Interpersonal Risk Scoring Sheet
Respondent #003-001
### Table 21: Subjective Interpersonal Risk Scoring Sheet
Respondent #003-002

<table>
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<th>Item #</th>
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**Total** 44 0 2 49

**High Item Score:** 44 - 0 = 44  
**Low Item Score:** 2 - 49 = -47

**Subjective IR Score** = \((H^s) - (L^s)\)
= (44) - (-47)
= 91
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<th>Low IR Level</th>
<th>Disagree Level</th>
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High Item Score: 41 - 0 = 41  
Low Item Score: 1 - 43 = -42

Subjective IR Score = \((H^s) - (L^s)\)  
= \((41) - (-42)\)  
= 83

Table 22: Subjective Interpersonal Risk Scoring Sheet  
Respondent #005-001
CHAPTER 5

SUMMARY AND CONCLUSIONS

Introduction

The purpose of this chapter is threefold. It is to provide a summary of the study, to discuss the findings and draw the resulting conclusions, and finally to provide recommendations for the future. Each of these purposes is addressed, in detail, in sections bearing the name. The summary of the study entails a detailed synopsis of Chapters 1 through 5. Following the study summary, in-depth discussions of the findings for each research question are presented. Incorporated in those discussions are the conclusions the investigator was able to draw from the findings. The chapter ends with programmatic recommendations for the HAM Accord Crankshaft Alliance and recommendations for further research.

Summary of the Study

The purpose of this section is to provide the reader with an overview of what has already been presented in Chapters 1 through 5 and to provide an orientation to the
remainder of this chapter. This will be accomplished by reviewing the context of the study, restating the problem and purpose of the study, reviewing the major research questions, summarizing the literature review, summarizing the procedures and data analysis, and finally presenting the major findings of the study.

To begin the summary the context of the study must be reviewed. The study's context had it basis in the changing economic picture of the world's industrialized and nearly-industrialized nations. Changes in these nations have resulted in the globalization of markets and, therefore, the globalization of production. Globalized production occurs when multinational firms disperse the various components of the production process to different parts of the world where the products can be manufactured most efficiently. Risks inherent in conducting business in foreign countries and the increase competition for global profits have led to an increasing number of multinational firms engaging in cooperative efforts with other firms.

The increased need for cooperation between business firms has led to a proliferation of research on various kinds of cooperative efforts among industrial organizations. The particular cooperative effort of interest to this study was the strategic alliance. This relationship was defined as a non-equity based, long-term, relationship between two or more complimentary industrial organizations. In this
relationship there exists reciprocal exchange of goods, services, expertise and/or other resources. The partners have common, mutually beneficial goals and share benefits and risks equally. Additionally, the relationship is characterized by cooperation, commitment, and the pooling of resources and skills to result in the synergistic production of some good or service that could not have been produced had the relationship not existed.

The practitioners' push toward the creation of more and more strategic alliances coincided with numerous scholarly publications on the subject. However, the literature on this topic is considered sparse and is heavily criticized by scholars. Consequently, the prolific study of the strategic alliance has not rendered a theory unique to this phenomenon. Additionally, the majority of the research on strategic alliances is conducted in the area of alliance initiation. This leaves the areas of alliance maintenance and dissolution woefully neglected. The results of the literature review suggested a greater need of further development in the areas of strategic alliance maintenance and strategic alliance dissolution.

The investigator's interest in alliance maintenance and the lack of knowledge surrounding the factors underlying success in established strategic alliances resulted in the identification of the purpose of this study. Specifically, the purpose of this study was to conduct empirical-based,
basic, exploratory research in an effort to discover and understand some of the factors or characteristics associated with a successful, established strategic alliance. To this end an automobile component manufacturing alliance was selected for analysis, namely the Honda of America Manufacturing, Inc. (HAM) Accord Crankshaft Alliance. (A 1992 pilot case study of the HAM alliance, conducted by the investigator of the current study, rendered the identification of six relationship characteristics.)

This study's thesis suggested that there were additional relationship characteristics in existence that are associated with alliance success. Additionally, the thesis suggested that two of the six previously identified characteristics (trust and alliance leadership) could be conceptualized and measured as Lundstedt's Interpersonal Risk and Likert's Profile of Organizational Characteristics respectively. The explicit objective of the research was to conduct a systematic investigation of the Accord Crankshaft Strategic Alliance to discover "new" relationship characteristics and to validate and refine the concepts of alliance leadership and trust which had previously emerged from the pilot case study.

Associated with the main thesis of this dissertation were four specified research questions. They were as follows:

In the strategic alliance consisting of HAM, CSC, TFO Tech, and MSI, what are the characteristics of
the relationship between the partners that contribute to accomplishing the objectives of the alliance and the objectives of each individual participating company?

Which of Likert's four management systems is applicable to the focal manufacturer (HAM)?

Which of Likert's four management systems is applicable to each of the component suppliers (CSC, TFO Tech, and MSI).

What is the level of Interpersonal Risk for each of the key personnel figures in the four participating companies?

To begin answering the research questions, an extensive literature review was conducted to accomplish three things. The first was to establish an appropriate theoretical framework that provided the general context through which the investigator viewed the phenomenon of strategic alliance. The second purpose was to identify and confirm an appropriate population for study given the theoretical framework. The final purpose of the literature review was to stimulate theoretical sensitivity to the concept of interorganizational relationship characteristics and to validate the need to pursue the additional knowledge of the two characteristics (alliance leadership and trust) that emerged from the 1992 pilot case study.

As a result of the literature review, strategic alliances were viewed as a system. That is, a set of companies that are related to each other and to their environment so as to form a whole. This system is viewed as open, meaning the internal operations of the system effects
and is, in turn, affected by the external environment. The literature suggested that organizations are not self-directed and autonomous but rather need resources controlled by other organizations in the environment. Interaction and relationship between the organizations are vital to survival of the organizations. Thus, the notion of organizational interdependence was introduced.

Organizational interdependence is managed through the utilization of various strategies or plans of action. Several strategies that address the interdependence of organizations were identified in the literature review. The interdependence-altering strategy pertinent to this study's purpose was manufacturing impartition or outsourcing. Impartition is a manufacturing strategy where a decision has been made as to whether or not the means of production are internalized or not. Impartition means that portions of the manufacturing process have been delegated to external firms.

The issue of a manufacturing impartition strategy required a special kind of relationship between suppliers and buyers that was characterized by a move from adversarial, short-term relations to more cooperative, long-termed relations. The development of the appropriate buyer-supplier relationship required to successfully implement the manufacturing impartition strategy has been developing in Japanese manufacturing circles for many years.
The Japanese model of supplier relations is characterized by a high degree of dependency between organizations. American automobile manufacturers having noted the need for more cooperative relationships between buyers and suppliers began adoption and adaptation of the Japanese model of buyer-supplier relations. Although it has its critics, the Japanese model of buyer-supplier relations has been highly successful and the apparent success of the model attracted the attention of American automobile manufacturers.

The utilization, in the U.S., of an adapted Japanese-styled model of supplier-buyer relations by American auto manufacturers was expedited by the presence of Japanese transplant automobile manufacturing facilities in the U.S. A leader in the approach to building and improving the manufacturer-supplier relationship in the U.S. is HAM. Consequently, the automobile manufacturing population was an appropriate population through which the central problem of this study could be addressed. Specifically, within the identified population, the HAM strategic alliance was an appropriate case study given its apparent success in supplier relations.

The final purpose of the literature review was to present the known characteristics of interorganizational relationships. From the small list of interorganizational characteristics trust and interorganizational management
were selected for further study. Trust in boundary-spanning personnel was ultimately operationalized as Lundstedt's Subjective Interpersonal Risk (IR). Interorganizational management was operationalized via Likert's theory of organization and management.

The research methodology, located in Chapter 3, was developed to link the research questions with empirical data. The methodology included specifications for (a) paradigm selection (inductive-holistic); (b) research design (qualitative fieldwork); (c) population (industrial strategic alliances); (d) sampling strategy (purposive); (e) units of analysis (system, organizational, individual); (f) participant selection (experienced managerial personnel); (g) data collection (face-to-face interviews and questionnaire administration); and (g) data analysis (inductive data analysis method).

The results of the data analysis were presented in Chapter 4. This was accomplished by presenting the findings for each of the four research questions developed for this study.

The first research question required the identification of relationship characteristics existent in the HAM alliance. The analysis of the data pertaining to the first research question resulted in the identification of four patterns. These four patterns were generated by the comparative method of data analysis. This procedure
resulted in the generation of 190 units of data drawn from the respondents' interview transcripts. Ultimately, those 190 units of data were combined to form 40 descriptive categories. The analyst began pattern coding by looking for commonalities and/or differences among the 40 descriptive categories. The pattern coding process rendered four patterns. They were the alliance characteristics pattern, the manufacturer's characteristics pattern, the suppliers' characteristics pattern, and the success indicators pattern.

The alliance characteristic pattern contained those descriptive categories that were applicable to the distinguishing features or qualities of the relationship between the alliance participants. Contained in this first pattern were four distinct clusters of descriptive categories that characterized the nature of the relationship among the alliance participants. Those four clusters were "Longevity", "Interaction", "Unity" and "Reliance".

The second pattern to be discovered was the manufacturer's characteristics pattern. This pattern contained an aggregate of traits or qualities found evident in the focal manufacturer. Within this second pattern there were eight contributing descriptive categories.

The suppliers' characteristics pattern contained those descriptive categories that were applicable to the distinguishing features or qualities attributed to the
nature of the suppliers in the HAM crankshaft alliance. This pattern consisted of the five descriptive categories.

Having presented the result of the data analysis relative to the characteristics construct (i.e., alliance, manufacturer's, and suppliers' characteristics patterns), the second half of the first research question required addressing. Specifically, that entailed the discussion of the results of the data analysis relative to the success construct. Before the investigation of any potential relationship between the various types of characteristics and the success construct, the data had to be scrutinized to reveal what the respondents constituted as "success". Collectively, the respondents generated a total of nine descriptive categories which have been interpreted as indicators of success in the HAM crankshaft strategic alliance.

The second and third research questions sought to discover which of Likert's Management Systems, if any, were applicable to the management style of each participating company in the alliance. The data required to address these two questions was collected through the administration of the Likert Profile of Organizational Characteristics Scale, designed to measure the nature of the management system employed by a given organization. The results of this data analysis indicated that in the past and the present HAM's management style was identified as System 4 (Participative
Group). All three suppliers' management styles were identified as System 2 (Benevolent-Authoritative) in the past and System 3 (Consultative) in the present.

The final research question sought to discover the level of interpersonal risk possessed by the individual alliance respondents. The range of IR scores ran from a low of 34 to a high of 127. All scores fell on the high side of the subjective interpersonal risk continuum.

**Discussion of Findings and Conclusions**

Since the study has been summarized, attention is turned to gaining understanding and meaning of the study's analyzed data. This is accomplished by discussing what the findings for each research question mean in light of the conceptual framework developed for the study. Conclusions are made after the presentation of the discussions. Conclusions are defined as the investigator's objective and subjective interpretations of what the findings really mean. The conclusions are presented for each research question or set of research questions. (The second and third research questions are presented together, given their similarity.)

**Research Question 1**

The central issue of Research Question One was the need to discover the characteristics of the relationship between the HAM alliance partners that contribute to accomplishing the objectives of the alliance and the objectives of each individual participating company. In order to answer the
question fully, two tasks had to be accomplished. The first task was the discovery or identification of relationship characteristics. This was achieved during the data analysis stage using the constant comparative method. The results of completing that task were presented in the data analysis results information contained in Chapter 4.

The second task associated with fully addressing Research Question 1 was to determine if there were any relationships between the identified characteristics and the success construct. In an effort to do this, the investigator was required to identify a method of determining if any relationships existed between the two sets of variables (i.e., the three categories of characteristics and success). An informal definition of a variable is something that varies or changes from one instance to another.

This task was accomplished through the use of data displays. The basic idea of data display incorporates the notion of using a "visual format that presents information systematically, so, the user can draw valid conclusions . . ." (Miles & Huberman, 1994, p. 91). The two specific types of data displays utilized were the checklist matrix and the cognitive map. In qualitative analysis situations where the variable can be unbundled into distinct indicators or components, as is the case in this study, a checklist matrix is an appropriate tool.
A checklist matrix is a format for analyzing field data on a major variable or general domain of interest. The basic principle is that the matrix includes several components of a single, coherent variable, though it does not necessarily order the components (Miles & Huberman, 1994, p. 105).

Six initial checklist matrices were developed for use in conclusion drawing. The first three matrices (see Tables 23, 24, and 25) aided in evaluating potential relationships among the three kinds of relationship characteristics (alliance, manufacturer's, and suppliers'). The rationale for developing this first set of matrices was that any relationships existing among the characteristics would affect relationships that existed between each relationship characteristic and the success indicators.

The first matrix (Table 23) provided information on possible relationships that existed between the suppliers' characteristics and the manufacturer's characteristics. In building this matrix, the rows were drawn from the five descriptive categories that comprise the suppliers' characteristics pattern. The columns of this matrix were taken from the eight descriptive categories that constitute the manufacturer's characteristics pattern. (Given space limitations, only the rows and columns containing relevant identification-coded units are presented in Tables 23-28.)
The second matrix (Table 24) presented information about potential relationships between the alliance characteristics and the manufacturer's characteristics. For the second matrix the rows were taken from the descriptive categories that comprise the manufacturer's characteristics. The columns of the matrix represent the 12 descriptive categories that comprised the four alliance characteristics pattern clusters (Longevity, Interaction, Unity, and Reliance).

The third matrix (Table 25) was developed to display information about possible relationships between the suppliers' characteristics and the alliance characteristics. Consequently, the rows of the matrix are the descriptive codes that comprise the suppliers' characteristics pattern. The columns of this matrix are the same as in Table 24.

The fourth, fifth and sixth matrices (Tables 26, 27, and 28 respectively) provided aid in generating information on the relationships potentially existing between the success indicators and the components of each of the three kinds of relationship characteristics. The remaining three checklist matrices have on the vertical axis, the applicable descriptive categories that comprise the success indicators pattern. The horizontal axis, of each of these matrices, contains the descriptive categories for one of the three relationship characteristics patterns.
In terms of entering data into the matrices, the investigator reviewed all identification codes associated with the four patterns generated by the data analysis. The identification codes that indicated, to some degree, relationships among variables were entered into the cells of the matrices. The initial criteria used in assigning an identification code to a matrix cell was based on (a) a direct statement by the respondent indicating a relationship, (b) the investigator's deduction, and (c) plausibility. Plausibility is defined as finding meaning in data because it "makes good sense" based on the investigator's "gut" sense and familiarity with the data, subjects, etc. Caution was warranted when using deduction and plausibility for assigning data to the matrix cells because of the fear of introducing researcher-bias into the findings. Given this caution, deduction and plausibility were used as pointers to draw the attention of the investigator to a potential relationship that looked reasonable and sensible at face-value.

As a result of this process, 57 initial relationships were indicated in the cells of the six checklist matrices. These 57 entries were evaluated a second time by applying a stricter set of criteria for data inclusion. In the second evaluation of the matrices, the criterion for retaining cell data was based on the direct quotation of the relationship by the respondents. If a respondent specifically stated a
given relationship, then it was retained for conclusion drawing. Secondly, if a relationship was strongly implied by an informant's response but not specifically stated, the investigator checked the implication against the respondent's transcript. If the implication was supported by contextual information not included in coded units, then the data was retained. Additionally, if strongly implied relationships withstood the scrutiny of logic, then they were more subject to retention.

The underlying desire was to allow what relationships were actually stated or implied to emerge. This was done as a check for researcher-bias that might have crept in through the use of deduction and plausibility in the first round of analysis. If the proposed relationship between variables did not meet at least one criterion, it was eliminated from further consideration. The secondary review resulted in the retention 27 relationships available for continued analysis.

To assist in generating meaning to what the matrices contained a specific tactic was used for conclusion drawing and verification. Noting relations between variables was the tactic used (Miles and Huberman, 1994). "The basic analysis tactic here involves trying to discover what sort or relationship, if any, exists between two (or more) variables" (Miles & Huberman, 1994, p. 258). Once the investigator was reasonably clear about the potential relationships, the next natural question was, "How do they
relate to each other?". The interest here was in determining what sort of relations (direct, positive, inverse, co-varying, etc.) could be detected between Variable A and Variable B. Additionally, if any level of strength (strong, weak, moderate, etc.) of the association could be detected, it was of interest to the investigator. Even the possibility of "mediating" variables were sought.

Each of the revised matrices' cell contents was reviewed. As the investigator reread the data in the identification-coded units, conclusion began forming. Each conclusion was written in the form of analytic text. Analytic text is the written text containing the discovery of the meaning of the data discerned by the investigator as she ruminated over the data in the data displays. "Analytic text draws attention to the features of the displayed data and 'makes sense' of them, knitting them together and permitting the analyst to draw conclusion and to add interpretations" (Miles & Huberman, 1994, p. 100). The set of analytic text for each matrix follows.

As a result of the number and complexity of the relationships discovered between the variables, a multiple cognitive maps were developed to assist in increasing the understanding of the newly discovered relationships. A cognitive map displays the investigator's representation of the relationship characteristics and success constructs, and
shows the relationships among the variables as concluded in this study.

The first level of the cognitive map (Figure 7) illustrates the seven relationships that were found to exist within the alliance characteristics pattern, the manufacturer's alliance characteristics pattern and the success indicators pattern. No inter-pattern relationships were found to exist within the suppliers' characteristics pattern and, therefore, it is not represented in Figure 7.

In the alliance characteristic pattern two relationships emerged. The first to be discussed was the bidirectional relationship that existed between the descriptive categories "Fairness" and "Cooperation" within the "Unity" pattern cluster. When fairness existed the cooperation among the alliance participants was evident. Conversely, when cooperation occurred, fairness was present. The relationship was determined to be of a positive nature and increasing.

The second alliance characteristic pattern relationship to emerge was the relationship that existed between individual familiarity and trust. This relationship was unidirectional in nature. The more familiar the individuals were with each other the more trust developed between the individuals.

Within the manufacturer's characteristic pattern there existed several relationships. The first to be discussed is
the relationship between the reputation of the manufacturer and the lack of formal written documents. The relationship appeared to be unidirectional. If HAM was perceived as a keeper of its word (i.e., possessing a good reputation) then the lack of formality in governing the alliance occurred. The use of the if-then tactic did not verify a bidirectional relationship between the two descriptive categories.

The next inter-pattern relationship found in the manufacturer's characteristics pattern involved HAM's high expectations and its hands-on tendency. A unidirectional relationship was found to exist between HAM's high expectations of its suppliers and its hands-on tendency. If HAM had high expectations then its hands-on behaviors increased.

A bidirectional relationship was found to exist between HAM's risk aversion quality and its overkill requests. If the focal manufacturer was risk-avert then it would make requests of the suppliers that were perceived as overkill. On the other hand, if overkill request were being made, then the manufacturer was being risk-avert.

The overkill requests and the hands-on tendency were mitigated (i.e., decreased in intensity) by the shift in the focal entity of the alliance. The shift from HAM to TFO Tech occurred as a result of a progression of time and the move from the formative stage of the alliance to the maintenance stage.
Within the success indicators pattern, two relationships emerged. The first relationship discovered was that existing between the "Few Problems" descriptive category and the "Status Quo" descriptive category. A two-way relationship was found to exist between the two categories where the lack of problems in the alliance was associated with no changes in the membership of the alliance. On the other hand, consistency in the membership of the alliance could very well help account for the relative few problems experienced during the maintenance stage of the alliance.

The next relationship that emerged in the success indicators pattern involved quality, production availability and profit/cost. From the data presented in the study, it could not be determined by the investigator the exact nature, direction, strength, etc. of the relationship among the three descriptive categories. The only solid conclusion that could be made concerning the three variables was that they were related. When one variable was present, the other two were also present.

Looking at the relationships between the manufacturer's characteristics and the suppliers' characteristics (Figure 8), six relationships were discovered. The first relationship existed between HAM's motive for establishing the alliance and the expertise of the suppliers. (HAM's motive was centered in the need for localizing the
production of the crankshaft.) The following data excerpts demonstrate the implied relationship between the manufacturer's motive and the suppliers' ability or expertise.

...they [HAM] had a desire--there was a commitment on Honda's part to [localize]: then it was a matter of finding the proper companies in this country to take up the individual parts of the [process] . . .
(Identification Code: RC51424)

. . . It [the desire to localize] was a need from Honda that had to be satisfied and they had to find a proper list of companies in this country to carry out what they had as a mission. (Identification Code: RC51434)

There is a strong indication that the two variables are related in some way. However, a decisive determination of what kind of relationship and the strength is evasive. This inconclusiveness led the investigator to conclude that perhaps at least a third variable (Z) was mediating or linking the manufacturer's motive and the suppliers' expertise. A nagging question that remained unanswered was, "What is the variable that is mediating the relationship between motive and expertise?".

Next, a relationship between HAM's high expectations and the suppliers' willingness to meet the expectations was detected as indicated directly from the following quotation.

. . . willingness [on the suppliers' behalf] to try to achieve what we [HAM] expect. . . .
(Identification Code: RC11101912)

The precise nature of the relationship between HAM's high expectations and the willingness of the suppliers to meet
those expectations was difficult to detect. The investigator was unable to make a determination about the direction or intensity of the relationship. The only thing that could be concluded given the data was, when HAMS's high expectations are present then the suppliers' willingness is also present.

There existed some relationship between the manufacturer's tendency to "overkill" and the suppliers' willingness to address the request the suppliers deemed as overkill. The following data excerpt supports this conclusion.

And lots of times we [HAM] hear the term "well that's overkill", you don't need to do that and we [the suppliers] prove that we can provide you with the level of quality that you need, and yet we are being asked to provide an additional few steps just to make sure. (Identification Code: RC11101211)

There were no cited incidents of suppliers actually being unwilling to meet the expectations of HAM as a result of HAM's overkill. However, there was a sense of frustration among the suppliers when request were viewed as overkill. As a result, the relationship between overkill and willingness is inconclusive. The investigator could only conclude that a relationship existed but the nature of that relationship could not be determined because of the role frustration played in the relationship. At best the relationship could be symbolized as follows:

F
A - ? - B

273
This indicates that the relationship between B (overkill) and A (willingness) is in some way mitigated by variable F (frustration).

The next relationship between the manufacturer's characteristics and the suppliers' characteristic involved HAM's tendency to be hands-on and the suppliers' humility. The following excerpt supports this.

... that whole process of working hands-on with suppliers on the surface sounds very nice ... one might suspect that suppliers would be totally open to that and everyone would be happy in the situation. That is not always true. You run into some cases where, for example, a supplier who has been very successful for a number of years in their business [then] all of a sudden ... [HAM is] coming in telling them, "Why don't you try this?", "Do it this way!". So in effect we [HAM] were going in there telling them, they didn't know what they were talking about as far as the part went. And that's very difficult sometimes, especially when you go with, as I said, a very successful company. ... (Identification code RC1110810).

This empirical evidence suggested that the relationship between the hands-on approach of HAM and the ability of suppliers to adopt changes in procedures, methods, etc. after long-term success with historical ways of doing things was both positive and negative. Meaning, when the level of hands-on activity by HAM was present humility was also present. In some cases the level of humility would increase (positive relationship) and in other instances the level of humility would decrease (negative relationship).

It appeared that the level of humility was mitigated by the level of frustration generated as a result of the hands-
on behaviors of HAM. The level of frustration was probably affected by the length of time HAM engaged in hands-on activities and the intensity of the activities.

Similarly, the relationship between the manufacturer's hand-on tendency and the expertise of the suppliers was found to be unidirectional, positive, and increasing. Which means the increase in hands-on behavior was associated with the increased expertise of the supplier. Or in other words, if the hands-on behavior increased, then there would be a resulting increase in supplier expertise. The inverse of this if-then statement was not found to be feasible, thus the conclusion of a unidirectional relationship. See the following quotation for support of this conclusion.

. . . .sometimes with companies it [the hands-on approach] works very well; it runs very smoothly; they [the suppliers] learn a lot. . . . .
(RC11101311)

The final relationship between the manufacturer's characteristics pattern and suppliers' characteristic pattern was between the high expectations of the manufacturer and the expertise of the suppliers. This relationship was characterized as direct and positive. If the demand or expectation is high, then the supplier expertise is high. If the expertise is high, it does not necessarily mean that HAM's expectation would have to be high also. Thus, there is only support of a unidirectional relationship.
The next group of relationships evaluated, were those existing between the alliance characteristics and the manufacturer's characteristics. Three relationships were found to exist and are displayed in Figure 9. The first relationship was between the manufacturer's progressiveness and the alliance characteristic, viability. Viability was defined as the long-run, successful existence of each alliance participant. In this instance, viability was relative to HAM's progressiveness.

... Honda is a very progressive company. We are always trying to do different things. We're always trying to grow or increase markets... companies see that [and] they like to do business with companies like that because that is long-term security... (Identification Code: RC12i457)

This datum indicated the relationship between the manufacturer's progressiveness and the alliance's viability was plausible. Using the if-then tactic, the investigator suggested that there exist a direct, positive, and bidirectional relationship between the two variables. If HAM was progressive, then its long-term viability was positively impacted. Additionally, if the alliance is viable in the long-run, then it is possible that the manufacturer is also progressive. Viability and progressiveness can vary together positively and negatively. If one variable decreases, then the resulting effect will happen to the second variable. Severely, if one variable increases, then the resulting affect will occur with the remaining variable.
The second relationship between the manufacturer's characteristics and the alliance characteristics was the relationship between HAM's hands-on approach and the participants' continued improvement of product quality and lower cost.

Honda likes to have very close ties with all of their suppliers and then everyone improves along the way. (Identification Code: RC12515)

What was deduced by the investigator from the previous excerpt was the more HAM provided assistance, the more knowledge and expertise the suppliers acquired. This should result in an increase in product quality and the lowering of the product cost. This deduction resulted in a relationship that is mitigated by the suppliers' increasing expertise. This makes the relationship unidirectional, positive, and increasing.

A final relationship was detected between HAM's high expectations and the "Trust" alliance characteristic. Trust is demonstrated in the following datum.

It's a business relationship based upon mutual trust and respect. Each member of the alliance expects each member of the alliance to do its job on time when it's supposed to do it. (Identification Code: RC219213)

...Honda expects us to fulfill our responsibility and expects all parties to fulfill their responsibilities as they do. And I think that it's that trust, it's not a trust that was developed on a whim, it took a long, long time to develop that trust. . . . (Identification Code: RC5117112)
Although there is an obvious connection between trust and meeting the high expectations of the manufacturer, the exact nature of how the two variables relate was not clear. As a result this relationship was considered existent but inconclusive. Based on the available data the investigator could not determine why and how the two variables go together.

Having evaluated the relationships between the alliance characteristics and the manufacturer's characteristic, the investigator's attention was focused on the relationships that were discovered between the alliance characteristics and the suppliers' characteristics. Two relationships between these two sets of characteristics were found. See Figure 10.

The first relationship existed between the expertise of the suppliers and the continued improvement component of the longevity alliance characteristic cluster. The reader will recall, continued improvement suggested that in the long-run, to be a viable supplier to HAM required the additional capability of conducting R&D to improve the quality of the product while lowering the cost. The following data illustrated this relationship.

The longevity...of a relationship between Honda and a company...[is contingent] on capabilities in the area of R&D.... [Suppliers must have] the ability to be able to be an expert on that part and provide Honda the latest in technologies.... (Identification Code: RC11102112)
...to be able to be an important and viable supplier to Honda over the years is to have that additional quality to be able to do the research and development and be able to come down and say, "We've been making this crankshaft now for eight years. We've got an idea how to make it better and cheaper, stronger . . . ". (Identification Code: RC11102212)

The use of the if-then tactic indicated that the relationship between the two variables was bidirectional, increasing, and positive. That is, the more technical expertise the suppliers developed, the more they were able to improve the quality of the product while lowering the cost. If the quality of the part increased and the cost of the part decreased, then it is plausible that the expertise of the participants increased.

The second relationship, in this series, was found to exist between the expertise of the suppliers and alliance trust which is a contributor to the alliance characteristic pattern cluster "Reliance". When one respondent was asked what trust was based on, he responded as follows:

...meeting the technical requirements. . . .
(Identification Code: RC5117313)

The relation appeared to be both unidirectional and positive. The level of trust was dependent on the level of technical expertise possessed by the suppliers.

Having detected all of the empirical-based relationships among the relationship attention was turned to the second issue of Research Question 1. The critical question to be answered was, "What, if any, relationships
exist between the success indicators and the various categories of characteristics?". In an effort to answer this question, each set of characteristics was plotted against the nine success indicators to discover any relationships. See Tables 26, 27, and 28.

The generation of Table 27 led to the discovery of four relationships that existed between the suppliers' characteristics and the success indicators. The cognitive map for this section is in Figure 11. The first relationship discovered existed between the suppliers' expertise and the level of quality demanded by HAM. The relationship between the two variables appeared to be positive and unidirectional. The possession of a specific area of expertise by a supplier was positively linked to the production of the expected high quality desired by the focal manufacturer. The evidence of the relationship is documented in the following data excerpt.

...[HAM] knew that through Diado we would have the proper technology to make material the way it needed to be made. Honda, in general, is very particular about the steel and the processes involved and have a really high quality level that is very difficult to attain. ... (Identification Code: RC51333)

In this instance, the possession of particular manufacturing knowledge (i.e., expertise) by CSC results in the bar steel having the quality level demanded by HAM. Therefore, supplier expertise and product quality are positively associated.
A second relationship involving quality emerged as a result of the analysis of the relationships between the success indicators and the suppliers' characteristic. It was determined that a unidirectional, positive relationship between expected-quality and the management attitude of the suppliers existed.

... [management attitude] has to be in place, we believe, to provide the level of quality that we need because we believe there [are] some relationships that have to exist between the management and workers, a good relationship, workers have to work in a good clean, well lit, good environment in order. ...to provide a safe environment to provide that high quality part. The management must recognize that. (Identification Code: RC11101711)

An implied relationship existed between supplier expertise and pride. If the expertise of the supplier led to the ability to produce a quality part, then a sense of company and country pride in at least one supplier. In this instance, the production of a quality product mitigated the relationship between supplier expertise and the "pride" success indicator.

There has also been a success in terms of establishing ourselves as [an] American-owned company that has been able to do work for the Japanese [HAM] successfully, to their requirements and receive the accolades that we deserve. (Identification Code: S32124)

On the wall here we have an award that we received from Honda of America from the plant manager for our participation in this project [alliance]. Of all the participants in this alliance, Metallurgical Service is the only one that is solely an American-owned company. So we feel that we have been able to successfully work together with the Japanese to the benefit of making a successful product. ... (Identification Code: S32134)
The final relationship found between the suppliers' characteristics and the success indicators was the relationship that existed between the suppliers' flexibility and production availability.

Being able to develop a good schedule, being able to meet that schedule, being able to meet quality requirements, being able to provide so many parts a day, being able to adjust to volume fluctuation, being able to handle design changes. . . . So, they are all indicators of the success of that relationship. . . . (Identification Code: RC11829)

....the ability to react and respond to any changes or any situations that occur. A case in point is that there was a fire at Metallurgical Service, . . . [MSI] was able to handle that situation and maintain the productivity of the part so as to not shut down the Honda assembly line. (Identification Code: RC111039)

Supplier flexibility is the ability to quickly and effectively respond to out-of-the-ordinary changes or situations that may occur without adversely affecting productivity. The ability to "flex" resulted in ensuring the availability of the component for the next phase in the manufacturing process. Therefore, these two variables have a unidirectional, positive relationship with each other.

Moving to the next level of relationship analysis, a review of the data matrix (Table 28) revealed three relationships between the manufacturer's characteristics and the success indicators. (See Figure 12 for the appropriate cognitive map.) The first relationship to be investigated was the relationship that existed between the manufacturer's motive and the quality. HAM's driving motive in
establishing the alliance was to successfully localize the production of the Accord crankshaft in the U.S. In some way, the motive to localize was connected to the high level of quality developed in the alliance-produced crankshaft.

Initially, the success of just being able to localize the part was great, but to be able to exceed the quality of the Japan part on a regular basis is a success that really no one expected, [it] really exceeded their expectations. (Identification Code: S11423)

From the supporting datum, the exact nature of the relationship could not be determined. Therefore, the investigator concluded that there is at least one, if not more, unidentified intervening variables that mitigated this relationship. A diagram of this relationship is as follows:

```
U
A - ? - B
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Where variable A (HAM's motive) has some kind of relationship with variable B (exceeded part quality) and this relationship is mitigated by at least one unknown variable, namely variable U.

The "overkill" characteristic of the manufacturer appeared to have a relationship with the success indicator, expected quality as was detected in the following excerpt.

And lot's of times we [HAM] hear the term, "Well that's overkill", you don't need to do that and we prove that we can provide you [HAM] with the level of quality that you need, and yet we are being asked to provide an additional few steps just to make sure. (Identification Code: RC11101211)

The relationship seemingly took on the form of a unidirectional relationship where the presence of overkill
behavior of HAM was associated with the quality success indicator.

The final relationship between the manufacturer's characteristics and the success indicators again involved the quality indicator. This final relationship emerged between quality and the hands-on characteristic of the focal manufacturer.

...we are ... at times difficult to work with because we are so demanding. One of the elements that we do provide ... is that we don't simply demand certain levels of ... quality or performance without expecting a supplier to reach those levels. So we are very hands-on. We're very involved with our suppliers at every level, trying to help them achieve the levels that we expect and maintain those levels. (Identification Code: S11737)

This datum implied a relationship between quality and HAM's hands-on tendency. But the relationship appeared to be mitigated by developing expertise of the suppliers. In looking at the relationship between quality and HAM's hands-on nature, an exercise in logic suggested that the hands-on involvement of HAM in the technical development of the suppliers led to the development of some technological expertise in the suppliers. The increased technological expertise was then associated with rendering the part quality expected by HAM.

The final attempt at discovering relationships between manufacturer's characteristics and success indicators came in the form of a comparison of the alliance characteristics and the nine success indicators (Table 29). Nine
relationships were discovered as a result of this analysis. See Figure 13. The first of the nine emerged relationships involved the "Viability" alliance characteristic and the success indicator, "Profit/Cost". The following data demonstrate the implied bidirectional, positive association between the characteristics.

.. .We were able to successfully produce a part for them [HAM] at a fair profit margin. That enhances our business position and it enhances the company's position financially. (Identification Code: S32214)

.. .I think Honda expects us to make a profit. They don't want their better base to be losing money and then have ... a company go out of business and ... have to start all over again. (Identification Code: RC31524)

.. .Each company is going to have to maintain their long term viability. We can't supply successfully to Honda if we're not around ... (Identification Code: RC5128118)

On the one hand, the continued viability of the alliance participants was associated with the generation of a fair profit for the suppliers and a competitively-cost part for HAM. Whereas, the generation of fair profits/low costs and a high-quality product were associated with the long-term viability of the alliance participants.

The next relationship to emerge was the direct association between the alliance characteristic "Commitment" and the ability to successfully localize the production of the crankshaft. The commitment, or the pledge to the success and continuation of the alliance, by all of the alliance participants was viewed as a direct contributor to
the successfully localizing the production of the crankshaft.

So, in order for it [localization] to work, to be successful there had to be a commitment from all the companies. They knew this was gonna not be something that you went through for a couple of years and then it just disappeared. There had to be an ongoing relationship over a period of time [to] provide financial rewards for all sides. (Identification Code: RC51323)

The previous quotation also demonstrated the unidirectional relationship between the alliance characteristic, "Commitment", and the success indicator, "Profit", for the suppliers and "Low Cost" for HAM. The general idea behind the relationship is that in order to reap the financial benefits of the alliance, the participants had to pledge to the success and continuation of the alliance. So, commitment was positively associated with fair profits for the suppliers and low cost for HAM.

Another direct and positive relationship that emerged from the study was the link between continued improvement of the alliance participants and the success indicator, expected high quality of the crankshaft.

...To be able to be an important and viable supplier to Honda over the years is to have that additional quality to be able to research and development and be able to come down and say, "We've been making this crankshaft now for you for eight years. We've got an idea how to make it better and cheaper, stronger and so on, and here's what it is.". (Identification Code: RC11102212)

Application of the if-then tactic provided support for concluding a bidirectional relationship these two variables.
The continued technological improvement of the alliance participants was also positively linked to the success indicator incorporating fair profits for suppliers and low cost for the focal manufacturer. Evidence of this discovery is indicated in the following data excerpts.

. . . There is also constant challenge to improve the processing to lower cost, if we can, along the way. (Identification Code: RC5128219)

We have cost guidelines . . . [and] our success is at meeting those guidelines. Then year after year being able to improve upon those standards that were set for quality and cost . . . . (Identification Code: S12414)

. . . Over the years we strive to improve . . . capacity . . . our success in that sense is defined by year after year how many more parts we can produce off the same line using a relatively small amount of money for improvement. (Identification Code: S12424)

The analysis also revealed a unidirectional, positive relationship between the cooperation alliance characteristic and the production availability success indicator. The basic notion underlying the relationship was that cooperation among the participating companies was strongly associated with the availability of the product for the next step in the manufacturing process. The following data excerpt supported this conclusion.

Let's say, for example, that Copperweld Steel was having problems in providing us with a product that we [TFO Tech] needed. Representatives from TFO and Honda would go to Copperweld and do a complete review of the specifications and requirements for the product. The three companies would try and determine where the breakdown was . . . we would develop counter measures to correct the breakdown.
and prevent the breakdown from happening in the future. (Identification Code: RC219113)

A unidirectional, positive relationship was found to exist between the individual familiarity of the alliance key personnel (the alliance characteristic) and the existence of few problems (the success indicator).

...We'd build closer relationships meaning when there are problems ... it's easier to deal with people [who] are familiar with each other. They're familiar with the processes. It's easier to solve problems. There's not as much animosities as if you were not familiar with each other. (Identification Code: RC121488)

The final relationship detected in this series was a direct relationship that apparently existed between the process knowledge of the participants and quality.

Their [the suppliers'] people have come in here and gone through our [HAM] lines so they can better understand why the quality that they produce is so important. And on the other hand we go down there and look at their processes and try to help them more. They explain more to us what they do so that we understand how their quality is so much important to us. Again it just brings familiarity and it brings a good relationship between customers and suppliers. (Identification Code: RC1214119)

Each participants' familiarity with the manufacturing process of the other alliance partners was positively associated with the expected high quality HAM required in the jointly manufactured crankshaft.

This concludes the conclusions drawn from the data pertaining to Research Question 1.

Research Question 2 and Research Question 3
The essence of the second and third research questions has its origins in the management of interorganizational relationships. That is, the management of the linkages that exist between organizations engaged in an interorganizational relationship. The type of interorganizational relationship pertinent to this study is the network. A network, as defined in Chapter 2, is a group of organizations that share common organizational ties and can be recognized as a bounded interorganizational system (Provan, 1983). In this study, the HAM alliance was categorized as a network in which the control of the management activities of the alliance was retained by all of the participants of the relationship. That is to say, the management of the relationship is joint or shared by all of the participants and had not been relinquished solely to any entity.

Management activities of linked organizations can be addressed from the standpoint of boundary-spanning personnel. At the individual unit-of-analysis there are several key characteristics that personnel in the organizations must have in order to have a successful network. (A successful network includes appropriate interorganizational management.) Increased satisfaction and decreased conflict among interorganizational personnel have been identified as criteria for success for networks (Hall, Giordanno, Johnson, & Van Rockel, 1977). These authors
suggest that satisfaction among the individuals is increased and conflict is decreased if the following exist: (a) consensus, (b) favorable performance evaluation, (c) frequent contacts, and (d) high quality communications. This line of reasoning proposes that in a network where satisfaction was increased and conflict was decreased for the boundary-spanning personnel, the joint management of the interorganizational linkages would likely be successful. If this proposition is true, then the environments of each participating company, would have to be conducive to increasing satisfaction of and decreasing conflict for the individuals.

Likert's (1961) theory of organization and management provided the link between increased satisfaction/decreased conflict between boundary-spanning personnel and the management of the linkages in interorganizational arrangements. Likert's theory suggests that if one taps into all of the motives which yield favorable and cooperative attitudes among the individuals, it will result in a move toward realizing the organization's goals as well as meeting the needs of the individuals in the organization (Likert, 1961). Cooperative attitudes and the meeting of needs of the individuals in an organization can be construed as factors in increasing satisfaction and reducing conflict for boundary-spanning personnel.
Likert's research findings indicated a specific pattern of operation that led to highly favorable, cooperative environments which were said to be achieved by harnessing several motivational forces which function in a cumulative and reinforcing manner to yield favorable attitudes in individuals. The theoretical system of management espoused by Likert and his associates was termed the Participative Group system of management. As the reader will recall, Likert described the management system in terms of eight organizational variables. They are (a) leadership process, (b) motivational forces, (c) communication process, (d) interaction-influence processes, (e) decision-making processes, (f) goal-setting processes, (g) control processes, and (h) performance goals and training. (In the POC [Form E] utilized is this study, the eighth variable was not addressed.)

The pattern of interrelationships among the variables of this theoretical management system becomes more evident when compared with other systems of management utilizing the same variables. Three additional systems of management were created by arraying them along the continuum of two dimensions. The first dimension involved the seven of the eight preceding variables. The second dimension was the amount of control exercised by the management which ranged from a minimal amount of control to large amounts of control.
With the amount of control on the horizontal axis and the motivational characteristics plotted on the vertical axis, four discrete types of organizational systems were identified. They are (a) System 1 [Exploitive-Authoritative], (b) System 2 [Benevolent-Authoritative], (c) System 3 [Consultative System], and (d) System 4 [Participative Group].

By determining which management system is applicable to each of the organizations in the HAM alliance, it is possible to determine which of the organizational environments are conducive to meeting the needs of the individuals to the point where satisfaction is increased and conflict decreased. In a network where satisfaction is increased and conflict is decreased for the boundary-spanning personnel, then the joint management of the interorganizational linkages should be successful.

In following this line of reasoning, the Likert Profile of Organizational Characteristics Scale was administered to the study's participants. This resulted in the generation of a management system designation for each participating organization in the alliance. As presented earlier, the results of POC data analysis indicated that in the past and the present HAM's management style was identified as System 4 (Participative Group). All three suppliers' management styles were identified as System 2 (Benevolent-
Authoritative) in the past and System 3 (Consultative) in the present.

These particular findings require interpretation in light of Likert's theory of organization and management. The data findings characterized HAM as a System 4 organization. Theoretically, what this means is, in terms of the leadership process the superiors display supportive behavior toward others fully and in all situations while subordinates feel completely free to discuss issues concerning their jobs with their superiors.

In terms of the character of motivational forces variable, "the highly motivated, cooperative orientation toward the organization and its objectives is achieved by harnessing effectively all the major motivational forces which can exercise significant influence in an organizational setting and which, potentially, can be accompanied by cooperative and favorable attitudes" (Likert, 1961, p. 98). The following motives are all used fully and in such a way that they function in a cumulative and reinforcing manner to yield favorable attitudes in the employees of the organization: (a) ego motives [the desire to achieve and maintain a sense of personal worth and importance], (b) security motives, (c) the desire for new experiences motives, (d) economic motives. By fully tapping all the motives which yield favorable and cooperative attitudes, the results are such that the goals of the
organization are achieved and needs of the individuals are met.

The resulting strong, favorable attitudes of the workers toward the organization and its goals provide the needed stimulation in the associates to behave in a manner that leads to implementing the organization's goals. Personnel at all levels feel real responsibility for the organization's goals and behave in ways to implement them. Finally, in terms of motivational forces, there is relatively high satisfaction throughout the organization with regard to membership in the organization, supervision, and individual achievements.

Looking at the character of the communication process in a System 4 organization, the direction of information flow is down, up, and with peers. In this organization, when it comes to sharing information with subordinates, superiors seek to give subordinates all relevant and desired information. There is a great deal of upward communication via line organization. Forces leading to accurate or distorted upward information are virtually nonexistent and there is no need for a supplementary upward communication system. In continuing the discussion on the character of the communication process in a System 4 company, respondents indicate the psychological closeness of superiors to subordinates is usually very close. This helps facilitate
the usual accurateness of the perceptions of the superiors and the subordinates of each other.

Inquiry into the character of interaction-influence process suggests that the level of cooperative team work present is very substantial throughout the organization. The amount of actual influence which superiors can exercise over the goals, activity, and methods of their units and departments is substantial but often done indirectly. There exist a highly effective structure that enables one part of the organization to exert influence upon other parts.

The character of the decision-making process suggests that the information available for decision making at the place where the decisions are made is relatively complete and accurate. Decision makers are quite aware of problems in the organization, particularly those at lower levels in the organization. The decision making process of the organization makes a substantial contribution toward helping to create the necessary motivations in those persons who have to carry out the decision. Lastly, in terms of decision making, the organization is characterized as having subordinates who are fully involved in all decisions related to their work.

Regarding goal setting and ordering in a System 4 organization, high goals are sought by all levels in the organizational hierarchy, with lower levels sometimes pressing for higher goals than the top levels.
Additionally, concern for performance of control functions is likely to be felt throughout the entire organization as opposed to resting at one end of the hierarchy or another. Similarly, review and control is done at all levels with lower units, at times, imposing more vigorous reviews and tighter controls than top management. Finally control data, in a System 4 organization, is used for self-guidance and for coordinating problem solving and guidance and is not used for punitive purposes.

In interpreting the current system management designation of the three suppliers in the HAM crankshaft alliance, the data analysis characterized CSC, MSI, and TFO Tech as System 3 organizations. Again looking at all of the organizational variables measured by the POC (Form E), the interpretation begins with the leadership variable. In System 3 organizations, the leadership process of the organization, the superiors display supportive behavior quite generally, toward others in the organization. Subordinates feel rather free to discuss issues concerning their jobs with their superiors.

In terms of the character of motivational forces variable, the economic needs are fully tapped while there is considerable use of the other major motives previously presented. By not fully tapping all the motives which yield favorable and cooperative attitudes, the results are such that the goals of the organization are seemingly achieved
and needs of the individuals are met at a considerable degree, but not fully.

As a result, attitudes usually are favorable and support behavior implementing the organization's goals. A substantial proportion of personnel, especially at higher levels, feel responsibility and generally behave in ways to achieve the organization's goals. Finally, in terms of the motivational forces component, there is some dissatisfaction to moderately high satisfaction with regard to membership in the organization, supervision, and individual achievements.

Looking at the character of the communication process in a System 3 organization, the direction of information flow is down and up. In this organization, when it comes to sharing information with subordinates, superiors give subordinates needed information and answer most questions. There is some upward communication via line organization and there are occasional forces to distort along with many forces to communicate accurately. In a System 3 company, respondents indicate the psychological closeness of superiors to subordinates is fairly close. This helps facilitate moderately accurate perceptions of the superiors and the subordinates of each other.

Again, looking into the character of interaction-influence process in System 3 organizations, there is a moderate level of cooperative teamwork present throughout the organization. The amount of actual influence which
superiors can exercise over the goals, activity, and methods of their units and departments is moderate to substantial especially for higher levels in the organization. There exist a moderately effective structure where influence is exerted primarily through vertical lines.

The character of the decision-making process suggests that the information available for decision making at the place where the decisions are made is reasonably adequate and accurate. Decision makers are moderately aware of problems in the organization, particularly those at lower levels in the organization. The decision making process of the organization makes a contribution toward helping to create the necessary motivations in those persons who have to carry out the decision. Lastly, in terms of decision making, the organization is characterized as having subordinates who usually are consulted but not ordinarily involved in all decisions related to their work.

Regarding goal setting and ordering in a System 3 company, high goals are sought by higher levels but with occasional resistance by lower levels. Additionally, concern for performance of control functions is likely to be felt primarily at the top with some shared feeling of responsibility felt at the middle and to a lesser extent at lower levels in the organizational hierarchy. Similarly, there is a moderate downward delegation of review and control processes where lower, as well as higher levels,
perform these tasks. Finally control data, in a System 3 designated organization, is used for policing with emphasis usually on reward but with some punishments. Control data is also used for guidance in accord with orders and there is some use of the data for self-guidance.

The general conclusion for management system designation follows. Three of four HAM Accord Crankshaft Alliance participants are designated as System 3 while only one is designated as System 4. According to Likert's theory of organization and management, the system of management that is the best in producing a highly effective organization is System 4. Furthermore, since it has been deduced that a System 4 organization is best at producing an environment conducive to increasing boundary-spanning personnel satisfaction and decreasing conflict, then a strategic alliance containing all System 4 designated participants should be the most effective at increasing the effectiveness of the management of the linkages in the network. Therefore, the Honda Accord Crankshaft Strategic Alliance with three System 3 organizations and one System 4 organization is seemingly not as effective in the area of interorganizational management as an alliance with all participating organizations designated as System 4.

Research Question 4

A major assumption must be illuminated to help set the context for understanding the analyzed data pertinent to the
levels of subjective Interpersonal Risk possessed by each of the HAM strategic alliance respondents. The assumption is that organizations cannot develop and maintain successful collaborative efforts without a reasonable, cooperative relationship existing between them. Therefore, the phenomenon of interorganizational cooperation has been critical to this study. It was demonstrated in the literature review contained in Chapter 2 that writers on interorganizational cooperation indicated cooperation is of great importance to interorganizational relationships due to the nature of exchange and dependence that exist among organizations in interorganizational relationships (Provan, 1984).

There are varying theoretical approaches one can use to gain knowledge and understanding of the concept of interorganizational cooperation. The approach adopted by the investigator for this study was the interactive approach. This approach suggests that interorganizational cooperation develops through ongoing interaction between individuals (Cook, 1977; Levinthal & Fichman, 1988; Van de Ven & Walker, 1984; Zeitz, 1980; Kumar, Stern, & Anderson, 1993; Ring & Van de Ven, 1994). Interactive theorists emphasize the development of trust or commitment between participants as precursors to cooperation (Heide & Miner, 1992).
Given the importance of trust in interorganizational cooperation and the apparent existence of trust in the HAM alliance as indicated by the 1992 pilot case study, the component of trust was isolated for further study. In this study, trust was ultimately operationalized as Lundstedt's Subjective Interpersonal Risk (IR). The option was taken because it was consistent with the interactive model of interorganizational cooperation and Lundstedt's IR approach made it conducive to focus on the level of trust between the individuals who provided the linking mechanism across organizational boundaries in interorganizational relationships. A look at the personal relationships between boundary-spanning individuals in collaborating organizations can serve to shape and modify the evolving relationship between cooperation and trust (Jarrillo, 1988; Ring & Van de Ven, 1994).

Interpersonal Risk theory seeks to explain and predict those social relationships characterized by the act of voluntarily giving away influence and control over to others. Each individual in the interaction makes a decision to give away influence and control based on a subjective calculation of the risk and utility for himself or herself if he or she does so. The determination of subjective risk and utility is derived from past experiences or rewards resulting from such behavior and from the perception the other parties have also behaved in a similar manner. In
giving away influence and control to others, the individual accepts "interpersonal risk" since the recipient of the influence and control may use these to help or injure the individual who gave the influence and control away. This IR behavior is expected to lead to cooperation between people while the opposite form of behavior will most likely lead to competition and conflict.

As is evident by the information presented in Tables 17-22, the six respondents have levels of subjective interpersonal risk that were either categorized as "High" or "Extremely High". High levels of subjective IR exist when the person reports he or she feels it is safe to take risks in the situation. Continued high levels of subjective IR behavior lead to approach behavior and cooperation while continued low levels lead to avoidance behavior and conflict. A mutually high level of IR behavior leads to social relationships characterized as trusting, compatible, low in hostility, reliable, dependable and exhibit confidence. In contrast, mutually low levels of IR lead to relationship described as alienated, mistrustful, hostile, and as lacking in confidence, reliance and dependence (Lillibridge, 1968).

What this means in the HAM strategic alliance is that the boundary-spanning individuals in each organization are people who, according to Lillibridge, (1967), trust and depend on other people. Therefore, when the alliance's
boundary-spanning personnel mutually engage in voluntarily giving away influence and control over the life-span of the alliance they are described as cooperating with each other. The interactive approach to interorganizational cooperation suggests that interorganizational cooperation develops in the context of the relationships between individuals, and the development of trust between participants serves as a precursor to cooperation between organizations.

The continued, mutually high levels of IR discovered in the alliance boundary-spanning personnel and the resulting cooperation on the individual level should have a positive effect on the relationships between HAM, CSC, TFO Tech, and MSI at the interorganizational level. Theoretically, it should result in a strategic alliance characterized as trusting, compatible, low in hostility, and as exhibiting confidence, reliance, and dependence.

Given this discussion, the following conclusions are stated. The six managerial, boundary-spanning personnel respondents used in this study are characterized as possessing either "High" or "Extremely High" level of Subjective Interpersonal Risk. The results of these levels of IR indicate individuals who trust and depend on their counterparts in each of the four participating companies in the Honda Accord Crankshaft Alliance. In general, the relationships in the alliance that result from high levels of IR in the individual participants are characterized as
trusting, compatible, low in hostility, reliable, and dependable.

Programmatic Recommendations

The conclusions made in this study have some practical implications for the Honda of America, Inc. Accord Crankshaft Strategic Alliance. These implications served as the basis for programmatic recommendations aimed at increasing the success of the subject strategic alliance. The recommendations for increased success are relative to what issues needed to be addressed in the future. No attempt was made, by the investigator, to make recommendations on how the recommendations would be implemented (i.e., what programs should be developed and implemented to ensure the pertinent issues are addressed). Program development and implementation falls under the discretion and jurisdiction of HAM and its suppliers.

In an attempt to be consistent with the study's format, the implications for practice were addressed relative to the study's research questions and their respective conclusions. Given the results that stemmed from addressing Research Question 1, a few recommendations were made in an effort to enhance the success of the HAM strategic alliance.

The results of the study led to the conclusion that there were at least 26 characteristics inherent in the alliance and some of those emerged characteristics were determined to have some kind of relationship with the nine
success indicators. Of the nine success indicators, four ("Quality", "Production Availability", "Profit/Cost", and "Few Problems") were utilized for making programmatic recommendations. "Continued Success", "Percent", "Status Quo", and "Pride" were eliminated from use in making recommendations given there were no emerged relationships with the any of the three categories of relationship categories. The "Localization" success indicator was disregarded because it was an indicator of success applicable to the initiation or formative phase of the alliance life cycle. Since the emphasis of this study pertained to the maintenance stage of the alliance, only those success indicators relevant to that phase were addressed.

The relationship between the quality success indicator and some of the emerged characteristics was probably the most significant relationship given the number of characteristics associated with it. Table 29 provides a precise display of the complexity of the relationships between quality and the indicated characteristics. In order to enhance the quality of the crankshaft, the alliance should attend to the characteristics listed in Table 29.

A critical contributor to quality was the expertise of the suppliers. Consequently, effort should be generated toward increasing the expertise of each participating supplier. Four characteristics, ("High Expectations",

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"Hands-on", "Motive", "Cont. Imp.") were determined to have an impact on the expertise level of the suppliers. (Motive was viewed by the investigator as a manufacturer's characteristic applicable to the initiation phase of the alliance and, therefore, it was not considered for recommendations applicable to the maintenance stage.) A program emphasizing these variables should lead to increased expertise in the suppliers which should help meet or exceed the quality levels mandated by HAM.

HAM's high expectations of the suppliers should be a motivating factor relative to the suppliers developing increasing expertise in crankshaft manufacturing. Continued improvement and its associated increasing capability of conducting research-and-development should further enhance the expertise level of the suppliers. (The relationship between expertise and continued improvement was discovered to be bidirectional. Expertise affected continued improvement and vice versa. Ultimately, there was a positive affect on quality.)

The effects of HAM's hands-on tendency during the maintenance phase were mitigated by time ("Maturation") and a shift in the focal entity (from HAM to TFO Tech) as illustrated in Figure 7. Therefore, increased hands-on opportunities would have to be sought. Increased opportunities for HAM to engage in "Hands-on" activities should benefit supplier expertise. However, caution should
be taken when increasing hands-on activities given the supplier frustration that tends to develops. HAM would need to develop better methods of handling the increased frustration.

The risk aversion tendency of HAM is associated with increased demands (overkill) on the suppliers which were not always viewed favorably by the suppliers. Yet, overkill demands are positively associated with quality. In terms of program development, the challenge to HAM would be to continue to incorporate risk-avert and overkill behaviors and actions while at the same time educating the suppliers on the necessity of the demands so that the request will be viewed in a favorable way.

A positive relationship existed between the process knowledge of the participants and quality. Therefore, future programs should incorporate avenues or methods by which process changes occurring in the maintenance stage would be shared with all participants.

The relationship between "Management Attitude" and "Quality" would need to be developed through some program component that was devised to foster excellent relationships between the suppliers' managers and the floor workers.

Table 30 illustrates a single relationship between fairness, cooperation and product availability. To ensure continued and timely availability of the work-in-progress component for the next manufacturing stage, HAM must
incorporate, into a proposed program, some factor that will increase the participants' desire to work together for the common good. Cooperation should be facilitated if the program increases participants' understanding of each others roles and responsibilities.

In Table 31 the characteristics associated with profit/cost were identified by the investigator as key components to a program increasing success in the HAM alliance. The enhanced expertise of the suppliers, discussed previously should positively effect the ability of the suppliers to conduct research-and-development which was said to be a contributor to lower cost for HAM and fairer profits for the suppliers. Commitment enhancing features would have to be incorporated to assist the participants in developing an allegiance to the continued success and continuation of the alliance. Also, HAM's progressive nature was key in developing viability in the alliance participants. Consequently, progressive, related actions and behaviors would be required to move toward fair profits and low cost.

Finally, at the individual unit of analysis, the key managerial personnel would have to make even greater attempts at increasing the familiarity among themselves. This increased individual familiarity was determined to have a positive relationship on the number of problems experienced in the alliance. See Table 32. As a result, HAM and the suppliers should incorporate in an alliance
program the resources and efforts necessary to develop and support the personal relationships that exist between the boundary-spanning personnel involved in the alliance.

The conclusion generated as a result of answering Research Questions 2 and 3 allowed the investigator to determine which of the participants' organizational environments were conducive to meeting the needs of the individuals to the point where satisfaction was increased and conflict decreased. In an alliance where satisfaction was increased and conflict was decreased for the boundary-spanning personnel, the joint management of the interorganizational linkages should be successful.

It was concluded that the crankshaft alliance, with three System 3 organizations (MSI, TFO Tech, and CSC) and one System 4 organization (HAM), was theoretically not as effective in the area of interorganizational management as an alliance with all System 4 organizations. The recommendation to the HAM alliance would require a program developed to move the System 3 organizations to System 4 organizations.

In making this recommendation, the investigator turned to Likert (1961) for specific methods available for guiding organizations interested in shifting to a full-scale application of his management theory and becoming Systems 4 organizations. "There is, however a wide gulf between a statement of general theory and the development of specific
operating procedures to make possible a satisfactory and valid application of the theory in a specific situation" (Likert, 1961, p. 241). Given the unavailability of a specific methodology for theory application, Likert examined very briefly some of the major steps involved in applying his theory in any particular company.

The best way to proceed in any organization will depend upon many factors unique to the situation. In some companies, it will be better to introduce the newer theory gradually, on a company-wide basis. In others, a pilot project will be desirable. Size will be one factor in determining the steps to be taken. Small organizations may have little need for a pilot project; large corporations may find it essential. A pilot project will enable a large company to develop and test an operation on a small and manageable scale. This experience can then be used to guide the application of the theory to the entire organization (Likert, 1961, p. 241).

In staffing the pilot operation, it would be highly desirable to pick persons whose present methods of management most nearly approach the principles and practices called for by the . . . theory. ...Staffing pilot projects with persons whose skills and expectations come as close as possible to the conditions to be created increases the likelihood that success will be achieved in the least time and at the least cost (Likert, 1961, p. 242).

The desired conditions referenced by Likert in the previous quotation refer to the general character of an organization when it is based on the full application of Likert's management theory. These conditions are relative to three components of the organization: (a) the nature of the organization, (b) operating characteristics, and (c) overall performance characteristics.
In terms of the nature of the organization, it is an integrated, internally consistent management system with operating procedures for all processes (communication, decision-making, etc.) being complementary. The structure of the organization utilizes the overlapping group form of organizational structure to support the principle of supportive groups as discussed in Chapter 2. "The work groups of the organization are highly effective groups and have all the performance characteristics typical of such groups" (Likert, 1961, p. 237). The leadership for those work groups possesses all the technical and managerial skills required to build and operate a system consisting of highly effective groups.

The atmosphere of the organization must provide a supportive, ego-building atmosphere, "in which people feel valued and respected and in which confidence and trust grow" (Likert, 1961, p. 238). The people employed by the organization must possess the appropriate aptitudes and skills required for their positions. Additionally, they must have adequate interpersonal and group-process skills to help facilitate cooperative working relationships.

In terms of the operating characteristics (communication flow, influence process, etc.), those presented in the discussion and conclusion sections for Research Questions 2 and 3 for HAM and other System 4 organizations would be the operating characteristics in
place when an organization is based on the full application of Likert's management theory.

Concerning the overall performance characteristics, it would be expected that the organization would be characterized by high productivity, products of high quality, low cost, and low waste. Low turnover and absenteeism, high capacity to adapt to change, a high degree of enthusiasm, and satisfaction on the part of its employees, customers, and stockholders are also performance characteristics of a System 4 organization.

Given that HAM was designated as a System 4 organization, it is assumed that it has the ability to produce a System 4 organization. Current or new policies and procedures on achieving an organization as previously described could be shared with the supplier organizations of the alliance to help them facilitate a move from System 3 to System 4.

Finally, the implications relative to the conclusion of IR levels in the managerial, boundary-spanning personnel served as the basis for the last set of programmatic recommendations for HAM. In general, it was concluded that the boundary-spanning personnel in the alliance possessed either "High" levels or "Extremely High" Levels of interpersonal risk which resulted in cooperative relations among the alliance participants.
With a maximum IR score of 150 and the scores ranging from 34 to 127 with an average of 81.33, improvement in IR is recommended. According to IR theory, each individual engaged in a social relationship makes a decision to give away influence and control based on a subjective calculation of the risk and utility for himself or herself. Since the determination of subjective risk and utility is derived from past experiences or rewards resulting from such behavior and from the perception the other party has also behaved in a similar manner, then the level of IR seemingly can be influenced. What would have to be influenced is the decision to give away influence and control. The way to influence that decision would be to provide an environment conducive to giving away influence and control. Specifically, HAM and the suppliers could develop a program where rewards are offered to the boundary-spanning personnel as incentives to voluntarily give away influence and control. Continued encouragement of the desired behavior would create a data bank of experiences from which the personnel could draw to serve as the basis for continued giving away of influence and control. Publicity of individual acts of high IR would assist in shaping the perception of others as givers of influence and control.

Efforts in moving the individual IR scores closer to the maximum score would result in increased cooperation on the individual level which according to interactive
theorists would serve as a precursor to cooperation between the organizations in the alliance.

**Recommendations for Further Research**

This section contains recommendations for ways this line of study can be extended. Although all four research questions were answered, the results and conclusions of this study are the basis for more questions. The multiple, multi-level relationships that emerged from the study, taken as a whole, created a complicated network of relationships that cloud the understanding of the 15 basic relationships that were found to exist between the characteristics and the success indicators. This is a classic case of how the answer to one question results in the generation of more questions requiring answers.

To understand the maze of relationships, future research along this line should address a better understanding of the characteristics' abstractions. Once that is accomplished, attention can then be turned to better understanding the relationships between the abstractions.

Conclusions about the emerged characteristics are, at this point, abstract concepts or constructs. Because they are abstract and, therefore, are not measurable, the next step in the progression of this line of study would be the identification of some concrete representation of each abstraction. Variables are measurable representations of constructs and according to Kidder and Judd (1986) a
construct can have many variables. By identifying variables for the characteristics and success indicators and assigning operational definitions, the investigator would have a way of measuring the constructs and determining whether the alliance and the participants have more or less of that construct. (An operational definition is a sequence of steps or procedures a researcher follows to obtain a measurement of a variable [Kidder & Judd, 1986]).

Identifying variables for the constructs that emerged in this study is consistent with the historical development of this study. The use of Likert's management theory and Lundstedt's IR theory were ways in which two previously identified constructs (leadership and trust) from the 1992 pilot case study were operationalized. In terms of extending the research on those two constructs, it is recommended that additional variables and operational definitions be identified for leadership and trust in interorganizational relationships. Given the multiple-variable nature of constructs, the more applicable variables identified, the better the representation of the construct and the more enhanced the knowledge about the two constructs will be.

As the knowledge of the characteristics increases attention can be turned toward better understanding the nature of the relationships between the characteristics' variables. The true nature of the emerged relationships,
whether causal, correlational, etc. are still unknown. Each of the relationships depicted in Figures 7-13 warrant further investigation to fully understand what the contributing factors are to the success of the Honda of America Manufacturing, Inc. Accord Crankshaft Strategic Alliance.
<table>
<thead>
<tr>
<th>SUPPLIERS' CHARACTER.</th>
<th>Motive</th>
<th>Hi. Expec.</th>
<th>Hands-on</th>
<th>Overkill</th>
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<tr>
<td>Humility</td>
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Table 23: Suppliers'/Manufacturer's Characteristics Checklist Matrix

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### ALLIANCE CHARACTERISTICS

#### MANUFACTURER’S CHARACTERISTICS

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<tr>
<th>Perspective</th>
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<th>Trust</th>
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Table 24: Manufacturer’s/Alliance Characteristics Checklist Matrix

### ALLIANCE CHARACTERISTICS

#### SUPPLIERS’ CHARACTER.

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<td>RC5117313</td>
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Table 25: Suppliers’/Alliance Characteristics Checklist Matrix
Figure 7: Within-Pattern Relationships
Figure 8: Relationships between Suppliers' Characteristics and Manufacturer's Characteristics
Figure 9: Relationships between Alliance Characteristics and Manufacturer's Characteristics
Figure 10: Relationships between Alliance Characteristics and Suppliers' Characteristics
### SUPPLIERS' CHARACTERISTICS

**SUCCESS INDICATOR**

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<tr>
<th>Quality</th>
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<th>Management</th>
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<td>Availability</td>
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<tr>
<td>Pride</td>
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<td>S32124</td>
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Table 26: Success Indicators and Suppliers' Characteristics Checklist Matrix

### MANUFACTURER'S CHARACTERISTICS

**SUCCESS INDICATOR**

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<th>Quality</th>
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<th>Hands-on</th>
<th>Overkill</th>
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Table 27: Success Indicator and Manufacturer's Characteristics Checklist Matrix
### ALLIANCE CHARACTERISTICS

#### SUCCESS INDICATORS

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</tbody>
</table>

Table 28: Success Indicator and Alliance Characteristics Checklist Matrix
Figure 11: Relationships between Suppliers' Characteristics and Success Indicators
Figure 12: Relationships between Manufacturer's Characteristics and Success Indicators
Figure 13: Relationships between Alliance Characteristics and Success Indicators
<table>
<thead>
<tr>
<th>Construct A</th>
<th>Intervening Constructs</th>
<th>Construct B</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Expectations ⬛</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hands-on ⬛</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motive ⬛</td>
<td>EXPERTISE ⬛</td>
<td></td>
</tr>
<tr>
<td>Cont. Improvement ⬛</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mgmt. Attitude ⬛</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Expectations ⬛</td>
<td>HANDS-ON ⬛</td>
<td>QUALITY ⬛</td>
</tr>
<tr>
<td>Risk Aversion ⬛</td>
<td>OVERKILL ⬛</td>
<td></td>
</tr>
<tr>
<td>Expertise ⬛</td>
<td>MOTIVE ⬛</td>
<td></td>
</tr>
<tr>
<td>Quality ⬛</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proc. Knowledge ⬛</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expertise ⬛</td>
<td>CONT. IMPROVEMENT ⬛</td>
<td></td>
</tr>
<tr>
<td>Quality ⬛</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 29: Constructs Affecting "Quality"
### Table 30: Constructs Affecting “Product Availability”

<table>
<thead>
<tr>
<th>Construct A</th>
<th>Intervening Construct</th>
<th>Construct B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairness</td>
<td>COOPERATION</td>
<td>PRODUCT</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AVAILABILITY</td>
</tr>
</tbody>
</table>

### Table 31: Constructs Affecting “Profit/Cost”

<table>
<thead>
<tr>
<th>Construct A</th>
<th>Intervening Construct</th>
<th>Construct B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expertise</td>
<td>CONT. IMPROVEMENT</td>
<td>PROFIT/COST</td>
</tr>
<tr>
<td>Quality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commitment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Progressiveness</td>
<td>VIABILITY</td>
<td></td>
</tr>
</tbody>
</table>

### Table 32: Constructs Affecting “Few Problems”

<table>
<thead>
<tr>
<th>Construct A</th>
<th>Intervening Construct</th>
<th>Construct B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual Familiarity</td>
<td></td>
<td>FEW PROB.</td>
</tr>
</tbody>
</table>

Table 31: Constructs Affecting “Profit/Cost”
APPENDIX A
Strategic Alliance Definition Characteristics
<table>
<thead>
<tr>
<th>NAME(S)/DATE</th>
<th>TERM</th>
<th>DEFINITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alderson, Wroe (1957)</td>
<td>Symbiosis</td>
<td>Two complimentary firms where the existence of each increases the likelihood and survival of the other.</td>
</tr>
<tr>
<td>Adler, Lee (1966)</td>
<td>Symbiotic Marketing</td>
<td>The mutual cooperation in marketing between companies which goes deeper than the traditional business trade agreement.</td>
</tr>
<tr>
<td>Arndt, Johan (1979)</td>
<td>Domesticated Markets</td>
<td>Transactions are moved inside a company or inside boundaries of a group of companies committed to long-term cooperation.</td>
</tr>
<tr>
<td>Koenig, Thomas; Robert Gogel, &amp; John Sonquist (1979)</td>
<td>Interlocking Directorates</td>
<td>Partial alliance between firms from which both corporations are believed to benefit.</td>
</tr>
<tr>
<td>Palmer, Donald (1980a &amp; 1980b)</td>
<td>Interlocking Directorates</td>
<td>Ongoing joint corporate planning. Interlocks facilitate formal coordination and information exchange.</td>
</tr>
<tr>
<td>Porter, Michael (1980)</td>
<td>Contracting</td>
<td>A type of long-term or even short term contract between independent firms that can gain some of the economies of integration.</td>
</tr>
<tr>
<td>Kotler, Phillip (1984)</td>
<td>Horizontal Marketing System</td>
<td>The readiness of two or more companies to join together to exploit an emerging marketing opportunity. Each company</td>
</tr>
<tr>
<td>Author</td>
<td>Title</td>
<td>Definition/Description</td>
</tr>
<tr>
<td>-----------------</td>
<td>---------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Varadarjan, P.</td>
<td>Symbiotic Marketing</td>
<td>Organizations that maintain their distinct identity and are not linked by the traditional marketer-marketing intermediary relationship. This relationship excludes mergers and acquisitions.</td>
</tr>
<tr>
<td>&quot;Rajan&quot; &amp;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daniel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rajaratnam</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1986)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Varadarjan, P.</td>
<td>Horizontal cooperative sales promotion</td>
<td>Sales promotion characterized by the pooling of promotional resources by two or more distinct entities designed to capitalize on joint opportunities for sales growth.</td>
</tr>
<tr>
<td>&quot;Rajan&quot; (1986)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child, John</td>
<td>Mutual Organization</td>
<td>An organization formed by a set of independent co-contractors engaging in a recurring relationship in which the parties are both principals and agents.</td>
</tr>
<tr>
<td>(1987)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gerlach, Michael</td>
<td>Business Alliances</td>
<td>The organization of firms into coherent groupings which link them together in significant, complex, long-term ownership and trading relationships. Business alliances operate through an extended network of relationships between companies. They are organized around identifiable groupings and are bound together in durable relationships based on long-term reciprocity.</td>
</tr>
<tr>
<td>(1987)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Powell, Walter</td>
<td>Hybrid Organization</td>
<td>A combination of firms' strengths to overcome weaknesses in a collaboration that is much broader and deeper than the marketing joint venture and technology</td>
</tr>
<tr>
<td>(1987)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
licensing. Firms pursue cooperative agreements in order to gain fast access to new technologies or new markets, to benefit from economies of scale...to tap into sources of know-how located outside the boundaries of the firm, to share risks for activities that are beyond the scope or capability of a single organization, and to contract for complementary skills.

<table>
<thead>
<tr>
<th>Devlin, Godfrey &amp; Mark Bleackley (1988)</th>
<th>Strategic Alliances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Devlin, Godfrey &amp; Mark Bleackley (1988)</td>
<td>Strategic alliances take place in the context of a company's long-term strategic plan and seeks to improve or dramatically change a company's competitive position.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dwyer, F. Robert &amp; Sejo Oh (1988)</th>
<th>Coordinated Channel System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dwyer, F. Robert &amp; Sejo Oh (1988)</td>
<td>Eliminates redundant roles, jointly allocates responsibility for key channel functions and establishes communication and control systems.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Frazier, Gary, Robert Spekman &amp; Charles O'Neal (1988)</td>
<td>Interorganizational linkage between two firms that range from moderate to long term duration</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gardner John &amp; Martha Cooper (1988)</th>
<th>Partnership Style</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gardner John &amp; Martha Cooper (1988)</td>
<td>Extends over a long period of time, involves sharing of benefits and burdens, involves extensive planning, includes detailed operational informational exchange, and allows operating control across firms' boundaries.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Johnston, Russel &amp; Paul Lawrence (1988)</td>
<td>A set of independent companies that work closely together to manage the flow of goods and services along the entire value-added chain. A value-added chain is the various steps a good or service goes</td>
</tr>
</tbody>
</table>
Borys, Bryan & Hybrid through from raw materials to final consumption. 
David B. Organizational arrangements that use resources and/or governance structures from more than one existing organization.
Jemison (1989) 

Clark, Kim B. Strategic Ongoing collaboration for the 
Partnership transfer of knowledge. 
(1989) 

Jorde, Thomas & Strategic A bilateral relationship 
Alliance characterized by the 
David Teece commitment of two or more 
(1989) partner firms to reach a 
common goal, and which entails the pooling of specialized assets and capabilities. 

LaLonde, Alliance A contractual relationship 
Bernard & between two independent 
Martha Cooper entities in the logistics 
(1989) channel to achieve specific objectives and benefits. 

LaLonde, Bernard & Partnership A relationship between two entities in the logistics channel that entails a sharing of benefits and burdens over some agreed upon time horizon. 
Partnership 
Martha Cooper (1989) 

LaLonde, Bernard & Strategic A type of logistics channel 
Strategic Partnership relationship where the intent 
Partnership/Alliance of the relationship is to yield differentiated and intermediate or long-term benefits to the parties involved in the relationship. 
Martha Cooper (1989) 

Landeros, Cooperative Buyer Two separate and independent 
Robert & Robert /Seller enterprises that develop a 
Relationship 

Lindsay, Strategic Strategic Alliances are know 
Jennifer (1989) as corporate partnerships or by the form of the relationship between the small
<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Relationship Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anderson James &amp; James Narus (1990)</td>
<td>Partnership</td>
<td>The extent to which there is mutual recognition and understanding that the success of each firm is dependent on each firm taking actions so as to provide a coordinated effort focused on jointly satisfying the requirements of the customer marketplace.</td>
</tr>
<tr>
<td>Forrest, Janet (1990)</td>
<td>Strategic Alliance</td>
<td>A collaborative arrangement. A strategic alliance does not involve full ownership forms, such as mergers, acquisitions or internal ventures. The time frame for collaborations is not limited to longer-term, but also includes short-term, fairly temporary arrangements.</td>
</tr>
<tr>
<td>Bevan, J. (1989)</td>
<td>Co-Makership</td>
<td>Buyers and suppliers working together towards a common goal. It is based on the principle that each party can gain more benefits by cooperating than by pursuing self-interest at any cost to others [Synergy].</td>
</tr>
</tbody>
</table>
APPENDIX B
Nelson Letter of Introduction and Support
September 28, 1993

Mr. Frederick L. Epp
Manager National Account Development
Copperweld Steel Company
4000 Mahoning Avenue
Warren, OH 44483

Dear Mr. Epp:

This is to acknowledge that Ms. Karen Smith has the support and the backing of Honda in order to complete her doctoral dissertation study on strategic alliances among Honda suppliers.

We are interested in her work, and we hope that you will find it possible to cooperate with Ms. Smith by assisting her to obtain the necessary information related to her study. We appreciate your cooperation. Ms. Smith's work is under the direct supervision of Professor Sven Lundstedt, a senior member of the faculty of the College of Business at The Ohio State University. Professor Lundstedt is cooperating closely with us in this work. Thank you.

Sincerely,

[Signature]

Dave Nelson
Vice President of Purchasing
APPENDIX C

Generic Cover Letter
Dear [Study Participant's Name],

This is the follow-up letter to our recent telephone conversation concerning the research to be conducted by me on the Honda of America Manufacturing, Inc. (HAM) Accord Crankshaft Alliance (the Alliance). To review, I am a doctoral candidate at The Ohio State University (OSU) in the Max M. Fisher College of Business and the Department of Management and Human Resources. My doctoral dissertation supervisor is Professor Sven Lundstedt, a faculty member in the OSU college of business.

I have a research interest in the relationships between large manufacturers and their suppliers. My specific purpose for this research is to discover the relationship characteristics inherent in the alliance consisting of HAM; Copperweld Steel Company; TFO Tech Co., Ltd.; and Metallurgical Services, Inc. in the manufacture of the Honda Accord crankshaft. The results of this study may be used, in the future, to lay the groundwork for the development of a theory on success in manufacturing alliances. The companies participating in the study will benefit by having a deeper technical understanding of the Alliance. This new information can be used by the participants to guide the crankshaft alliance or others to future success.

The Accord Crankshaft Alliance was selected for study because of the apparent success of the alliance in meeting the strategic objectives of each participating company. It was also selected as a result of HAM and (name of the company) past willingness to assist in furthering research on the stated topic. (A pilot case study was conducted on the Alliance by Professor Lundstedt and myself in 1992. This proposed doctoral study is a continuation of that pilot case study.) Mr. Dave Nelson of HAM is in support of this study as evidenced by his enclosed letter of endorsement.
You were selected as a potential participant in this research because of your past and/or current involvement in the Alliance. Please be assured that your participation is completely voluntary. Your consent to participate will not subject you to any known risk.

As a participant in this study you would be asked to meet with me 1 or 2 times for about 60 minutes each time. The session(s) should be conducted at a time and location convenient to your schedule and where the interviews can be completed without interruption. Your assistance in the suggestion and selection of an appropriate and convenient meeting place is appreciated.

The need for a second session is contingent upon the progress made in the first round of interviews. I will have a better idea of whether or not the second round of interviews will be required once the data from the first interviews are collected and analyzed.

The first session contains four parts. Part I is an interview consisting of a series of open-ended questions. Your responses to the questions will be tape recorded and/or hand-recorded by me. Part II and Part III consist of one survey each. The surveys consist of 13 and 30 questions respectively. You will be provided answer categories in which you will mark your response to each question. Part IV consists of a questionnaire that ascertains demographic information on each respondent. This information will be hand-written by the participant.

My purpose in interviewing is not to judge or to evaluate the participant, but to get an understanding of what makes the Honda Accord Crankshaft Alliance "work". Please be advised that there are no "right" or "wrong" answers to the questions. I consider you the expert.

The information collected in all sessions will be kept strictly confidential, and used only for research purposes. Excerpts of the interviews may be made part of the final research report, but under no circumstances will the participant's name or identifying characteristics be included in that report. Complete anonymity is assured.
I can be contacted at the following phone numbers should you have any questions: (614) 292-6522 (office) or (614) 491-5714 (home). Dr. Lundstedt can be contacted at the following telephone numbers. (614) 292-0873 (office) or 267-9653 (home). Each company will receive a summary of the results of this study as a token of my appreciation of your efforts.

Sincerely,

Karen J. Alsbrooks Smith
Doctoral Candidate

Sven B. Lundstedt, Ph.D
Dissertation Supervisor

enclosure
APPENDIX D
Interview Guide
A Qualitative Inquiry into the Relationship Characteristics of an Automobile Manufacturing Strategic Alliance: The Case of the Honda of America Manufacturing, Inc. Accord Crankshaft Alliance

**INTERVIEW GUIDE**

Q1. Please update me on the progress, changes, additions, deletions, differences, etc. concerning your company's participation in the crankshaft alliance since the fall of 1992.

Q2. In order to establish the context in which the remaining questions should be answered, please describe the history of your involvement in the Honda Accord Crankshaft Alliance.

Q3. Based on your experience as a participant in the Alliance, please provide the definition of success for the Alliance as you understand it.

Q4. Please provide the definition of success for your company as it pertains to the Alliance.

Q5. What is your personal assessment of the performance of the Alliance's progress to date?

Q6. How is the performance of the Alliance measured or evaluated?

Q7. How is the performance of your company in the Alliance measured or evaluated?

Q8. What is your personal assessment of the performance of your company in the Alliance to date?

Q9. Please describe the nature of the relationship between Honda and your company during the formative days of the alliance.

Q10. Please describe the nature of the relationship between Honda and your company currently.

Q11. What are the characteristics of the relationship between HAM and your company that affect successful performance of the Alliance? (Q9. is not for HAM respondents)
Q12. Please describe the nature of the relationship between your company and the other participants during the formative days of the Alliance.

Q13. Please describe the nature of the relationship between your company and the other participants currently?

Q14. What are the characteristics of the relationship between your company and the other participants in the crankshaft alliance that affect successful performance of the Alliance?

Q15. What relationship characteristics will make the Alliance a success in the long-run?

Q16. Do you have any other comments you would like to make that would help me understand what makes this alliance function in the manner it does?

Thank you. This concludes Part I of Session I.
<table>
<thead>
<tr>
<th>Experience</th>
<th>Opinion</th>
<th>Knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>PA</td>
<td>PR</td>
<td>FUT</td>
</tr>
<tr>
<td><strong>Relationship Characteristics (Subject)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Success (Object)</strong></td>
<td>Q 5</td>
<td>Q 8</td>
</tr>
<tr>
<td><strong>Reference</strong></td>
<td>Q 1</td>
<td>Q 2</td>
</tr>
</tbody>
</table>

**KEY:**
- PA = past
- PR = present
- FUT = future
- Q = question
APPENDIX F
Lundstedt's Interpersonal Risk Scale
THE INTERPERSONAL RISK SCALE (IR SCALE)

Respondent's Identification #: _______ Date: _______

INSTRUCTIONS
USE PENCIL ONLY. Please read each statement carefully. Then, to each give your very first reactions. If you agree with a statement, mark the appropriate box in the AGREE column. If you disagree, mark your response in the DISAGREE column. The boxes are numbered so that you may indicate the extent to which you agree or disagree with a statement. For example, a (1) in the AGREE column would indicate mild agreement while a (5) in the AGREE column would indicate strong agreement. (2), (3), and (4) are varying degrees of these extremes.

1. Unless you know a person very well it is best not to take any chances by giving them too much freedom and responsibility in your mutual work with them.

<table>
<thead>
<tr>
<th>AGREE</th>
<th>DISAGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

2. Even if you don't know too much about a person, I still think it's worthwhile to gamble on another person's ability to handle a job.

<table>
<thead>
<tr>
<th>AGREE</th>
<th>DISAGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
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<tr>
<td>3</td>
<td>3</td>
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<tr>
<td>4</td>
<td>4</td>
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<tr>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

3. Most people can't be trusted with too much influence and responsibility because you can never be sure about the way they will use them when you are not around to keep an eye on things.

<table>
<thead>
<tr>
<th>AGREE</th>
<th>DISAGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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</tr>
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<td>2</td>
<td>2</td>
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<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>
THE INTERPERSONAL RISK SCALE (IR SCALE)

Respondent's Identification #: _______ Date: _______

4. As a rule, good supervision requires that people be carefully watched and controlled to avoid mistakes and laziness.

**AGREE**
1 2 3 4 5

**DISAGREE**
1 2 3 4 5

[ ] [ ] [ ] [ ] [ ]

[ ] [ ] [ ] [ ] [ ]

5. Of course, it usually depends on the person as an individual, but most people will come through for you if you give them a chance on their own.

**AGREE**
1 2 3 4 5

**DISAGREE**
1 2 3 4 5

[ ] [ ] [ ] [ ] [ ]

[ ] [ ] [ ] [ ] [ ]

6. I don't know about you, but I'm careful never to stick my neck out in delegating authority to others. I've been burned too many times.

**AGREE**
1 2 3 4 5

**DISAGREE**
1 2 3 4 5

[ ] [ ] [ ] [ ] [ ]

[ ] [ ] [ ] [ ] [ ]

7. Unless you know a person very well and can trust them completely it's best to keep a careful, close, check on their every move.

**AGREE**
1 2 3 4 5

**DISAGREE**
1 2 3 4 5

[ ] [ ] [ ] [ ] [ ]

[ ] [ ] [ ] [ ] [ ]

8. I've run the risk of giving people a lot of influence and responsibility on the job, and would do it again even though some have failed to measure up.

**AGREE**
1 2 3 4 5

**DISAGREE**
1 2 3 4 5

[ ] [ ] [ ] [ ] [ ]

[ ] [ ] [ ] [ ] [ ]

349
THE INTERPERSONAL RISK SCALE (IR SCALE)

Respondent's Identification #: ______ Date: ______

9. People have many good untapped resources, and to reach the resources you have to give them lots of room and influence to express their talents.

<table>
<thead>
<tr>
<th>AGREE</th>
<th>DISAGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
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<tr>
<td>3</td>
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<td>4</td>
<td>4</td>
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<tr>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

[ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

10. Unless you keep a close eye on employees, unwarranted liberties will invariably be taken by them.

<table>
<thead>
<tr>
<th>AGREE</th>
<th>DISAGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
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<tr>
<td>2</td>
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<tr>
<td>3</td>
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<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

[ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

11. It is best to delegate authority and influence freely because you can never tell when you will discover someone with exceptional skills.

<table>
<thead>
<tr>
<th>AGREE</th>
<th>DISAGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

[ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

12. A manager, supervisor, or boss obviously is naive and foolish if he or she thinks an employee can accept authority without close supervision.

<table>
<thead>
<tr>
<th>AGREE</th>
<th>DISAGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
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<tr>
<td>3</td>
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<td>4</td>
<td>4</td>
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<tr>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

[ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

13. There is no such thing as a good bet. You have to watch people carefully and take pains not to give them too much authority and freedom.

<table>
<thead>
<tr>
<th>AGREE</th>
<th>DISAGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

[ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

350
THE INTERPERSONAL RISK SCALE (IR SCALE)

Respondent's Identification #: _______ Date: _______

14. Our most important resource is people, and like everything else in life you have to take some long shots on them very frequently.

AGREE
1 2 3 4 5
[ ] [ ] [ ] [ ] [ ]

DISAGREE
1 2 3 4 5
[ ] [ ] [ ] [ ] [ ]

15. Some of our very best people were long shots.

AGREE
1 2 3 4 5
[ ] [ ] [ ] [ ] [ ]

DISAGREE
1 2 3 4 5
[ ] [ ] [ ] [ ] [ ]

16. I strongly feel that if it were not for a gambling spirit and a faith in the future even though unknown, a lot of qualified people would not have been discovered.

AGREE
1 2 3 4 5
[ ] [ ] [ ] [ ] [ ]

DISAGREE
1 2 3 4 5
[ ] [ ] [ ] [ ] [ ]

17. Don't take too many unnecessary chances with new employees or staff. Supervise them closely, and don't give them too much authority because if you do they may just disappoint you.

AGREE
1 2 3 4 5
[ ] [ ] [ ] [ ] [ ]

DISAGREE
1 2 3 4 5
[ ] [ ] [ ] [ ] [ ]

18. My idea of a good administrator is someone who would take a risk on any promising new employee that seemed to fit a role.

AGREE
1 2 3 4 5
[ ] [ ] [ ] [ ] [ ]

DISAGREE
1 2 3 4 5
[ ] [ ] [ ] [ ] [ ]
THE INTERPERSONAL RISK SCALE (IR SCALE)

Respondent's Identification #: _______ Date: _______

19. If people know you are taking a chance on them, they will work harder and better for you.
   
   **AGREE**  **DISAGREE**
   1  2  3  4  5   1  2  3  4  5
   [ ] [ ] [ ] [ ] [ ]   [ ] [ ] [ ] [ ] [ ]

20. Every person has a different approach to a job and you have to have faith in their native individual common sense and ability to come up with the right solutions to problems.

   **AGREE**  **DISAGREE**
   1  2  3  4  5   1  2  3  4  5
   [ ] [ ] [ ] [ ] [ ]   [ ] [ ] [ ] [ ] [ ]

21. There is really only two ways of doing a job, the right way and the wrong way. It would be foolish and risky not to watch a person closely to make sure they do the job right.

   **AGREE**  **DISAGREE**
   1  2  3  4  5   1  2  3  4  5
   [ ] [ ] [ ] [ ] [ ]   [ ] [ ] [ ] [ ] [ ]

22. Most employees today are really the same as before; Give them an inch and they take a mile.

   **AGREE**  **DISAGREE**
   1  2  3  4  5   1  2  3  4  5
   [ ] [ ] [ ] [ ] [ ]   [ ] [ ] [ ] [ ] [ ]

23. You can only trust your own associates with whom you have worked for many years, and even then it is best to be careful.

   **AGREE**  **DISAGREE**
   1  2  3  4  5   1  2  3  4  5
   [ ] [ ] [ ] [ ] [ ]   [ ] [ ] [ ] [ ] [ ]

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THE INTERPERSONAL RISK SCALE (IR SCALE)

Respondent's Identification #: _______ Date: _______

24. People have to be reminded of their responsibilities by constant and close supervision, especially about important details.

AGREE
1 2 3 4 5

DISAGREE
1 2 3 4 5

25. Gambling on people is a risky business.

AGREE
1 2 3 4 5

DISAGREE
1 2 3 4 5

26. Gambling is, after all, a natural part of everyday life.

AGREE
1 2 3 4 5

DISAGREE
1 2 3 4 5

27. Life is a gamble, and it is best to take risks.

AGREE
1 2 3 4 5

DISAGREE
1 2 3 4 5

28. A good executive takes risks, especially on people.

AGREE
1 2 3 4 5

DISAGREE
1 2 3 4 5

29. Risk taking is basic in management and administration.

AGREE
1 2 3 4 5

DISAGREE
1 2 3 4 5
THE INTERPERSONAL RISK SCALE (IR SCALE)

Respondent's Identification #: _______ Date: _____

30. The social influence and power in an organization, which one needs to do a good job of administration and supervision, tends to be a fixed quantity; If you give some of it to others just that much more control over them is lost.

AGREE

1  2  3  4  5

DISAGREE

1  2  3  4  5

[ ] [ ] [ ] [ ] [ ]

[ ] [ ] [ ] [ ] [ ]

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Reprinted with permission.

This concludes the Interpersonal Risk Scale. Thank you.
APPENDIX G
Lundstedt's Permission Letter
Ms. Karen Alsbrooks Smith  
College of Business  
The Ohio State University  
Columbus, Oh 43210-1399

Dear Ms. Smith:

This letter provides the permission to use my Interpersonal Risk Scale in your dissertation.

Sincerely,

[Signature]

Sven Lundstedt  
Professor
APPENDIX H
The Profile Of Organizational Characteristics Scale
THE PROFILE OF ORGANIZATIONAL CHARACTERISTICS SCALE (POC SCALE)

Respondent's Identification #: _______ Date: _______

POC Form E

This questionnaire was developed for describing the management system or style used in a company or one of its divisions.

In completing the questionnaire, it is important that each individual answer each question as thoughtfully and frankly as possible. This is not a test; there are no right or wrong answers. The important thing is that you answer each question the way you see things or the way you feel about them.

INSTRUCTIONS

1. On the line below each organizational variable (item), please place an N at the point which, in your experience, describes your organization at the present time (N = now). Treat each item as a continuous variable from the extreme at one end to that at the other.

2. In addition, if you have been in your organization one or more years, please also place a P on each line at the point which, in your experience, describes your organization as it was one to two years ago (P = previously).

3. If you were not in your organization one or more years ago, please check here ___ and answer as of the present time, i.e., answer only with an N.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>d. Satisfaction derived</td>
<td>Relatively high satisfaction throughout the organization with regard to membership in the organization, supervision, and one's own achievements.</td>
</tr>
<tr>
<td></td>
<td>Some dissatisfaction to moderately high satisfaction with regard to membership in the organization, supervision, and one's own achievements.</td>
</tr>
<tr>
<td></td>
<td>Dissatisfaction to moderate dissatisfaction with regard to membership in the organization, supervision, and one's own achievements.</td>
</tr>
<tr>
<td></td>
<td>Usually dissatisfaction with membership in the organization, supervision, and one's own achievements.</td>
</tr>
<tr>
<td>1. Character of communication process</td>
<td>No. of subordinates willingly share information with superiors.</td>
</tr>
<tr>
<td>a. Direction of information flow</td>
<td>Downward, Mostly downward, Down and up, Down, up, and with peers.</td>
</tr>
<tr>
<td>b. Downward communication</td>
<td>Provide minimum of information.</td>
</tr>
<tr>
<td></td>
<td>Gives subordinates only information they need.</td>
</tr>
<tr>
<td></td>
<td>Seeks to give subordinates all relevant information and all information they want.</td>
</tr>
<tr>
<td>c. Upward communication</td>
<td>Very little.</td>
</tr>
<tr>
<td></td>
<td>Limited.</td>
</tr>
<tr>
<td></td>
<td>Some.</td>
</tr>
<tr>
<td></td>
<td>A great deal.</td>
</tr>
<tr>
<td>2. Forces leading to accurate or distorted upward information</td>
<td>Virtually no forces to distort and powerful forces to communicate accurately.</td>
</tr>
<tr>
<td></td>
<td>Occasional forces to distort and many forces to communicate accurately.</td>
</tr>
<tr>
<td></td>
<td>Many forces to distort; also forces for honest communication.</td>
</tr>
<tr>
<td></td>
<td>Powerful forces to distort information and deceive superiors.</td>
</tr>
<tr>
<td>3. Need for supplementary upward communication system</td>
<td>No need for any supplementary upward communication system.</td>
</tr>
<tr>
<td></td>
<td>Slight need for supplementary systems.</td>
</tr>
<tr>
<td></td>
<td>Need for upward communication often supplemented by suggestion systems and similar devices.</td>
</tr>
<tr>
<td></td>
<td>Great need to supplement upward communication by any system, suggestion system, and similar devices.</td>
</tr>
<tr>
<td>d. Psychological closeness of superiors to subordinates (i.e., friendliness between superiors and subordinates)</td>
<td>Usually very close.</td>
</tr>
<tr>
<td></td>
<td>Fairly close.</td>
</tr>
<tr>
<td></td>
<td>Can be moderately close.</td>
</tr>
<tr>
<td></td>
<td>Far apart.</td>
</tr>
<tr>
<td>e. How accurate are the perceptions of superiors and subordinates by superiors and subordinates of each other?</td>
<td>Often in error.</td>
</tr>
<tr>
<td></td>
<td>Often in error on some points.</td>
</tr>
<tr>
<td></td>
<td>Moderately accurate.</td>
</tr>
<tr>
<td></td>
<td>Usually quite accurate.</td>
</tr>
</tbody>
</table>

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### Profile of Organizational Characteristics (Continued)

<table>
<thead>
<tr>
<th>Item</th>
<th>Character of Interaction-Influence Process</th>
<th>Amount of Delegation Present</th>
<th>Amount of Actual Influence Which Serves to Focus Attention Upon the Goals, Motivation, and Methods of Their Units and Departments</th>
<th>Character of Decision-Making Process</th>
<th>To What Extent Are Decision Makers Aware of Problems, Particularly Those at Lower Levels in the Organization?</th>
<th>Are Questions asked at the Most Level in the Organization?</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>Substantial amount</td>
<td>Moderate amount</td>
<td>A moderate amount</td>
<td>Information is generally accurate and complete</td>
<td>Aware of problems</td>
<td>Moderate or little</td>
</tr>
<tr>
<td>17</td>
<td>Moderate amount</td>
<td>Relatively little</td>
<td>None</td>
<td>Information is often somewhat inaccurate and inaccurate</td>
<td>Aware of some, unaware of others</td>
<td>Relatively complete and accurate information available based on measurements and efficient use of information in organization</td>
</tr>
<tr>
<td>18</td>
<td>Substantial amount</td>
<td>A moderate amount</td>
<td>None</td>
<td>Reasonably accurate and accurate information available</td>
<td>Aware of some, unaware of others</td>
<td>Relatively complete and accurate information available based on measurements and efficient use of information in organization</td>
</tr>
<tr>
<td>19</td>
<td>Substantial amount</td>
<td>Some contribution</td>
<td>Decision making contributes relatively little motivation</td>
<td>Decision making contributes little or nothing to the motivation to implement the decision, usually via personal motivation</td>
<td>Aware of problems</td>
<td>Moderate or little</td>
</tr>
</tbody>
</table>

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**Profile of Organizational Characteristics**

1. In what extent are subordinates involved in decision making in their work:
   - Not at all
   - Rarely involved
   - Occasionally involved
   - Usually involved
   - Always involved

2. Character of goal setting or ordering:
   - High goals set by all levels, with lower levels making some decisions
   - High goals set by higher levels, with lower levels making some decisions
   - High goals set by top, and often realized moderately generally resisted by subordinates

3. Character of control processes:
   - As far as hierarchy, levels in organization do major or primary work unit with respect to the performance of the control functions:
   - As far as the top, with some shared feeling of responsibility felt at middle and a lesser extent at lower levels

4. Extent to which control functions are concentrated:
   - Highly concentrated in top management
   - Relatively highly concentrated
   - Moderate downward delegation of review and control processes, higher levels perform more tasks than sub-management

5. Extent to which control data (e.g., measuring, monitoring, assessing, etc.) are used for self-guidance or group process solving by non-supervisory employees, or used by supervisors in a positive, policing manner:
   - Used for policing and in positive manner
   - Used for policing and in negative manner
   - Used for self-guidance and for uncorrected problem solving and guidance; not used positively

---

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APPENDIX I
POC Scale Permission Letter
October 5, 1993

Professor Sven Lundstedt:
School of Public Policy and Management
College of Business
The Ohio State University
1775 College Road
Columbus, OH 43210-1390

Dear Professor Lundstedt:

Rensis Likert Associates, Inc., is pleased to grant you permission to use the Profile of Organizational Characteristics (POC) in your student related projects.

In particular, we grant permission to Karen Smith to use the POC in her doctoral dissertation. If we may be of any assistance to you or her during this project, please let me know.

We have never built a data bank for the POC. It was felt that the instrument measured an organization’s position relative to an ideal and that norms would not add a great benefit.

Sincerely,

[Signature]
Raymond C. Seghers
Senior Associate
APPENDIX J
Complete Instrument
INSTRUMENT COVER SHEET

A Qualitative Inquiry into the Relationship Characteristics of an Automobile Manufacturing Strategic Alliance: The Case of the Honda of America Manufacturing, Inc. Accord Crankshaft Alliance

SESSION #1

INTERVIEW GUIDE

Respondent's Identification: #___________

Interview date: ___/___/___

Interview starting time: ______

Interview ending time: ______

Interviewer: Karen Alsbrooks Smith

ALL CONTENTS CONTAINED HEREIN ARE CONSIDERED STRICTLY CONFIDENTIAL

Interview guide developed by Karen J. Alsbrooks Smith, The Ohio State University, Max M. Fisher College of Business, Department of Management and Human Resources. Copyright October, 1994. The Profile of Organizational Characteristics scale and the Interpersonal Risk Scale used by permission of authors.
RESPONDENT INFORMATION SHEET

This research project is authorized by the Max M. Fisher College of Business, Department of Management and Human Resources at The Ohio State University in conjunction with Honda of America Manufacturing, Inc. As a doctoral study, the project is under the direct supervision of Professor Sven Lundstedt in the college of business. My dissertation committee consists of the following persons: Professor Sven Lundstedt, chairperson and supervisor; Professor Catherine Daily; and Professor Tetsunori Koizumi.

The purpose of this research is to discover the relationship characteristics inherent in the alliance consisting of Honda of America Manufacturing, Inc.; Copperweld Steel Company; TFO Tech Co., Ltd.; and Metallurgical Services, Inc. in the manufacture of the Honda Accord crankshaft.

I would like to reassure you that as a participant in this project you will have some definite rights. First, your participation in this interview is entirely voluntary. You are free to withdraw from the interview at any time. Secondly, you are free to refuse to answer any question or any part thereof at any time. Your consent to participate will not subject you to any known risk.

This session contains four parts. Part I is an interview consisting of a series of open-ended questions. Your responses to the questions will be tape recorded and/or hand-recorded by me. Part II and Part III consist of one survey each. The surveys consist of 13 and 30 questions respectively. You will be provided answer categories in which you will mark your response to each question. Part IV consists of a questionnaire that ascertains demographic information on each respondent. This information will be hand-written by the participant. Specific instructions will be given prior to the commencement of each part.

The data collected during this session will be kept strictly confidential and will be available only to the me and the dissertation committee. Excerpts from the interview may be made part of the final research report, but under no circumstances will your name or identifying characteristics be included in that report.
If you have any additional questions please feel free to ask them now. I may also be contacted at the following phone numbers should you have any questions once this session has been completed: (614) 292-6522 (office) or (614) 491-5714 (home).

Please sign this information form to indicate that you have read its contents and you completely understand the information contained therein.

________________________ / /
(signature and date)

________________________
(printed)
THE OHIO STATE UNIVERSITY

CONSENT FOR PARTICIPATION IN
SOCIAL AND BEHAVIORAL RESEARCH

I consent to participating in research entitled:

A Qualitative Inquiry into the Relationship Characteristics
of an Automobile Manufacturing Strategic Alliance:
The Case of the Honda of America Manufacturing, Inc.
Accord Crankshaft Alliance

Professor Sven Lundstedt or his authorized representative,
Karen Alsbrooks Smith, has explained the purpose of the
study, the procedures to be followed, and the expected
duration of my participation. Possible benefits of the
study have been described.

I acknowledge that I have had the opportunity to obtain
additional information regarding the study and that any
questions I have raised have been answered to my full
satisfaction. Further, I understand that I am free to
withdraw consent at any time and to discontinue
participation in the study without prejudice to me.

Finally, I acknowledge that I have read and fully understand
this consent form. I sign it freely and voluntarily. A
copy has been given to me.

Signed: _______________________________ / / 

(Participant) (Date)

Signed: _______________________________

(Principal Investigator or his Authorized
Representative)

Witness: _______________________________

HS-027 (Rev. 3/87) -- To be used only in connection with
social and behavioral research.
REQUEST FOR INTERVIEW TRANSCRIPTION

PLEASE CHECK ONE OPTION.

_____ I decline access to transcribed copies of this interview.

or

_____ I would like ____ transcribed copy/copies of this interview.

Please provide the address where requested material is to be mailed.

(Name)

>Title

(Address)

(City, State, Zip)

(Signature and Date)
A Qualitative Inquiry into the Relationship Characteristics of an Automobile Manufacturing Strategic Alliance: The Case of the Honda of America Manufacturing, Inc. Accord Crankshaft Alliance

Instructions For Session 1 - Part I (Interview)

(PLEASE TAKE A FEW MINUTES TO READ THESE INSTRUCTIONS. THE INTERVIEWER WILL THEN READ THEM TO YOU ALOUD.)

This interview is designed to gather important information about your experiences, opinions, and knowledge about the characteristics inherent in the relationship (heretofore referred to as the Alliance) consisting of Honda of America Manufacturing, Inc.; Copperweld Steel Co.; TPO Tech Co., Ltd.; and Metallurgical Services, Inc. in the manufacture of the Honda Accord crankshaft. The objective here is to ask questions that will stimulate you to provide what you believe is appropriate. Remember there are no "right" or "wrong" answers and you are not being judged or evaluated in any way. You are the expert and your personal experiences, opinions and knowledge, are what is being sought.

Your responses will be tape recorded as well a hand recorded, when necessary, by the interviewer. If you want to say something "off the record" you should indicate this desire to the interviewer. The recorder will be turned off until you authorize its use again. (The interviewer will occasionally, where appropriate ask you if you are ready to resume the use of the tape-recorder.) All of your responses will be kept confidential and used only for research purposes.

The interviewer will read each question to you twice and then wait for your response. This process should take approximately 30 minutes to complete but, please do not restrict your responses based on time considerations. The interview is over when you determine it to be.
A Qualitative Inquiry into the Relationship Characteristics of an Automobile Manufacturing Strategic Alliance: The Case of the Honda of America Manufacturing, Inc. Accord Crankshaft Alliance

INTERVIEW GUIDE
(See Appendix D)
A Qualitative Inquiry into the Relationship Characteristics of an Automobile Manufacturing Strategic Alliance: The Case of the Honda of America Manufacturing, Inc. Accord Crankshaft Alliance

Instructions For Session 1 - Part II

The Profile of Organizational Characteristics (Author: Rensis Likert Associates Permission to use granted)

(PLEASE TAKE A FEW MINUTES TO READ THESE INSTRUCTIONS. THE INTERVIEWER WILL THEN READ THEM TO YOU ALOUD.)

You will now be given Part II of this session. This section consists of a scale to determine your perception of the of the management style of your company. Management Style emerged as a possible inherent characteristics of the Honda Accord Crankshaft Alliance in a pilot study conducted by the interviewer in 1992.

Your response to each question should be your own candid response and not that of others. Your responses will be grouped with those of others in your organization, where applicable, to develop a profile of management style. If you are the sole respondent in your company, your response will comprise the profile.

Please record your response to the written statements by marking, with the #2 pencil provided, the appropriate response category on the scale. Number one is the lowest and number five is the highest. When you have completed the scale please inform the interviewer.

Do you have any questions before you begin?
The Profile of Organizational Characteristics Scale
(POC Scale, Form E)

(See Appendix H)
A Qualitative Inquiry into the Relationship Characteristics of an Automobile Manufacturing Strategic Alliance: The Case of the Honda of America Manufacturing, Inc. Accord Crankshaft Alliance

Instructions For Session 1 - Part III

Interpersonal Risk Scale
(Author: Sven B. Lundstedt
Permission to use granted)

(PLEASE TAKE A FEW MINUTES TO READ THESE INSTRUCTIONS. THE INTERVIEWER WILL THEN READ THEM TO YOU ALOUD.)

You will now be given Part III of this session. This section of the instrument is designed to determine your tendency toward interpersonal risk in a management environment. Interpersonal Risk emerged as a possible inherent characteristic of the Honda Accord Crankshaft Alliance in a pilot study conducted by the interviewer in 1992.

Your response to each question should be your own candid response and not that of others. Your responses will be grouped with those of others in your organization, if applicable, to develop a profile of interpersonal risk. If you are the sole respondent in your company, your response will comprise the profile of your company.

Please record your response to the written statements by marking, with a #2 pencil provided, the appropriate response category on the scale. Number one is the lowest and number five is the highest.

Do you have any questions before we begin?
THE INTERPERSONAL RISK SCALE (IR SCALE)

(See Appendix F)
A Qualitative Inquiry into the Relationship Characteristics of an Automobile Manufacturing Strategic Alliance: The Case of the Honda of America Manufacturing, Inc. Accord Crankshaft Alliance

Instructions For Session 1 - Part IV

Demographic Information

(Please take a few minutes to provide the requested information)

Respondent's Name: _________________________________

(Last, First, MI)

Respondent code: #__________

Sex: ______ male ______ female

Birth date: ______ - ______ - ______

mo. day year

Birth place: _________________________________

city, county, state, country

Current residence: _________________________________

city, state, country

Education: (Please check the highest level attained)

______ less the 12 years of high school

______ high school graduate

______ some undergraduate college

______ undergraduate degree

(if so specify, _________________________________)

______ some graduate school

______ graduate degree(s)

(if so specify, _________________________________)

(Please continue on the next page.)
Work History:  (begin with current ___company's name___)
             position
             and work backwards)

<table>
<thead>
<tr>
<th>Company name</th>
<th>Position title</th>
<th>Job Description/responsibilities</th>
<th>time period (from / to)</th>
</tr>
</thead>
</table>

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APPENDIX K
Generic Transcript Cover Letter
Date

Name
Title
Company
Address
City, State, Zip Code

Dear (Study Participant's Name),

Per your request I have enclosed a copy of the transcript of the interview I conducted with you on (date). Please feel free to make any additions, deletions, clarifications, corrections, etc. on this copy and return the marked copy to me as soon as possible at the following address.

Karen Alsbrooks Smith
1550 Felix Drive
Columbus, Ohio
43207-3327

If you have any questions or concerns, please call me at (614) 491-5714 (home). Thank you in advance for your help.

Sincerely,

Karen J. Alsbrooks Smith

enclosure
APPENDIX L
Codes and Memos
Identification Coding Memoranda

IDENTIFICATION CODING MEMO # 1
(Self Awareness Memo)
In coding, I've noticed a tendency to want to omit or edit long sentences. I must err on the side of over inclusion, especially in the initial rounds of unitizing.

IDENTIFICATION CODING MEMO # 2
Is "success" in this alliance different from other "successes" because of the mix or Japanese and American companies? Hinted in 001-001's response to his question # 2, page # 2.

IDENTIFICATION CODING MEMO # 3
A way of developing pattern codes may be to categorize the two constructs (relationship characteristics and success) by respondent type (i.e. Honda vs. suppliers; American firms vs. Japanese/transplant; etc.).

IDENTIFICATION CODING MEMO # 4
(Volume Reduction at TFO Tech)
(See respondent numbers 003-001 and 003-002 for TFO tech's perspective)
There appears to be a difference in perspective between Honda and the heat treating company. There is an apparent issue surrounding the reduction of volume at TFO Tech. In my opinion Honda views this current change as "par for the course" in the long-run. On the other hand, TFO Tech is viewing the reduction of volume and in ramifications in the short run. The two different perspectives (long-run vs. short-run) makes the volume reduction issue become a "positive" on the one hand, and a "negative" on the other.

IDENTIFICATION CODING MEMO # 5
(Phase Change)
It appears that in an alliance centered around a manufacturing process, once the relationships are established the alliance goes on "automatic". What I mean is that as long as the quality level is produced, the schedules are met, and the cost is maintained or decreased, everything is status quo. The critical period, in terms of the relationship characteristics, appears to be in initiation of the alliance or when something out of the norm occurs during the maintenance phase of the alliance. For evidence of this see interview of respondent 003-002 pg. 3.

Descriptive Coding Memoranda

DESCRIPTIVE CODING MEMO: #1
Category: Participant Profitability

382
Descriptive Code: **Profit (DELETED)**

Identification Codes Involved: RC321249

**Propositional Statement**

The profitability of the business relationships among the suppliers is considered "high" and the customer is valued.

**EXTERNAL HETEROGENEITY MEMO: #1**

The "Profit" descriptive category was determined to be extremely similar to the "Profit (II)" descriptive category code. Therefore, the "Profit" code was deleted and RC321249 was added to "Profit (II)". (See Descriptive Coding Memo: #36.)

**DESCRIPTIVE CODING MEMO: #2**

Category: Changes in the relationship attributable to moving from one phase to another

Descriptive Code: **Maturation**
Former Descriptive Coded: "Phase Change"


Definition: Changes in the relationships as a result of progression from the initiation phase to the maintenance phase.

**Memos:**

1.) RC21426 also coded as "Trust"

2.) The first thought that comes to mind is the issue of maturation or time progression; shifting from one time phase (from initiation to maintenance) and the affects the different phases has on the relationships among the participants. The effects appear to be:

1.) A shift in the focal entity; from HAM to TFO Tech. (CSC and MSI are third tier suppliers to TFO Tech RC32917.)

2.) less involvement by HAM from the perspective of quality specification development (RC21729, RC127311, RC32827, RC321018)

3.) less involvement by TFO Tech with CSC from the perspective of quality specification development (RC5126117)
3.) A reduction in personal interaction between the suppliers' contacts at the managerial level. For example, the contact between the CSC representative and the HAM representative primarily occurs when critical incidents occur (RC5115111). However, on the production level there is weekly, sometimes daily contact (RC5126117).

Propositional Statement

As the relationship moves from the initiation phase to the maintenance phase, changes occur in the amount of contact among the participant representatives.

DESCRIPTIVE CODING MEMO: #3

Category: Participants' viability in the long-run

Descriptive Code: Viability

Identification Codes Involved: RC5128118, RC31524

Memo: Viability is also associated with the profitability of each business, where the assumption is that if the business is not profitable then it will not be in existence in the long run.

Propositional Statement

Each participant in the alliance must be in existence in the long-run.

DESCRIPTIVE CODING MEMO: #4

Category: Participants' long-run view of the alliance relationship

Descriptive Code: Perspective

Identification Codes Involved: OT3216112, RC11102413, RC3116211, RC311711, RC3116110, RC31545, RC31535, RC3217112, OT32111

Memo: The perspective is relative to the life of the alliance and how the long-run perspective affects developments that occur in the short run.

Propositional Statement

A long-run perspective is required of each participant. Failure to view the relationship will result in discontentment.
DEScriptive CODING MEMO: #5

Category: Mutual trust among participating companies

Descriptive Code: Trust

Identification Codes Involved: RC5117313, RC5117112, RC219213, RC218312, RC21426.

Memo: This descriptive code is an indigenous typology.

There is no succinct definition of what "trust" is. It appears to have multiple facets or sources.

1.) based on the ability to meet the technical requirements. (RC5117313)

2.) "Trust" must be mutual or bi-directional (RC218312, RC219213).

3.) based in HAM's confidence in and expectation of the suppliers to fulfill their obligations and responsibilities (RC5117112)

4.) develops over time (RC5117112 and RC21426)

Propositional Statement

Mutual trust develops over time and is based on the partners' ability to meet technical requirements and expectations.

DEScriptive CODING MEMO: #6

Category: Commitment to the alliance

Descriptive Code: Commitment

Identification Codes Involved: RC51323, RC121416, RC51312

Memo: This interpretive code is an indigenous typology.

Commitment is characterized by the following:

1.) The willingness to invest financial resources prior to any profit being made (RC51312)

2.) the desire to provide a "good" product (RC121416)

3.) long-term in nature; to last the duration of the relationship (RC51323)
4.) commitment from all of the companies (RC51323)

_Propositional Statement_
Commitment is based on all of the participants' willingness to commit resources, and provide a high quality product for the duration of the relationship.

**DESCRIPTIVE CODING MEMO: #7**
Category: Family-like relations

Descriptive Code: Family

Identification Codes Involved: RC121426, RC3118211

Memo: This data concerns a sense of family or a lack of separation among the participating company; a sense of a whole unit as opposed to four separate entities.

_Propositional Statement_
The participating companies of the alliance view themselves as being one "family" unit.

**DESCRIPTIVE CODING MEMO: #8**
Category: Mutual cooperation and the desire to work together

Descriptive Code: Cooperation

Identification Codes Involved: RC219113, RC218111, RC218212, RC5120115, RC31313, RC1110410, RC311218, RC32134, RC21415, RC11524, S11727

Definition: Cooperation means having the ability, desire, etc. to work with others to accomplish a goal.

Memo 1:
This is characterized by:
1.) Working together
   a. during the initiation phase (RC218111)
   b. when problems arise (RC219113)
   c. the recognition of each participant's capabilities and limitations (RC31313)

Memo #2:
This category was initially designated as "Partners" but the addition of RC1110410 warranted a conceptual
expansion of the category. (RC1110410 has a double interpretive code. The second is Communication.) S11727 links cooperation to future success.

Propositional Statement

The relationship among the participants is characterized as having members who have the ability and desire to work with others to accomplish goals during the initiation and maintenance phases and into future success.

DESCRIPTIVE CODING MEMO: #9

Category: Use of negotiation (initiation phase)

Descriptive Code: Negotiation

Identification Codes Involved: RC5121115, RC5123116, RC5124116, RC5126217

Memo:
This characteristic was most prevalent during the formative stages of the alliance

Propositional Statement

The ability among all participants to negotiate all sides and resolve any conflict; to ensure that all parties' interest were addressed for the good of the alliance and the quality, cost and availability of the part.

DESCRIPTIVE CODING MEMO: #10

Category: Risk aversion tendency of the focal manufacturer

Descriptive Code: M/Risk Aversion

Identification Codes Involved: RC11101111, RC11101211

Memo: Risk aversion is evident in the number of precautions taken and the press toward perfection especially on the technical side of the alliance. RC11101211 links the "OVERKILL" category to the "RISK AVERSION" category. RC11101211 has two descriptive codes.

Propositional Statement

The focal company of the alliance (HAM) prefers not to take risks.
DESCRIPTIVE CODING MEMO: #11

Category: Communication among participants (organizational level)

Descriptive Code: Communication

Identification Codes Involved: RC311228, RC311259, RC111019, RC1110410*, RC311319#

Definition: The ability and permission to, in various forms but primarily verbally, to make known ideas (RC311259).

*Memo: RC1110410 references communication; double coded with interpretive code "Cooperation". RC311319 references communication on an individual to individual level; double coded with interpretive code "Individual Characteristics".

Propositional Statement
Communications in the alliance is characterized by the ability to make known ideas.

DESCRIPTIVE CODING MEMO: #12

Category: Fairness, equality

Descriptive Code: Fairness

Identification Codes Involved: RC31344, RC31323

Propositional Statement
Fairness characterized by an understanding of each participant's role or responsibility and an acknowledgement of not unjustly extending expectations beyond that.

DESCRIPTIVE CODING MEMO: #13

Category: The humility or "teachableness" of the suppliers

Descriptive Code: S/Humility

Identification Codes Involved: RC11102012, RC1110810

Propositional Statement
Suppliers have the willingness to adopt changes in procedures, methods etc. after long-term success with current procedures, methods, etc.
DESCRIPTIVE CODING MEMO: #14
Category: Manufacturer's demand for detail, etc.
Descriptive Code: Overkill
Identification Codes Involved: RC11101011, RC11101211,
Memo: RC11101211 links the "OVERKILL" category to the "RISK AVERSION" category. RC11101211 has two interpretive codes.

Propositional Statement
The manufacturer will require additional effort of the suppliers that is often viewed as unnecessary by the suppliers.

DESCRIPTIVE CODING MEMO: #15
Category: Physical proximity of participants
Descriptive Code: Proximity
Identification Code Involved: RC1214129

Propositional Statement
The physical proximity of the alliance participants is important.

DESCRIPTIVE CODING MEMO: #16
Category: Ethical environment of the participant companies
Descriptive Code: Ethics
Identification Codes Involved: RC2110214, RC2110114
Memo: RC2110114 double coded with "Individual Effects".

Propositional Statement
Each company provides an ethical environment within which the individuals may choose or not choose to align themselves.

DESCRIPTIVE CODING MEMO: #17
Category: Relationship between workers and management in each participating company
Descriptive Code:  Management Attitude

Identification Codes Involved:  RC11101711, RC11101511, 11101812

Memo:  The respondent referred to this phenomenon as "management attitude". May be similar in nature to Likert's Management system. While not referencing all of the components of Likert's management system, this data does address the issue of the relationship between the management and workers of each participating company. More importantly, it expresses the focal manufacturer's desire for a certain kind of relationship to exist between management and workers.

Propositional Statement
In each participating company, there exist a relationship between management and workers that is characterized by viewing the workers as experts, involving the workers, listening to what the workers have to say, and providing a physical environment conducive to producing a quality product.

DESCRIPTIVE CODING MEMO: #18

Category: Personal familiarity with the individual contacts in each participating company

Descriptive Code:  Individual Familiarity

Identification Codes Involved:  RC121488, RC5127218, RC5127118, RC121498, RC1214109, RC3213110.

Propositional Statement
Familiarity with the individual contacts in each company results in
A.) Easier problem resolution; less animosity (RC121488)
B.) Development of personal relationships with contacts outside of business (RC5127218)
C.) Development of personal relationships to foster trust (RC5127118).
D.) Understanding of personalities (RC5127118).
E.) Better communications (RC121498).

DESCRIPTIVE CODING MEMO: #19

Category: The effect an individual has on the alliance

Descriptive Code:  Individual Effects
Identification Codes Involved: RC2110214 (Also coded as "Ethics")

Memo:
Effects are negligible in terms of
    A.) unethical behavior (RC2110214)

**Propositional Statement**

Although an individual plays an important part in the alliance the effect of a single individual is negligible. The ultimate level of analysis where an effect has impact (on product quality, delivery, cost, etc.) is at the company level.

**DESCRIPTIVE CODING MEMO: #20**

Category: Characteristics possessed by the individuals of the alliance

Descriptive Code: **Individual Characteristics**

Identification Codes Involved: RC311319, RC31118*

*Memo: RC31118 double coded with descriptive code "Communication"; references communications on an individual level.

**Propositional Statement**

Individuals involved in the alliance possess certain characteristics such as "friendliness", "accessible", "easy to deal with", "conscientious", and the ability to communicate.

**DESCRIPTIVE CODING MEMO: #21**

Category: Lack of traditional American business formality

Descriptive Code: **No Formality**

Identification Codes Involved: RC311017, RC311027, RC3116110, RC3116110.

Memo: For one supplier the lack of formality in this area was not viewed positively (RC311027). RC311017 is double coded with "M/Reputation". RC3116110 is double coded with "Perspective".
**Propositional Statement**
Characterized by little to no formal, legal, or contractual documentation to govern the alliance by in general. (Does not include documentation of quality specifications, etc.)

**DESCRIPTIVE CODING MEMO: #22**

Category: Knowledge of each participant's process

Descriptive Code: **Process Knowledge**

Identification Codes Involved: RC11101611, RC1214119, RC1214139

Memo:
RC11101611 is double coded. The second interpretive code is "M/Hands-on". **Propositional Statement**

Each participant is knowledgeable of the processes used by all other participants in the alliance. This knowledge facilitates "understanding", familiarity" and the development of "a good relationship between customers and suppliers".

**DESCRIPTIVE CODING MEMO: #23**

Category: Manufacturer's involvement in the alliance

Descriptive Code: **M/Hands-on**

Identification Codes Involved: RC11101611, RC121467, RC11101311, RC11101411, RC1110911, RC1110710, RC1110510, RC321018, RC32816, RC12515, RC311249, RC1110610

Memo: This descriptive code is an indigenous typology. The "hands-on" approach is recognized by the focal manufacturer as being, in general, acceptable to some suppliers (RC11101311) and after extended periods of contact a source of "frustration" and anxiety for some suppliers (RC11101411, RC1110911). The focal manufacturer also acknowledged the occasional inability to "handle carefully" the suppliers' frustrations and anxieties resulting from the "hands-on" approach, the high demands and expectations (RC1110911).

RC11101611 is double coded with "Process Knowledge". RC121467 is double coded with "M/Support". RC11101411 and RC1110911 are double coded with "M/High Expectations". RC321018 is double coded with "Phase Change". RC12515 double coded with "S/Continual Improvement".
Propositional Statement
During the initiation stage of the alliance the focal manufacturer (HAM) is extremely involved in the development of the quality specifications and manufacturing procedures. This involvement includes "monitoring", "observing", "helping", "providing assistance", "facilitating", and "ensuring success".

DESCRIPTIVE CODING MEMO: #24
Category: Manufacturer's support of the suppliers
Descriptive Code: M/Support (DELETED)
Identification Codes Involved: RC121467
Memo: RC121467 is double coded. The second interpretive code is "M/Hands-on".

Propositional Statement
During the maintenance phase of the alliance the focal manufacturer provides "support" in addressing problems as they occur, to "help make the part better".

EXTERNAL HETEROGENEITY MEMO: #4
This descriptive code was found to be similar to "M/Hands-on". Consequently it was deleted and the involved identification code was reassigned to "M/Hands-on".

DESCRIPTIVE CODING MEMO: #25
Category: The manufacturer's high expectations of the suppliers
Descriptive Code: M/High Expectations
Identification Codes Involved: RC1110911, RC11101411, OT511219
Memo: RC1110911 and RC11101411 double coded with descriptive code "M/Hands-on".

Propositional Statement
The focal manufacturer's expectations and demands of the suppliers are viewed as being high. Reaching or maintaining those expectations is sometimes a source of "frustration" and "difficulty" for the suppliers.
DESCRIPTIVE CODING MEMO: #26

Category: Continuous manufacturing improvement of alliance suppliers

Descriptive Code: S/Improvement

Identification Codes Involved: RC12515, RC11102212, RC5128219, RC11102112, RC11102312

Memo: RC12515 double coded with "S/Hands-on"

Propositional Statement

"To be an important and viable supplier to Honda over the years..." requires the additional capability of conducting research and development to improve the quality of the product while lowering the cost.

DESCRIPTIVE CODING MEMO: #27

Category: The manufacturer's reputation

Descriptive Code: M/Reputation

Identification Codes Involved: RC311017

Memo: RC311027 double coded with "No Formality".

Propositional Statement

The manufacturer's reputation for keeping its word serves as a basis for minimal written agreements.

DESCRIPTIVE CODING MEMO: #28

Category: The manufacturer's progressiveness

Descriptive Code: M/Progressiveness

Identification Codes Involved: RC121478, RC121457, RC121447

Propositional Statement

The focal manufacturer is characterized as being progressive which is indicated by expanding into new markets, increasing current markets, trying to do things differently.
DESCRIBITIVE CODING MEMO: #29

Category: The suppliers' ability to respond to incidents out of the norm

Descriptive Code: S/Flexibility

Identification Codes Involved: RC111039, RC11829, RC51938.

Memo:
Although suppliers possess this characteristic, fluctuations in the amount of steel required are not viewed favorably by the steel manufacturer (RC51938).

Propositional Statement

Suppliers possess the ability to quickly and effectively respond to out-of-the ordinary changes or situations that may occur without adversely affecting productivity.

DESCRIBITIVE CODING MEMO: #30

Category: Suppliers willingness to meet manufacturer's demands

Descriptive Code: S/Willingness

Identification Codes Involved: RC321219, RC11101912, RC321229

Memo: This category is linked to Descriptive Code #25 "M/High Expectations".

Propositional Statement

The suppliers are willing to meet the expectations of the focal manufacturer and the other alliance participants.

DESCRIBITIVE CODING MEMO: #31

Category: Manufacturer's motive for establishing/maintaining the alliance

Descriptive Code: M/Motive

Identification Codes Involved: RC51413, RC51424, RC51434

Memo: HAM's motive for initiating and maintaining the alliance centers around the need to localize the part for political (Japan/U.S. trade deficit), financial (Yen value) and philosophical (make the product where it is sold) reasons.
Propositional Statement

The focal manufacturer possesses a strong motive for initiating and maintaining the alliance.

DESCRIPTIVE CODING MEMO: #32

Category: Suppliers' manufacturing expertise

Descriptive Code: S/Expertise

Identification Codes Involved: RC51333, RC51625

Propositional Statement

Suppliers must possess or develop an expertise or technology required by the focal manufacturer.

DESCRIPTIVE CODING MEMO: #33

Category: Maintaining or lowering cost

Descriptive Code: Low Cost (DELETED)

Identification Codes Involved: S12414, S11262, S11534, S32716, S511018.

Memo:
S11262 double coded with interpretive code "Quality". S32716 double coded with interpretive code "Few Problems".

Propositional Statement

Success is defined as meeting or staying below the cost guidelines established for each participant in the alliance such that the part is competitively priced.

EXTERNAL HETEROGENEITY MEMO: #3

Combine with "Profit II" to form "Profit/Cost". (See Descriptive Coding Memo #36.

DESCRIPTIVE CODING MEMO: #34

Category: Few to no problems occurring during the maintenance phase of the alliance

Descriptive Code: Few Problems
Identification Codes Involved: S5117213, S311333, S51524, S51726, S31616, S3115110, S12223, S32615.

Memo:
S51524, S31333, double coded with interpretive code "Production Availability". S32716 double coded with Descriptive Code "Low Cost". S32615 coded with "Expected Quality", and "Production Availability".

Propositional Statement

Success is indicated by the presence of relatively few problems during the maintenance phase of the alliance. This condition occurs when each participating company "does its job" by meeting shipping schedules and quality requirements.

DESCRIPTIVE CODING MEMO: #35

Category: Crankshaft Quality: Japan vs. U.S.

Descriptive Code: Higher Quality (DELETED)

Identification Codes Involved: S11423, S11413, S31726.

Propositional Statement

An indication of success is the fact that the quality of the crankshaft developed by the HAM alliance exceeds the quality of the crankshaft imported from Japan.

EXTERNAL HETEROGENEITY MEMO: #6

Combined with "Expected Quality" and then renamed "Quality". (See Descriptive Coding Memo #38 and External Heterogeneity Memo #5.)

DESCRIPTIVE CODING MEMO: #36

Category: Fair Profit Margin

Descriptive Code: Profit/Cost

Formerly "Profit (II)"


Memo:
S31514 coded with descriptive codes "Higher Quality", "Production Availability", "Few Problems". S32626 coded with
"Production Availability", and "Expected Quality". S11819 also coded with "Profit (II)". S11514 also coded with "Expected Quality".

Propositional Statement
Success is indicated by the ability for each participating suppliers' ability to generate a "fair profit margin", "marginal profit", and by HAM's ability to secure a competitively priced component.

EXTERNAL HETEROGENEITY MEMO: #2
The "Profit" descriptive category was determined to be extremely similar to the "Profit (II)" descriptive category code. Therefore, the "Profit" code was deleted and RC321249 was added to "Profit (II)". "Profit (II)" changed to "Profit/Cost" (See Descriptive Coding Memo: #1 and #33.)

DESCRIPTIVE CODING MEMO: #37
Category: Availability of the product for the next phase in the production process

Descriptive Code: Production Availability

Identification Codes Involved: S31514, S51524, S31333, S51716, S21225, S11544, S32626, S21719, S32615, S31716, S11829.

Memo:
S31514 coded with descriptive codes "Quality", "Profit/Cost", "Few Problems". S21214, S21225, S21315, S111029 double coded with "Quality". S32626 coded with "Profit/Cost" and "Quality". S32615 coded with "Quality" and "Few Problems". S31716 coded with "Quality".

Propositional Statement
Success is indicated by each participating company meeting production schedules to provide the part (in whatever form) to the next partner for the next step in the manufacturing process.

DESCRIPTIVE CODING MEMO: #38
Category: Concerns the expected and achieved level of quality in the alliance crankshaft

Descriptive Code: Quality
Formerly "Expected Quality"
Identification Codes Involved: S21214, S21225, S21315, S11222, S111029, S32626, S11514, S32615, S31716, S11242, S11829, S11423, S11413, S31726.

Memo:
S21214, S21225, S21315, S111029 double coded with "Production Availability". S32626 coded with "Production Availability" and "Profit/Cost". S11514 coded with "Profit/Cost". S32615 coded with "Production Availability" and "Few Problems". S31716 also coded with "Production Availability". S11242 presents failure in terms of a lack of expected quality. S11829 coded with "Flexibility" and "Production Availability".

Propositional Statement
Success indicated by the attainment of the quality specifications generated for the alliance.

EXTERNAL HETEROGENEITY MEMO: #5
This descriptive category's code is changed to "Quality" and incorporates two categories of quality: (a) the high quality level expected by HAM, and (b) the quality attained by the alliance. This level of quality exceeded the quality level of the Japanese-made crankshaft. Descriptive code "Higher Quality" is deleted and its former identification codes are added to this descriptive category. (See Descriptive Coding Memo #35)

DESCRIPTIVE CODING MEMO: #39
Category: Localization of the component manufacturing process in the U.S.

Descriptive Code: Localization

Identification Codes Involved: S11212, S12213, S32114,

Memo:
S32114 also coded with "Pride"

Propositional Statement
Success is indicated by successfully localizing the part. Localization is defined as having "developed" the part (crankshaft) locally and having the ability to purchase the component from a particular supplier or set of suppliers. This was done over "a relatively short span of time" with a considerable amount of work and a mix of Japanese and American firms.

DESCRIPTIVE CODING MEMO: #40
Descriptive Code:  Pride

Identification Codes Involved:  S32114, S11323, S11313, S32124

Memo:  
S32114 double coded with "Localization"

Propositional Statement

Success indicated by the American firms, in the alliance, to produce a part equal or greater than the quality levels of their Japanese counterparts.  Indicated by HAM in its ability to be the first localize the American production of a component before the other Japanese-transplant auto manufacturers.

DESCRIPTIVE CODING MEMO:  #41

Category:  Increase in crankshaft percentage

Descriptive Code:  Percent

Identification Codes Involved:  S11434, S11333

Memo:  S11333 is tangentially linked to this category.

Propositional Statement

An increase in the percentage of crankshafts produced by the alliance (a 100% increase: went from 50% to 100%) is considered an indication of success.

DESCRIPTIVE CODING MEMO:  #42

Category:  Concerns what will be needed to ensure success in the future

Descriptive Code:  Future Success (DELETED)

Identification Codes Involved:  S11232

Memo:  When pattern coding this category might be subsumed into category #8 "Cooperation".

Propositional Statement
In order for the alliance to be a success in the future the alliance members must maintain the ability to "provide" the part and to maintain the "good working business relationship between all the members of the alliance".

EXTERNAL HETEROGENEITY MEMO: #8
Deleted and combined with descriptive code "Status Quo". (See Descriptive Coding Memo #44, External Heterogeneity Memo #7.)

DESCRIPTIVE CODING MEMO: #43
Category: Achievement of quality ratings
Descriptive Code: Quality Ratings
Identification Codes Involved: S51927

Propositional Statement
Success is defined by the participants' attainment of quality ratings measured in defective parts per million.

DESCRIPTIVE CODING MEMO: #44
Category: No change in alliance membership
Interpretive Code: Status Quo
Identification Codes Involved: S21516, S11232

Propositional Statement
An indication of success is the fact that all of the original suppliers are currently participating in the alliance. No changes in suppliers have been made. Future success viewed to be contingent upon the partners ability to maintain or surpass their previous performance.

EXTERNAL HETEROGENEITY MEMO: #7
Descriptive category "Future Success" deleted and its identification code added to "Status Quo".

DESCRIPTIVE CODING MEMO: #45
Category: Continual improvement in quality, cost, delivery
Descriptive Code: Continued Success
(Formerly "Bottom Line Improvement")
Identification Codes Involved: S12424, S121436, S11717

Propositional Statement
Success is indicated by attainment of and continual improvement in quality, delivery times, reduction of cost, etc.

DESCRIPTIVE CODING MEMO: #46
Descriptive Code: Unassignable Identification Codes
Identification Codes Involved: RC5113110, RC3119112, RC311238, RC3214110, OT312011, S11333, S5114111, S511119, S51615, S32425, S31414

DESCRIPTIVE CODING MEMO: #47
Descriptive Code: Discarded Identification Codes
Identification Codes Involved: RC3214211, OT5113111, S11252

DESCRIPTIVE CODING MEMO # 48

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Pattern Coding Memoranda

Pattern Coding Memo: #1
(Self-Awareness Memo)

I have the tendency to want to establish a relationship between Descriptive code "Profit/Cost" (Descriptive Coding Memo #36) and Descriptive code "Longevity" (Descriptive Coding Memo #3). A relationship between the two is only supported via Identification Code: RC31524. A quote from the unit follows:

"I think Honda expects us to make a profit. They don't want the better base to be losing money...."

Pattern Coding Memo: #2

"Profit/Cost" (profitability) appears to be related to longevity. Whereas, a long-term perspective helps to achieve longevity. A preliminary visual diagram of this is as follows:

Profitability ------- > Longevity <------ Long-term Perspective

Pattern Coding Memo: #3

Commitment has something to do with either longevity or perspective or both. Time is beginning to be an important issue. Commitment has a dual nature. It reflects chronos time and finances/resources.

Pattern Coding Memo: #4

Mutual "trust" tied to technical ability.

Pattern Coding Memo: #5

Individual Familiarity, Cooperation, Unity, Fairness are the foundations for a pattern code.

Might want to rename Descriptive code "Cooperation" to "Partnership" and let this pattern code be "Cooperation".

Pattern Coding Memo: #6

"Risk Aversion" tied to "Hands-on", "overkill". This pertains to the manufacturer only.

403
"Communication" and "Negotiation" appear to be linked together

In looking at the descriptive codes for relationship characteristics remember to look at five levels:
1. Individual level
2. Supplier level
3. Manufacturer level
4. Alliance level
5. Environmental level

"Humility" appears to be a characteristic possessed or needed to by possessed by the suppliers.

"Proximity" code may "stand alone" as environmental condition or characteristic of success or maybe eliminated.

"Ethics" is somehow related to "Mutual Trust" in that the corporate ethical stance of each alliance member appears to be a contributing factor to "Mutual Trust". See identification code RC2110214.

Apparent supplier characteristics include the following Descriptive Codes: "Humility", "Willingness", "Flexibility", "Management System", "Expertise" (RC51625).

Manufacturer characteristics includes the "Motive" and "Progressiveness" Descriptive Codes.

"Ethics", "Process Knowledge", and "Supplier Expertise" appear to form the nexus of a new pattern code designated as
"Reliance". A preliminary visual display of this relationship is as follows:

"Expertise" ----> "RELIANCE" <---- "Process Knowledge"  

"Ethics"

Identification Codes that contribute to the Pattern Code "RELIANCE" are RC5117112, RC219213, RC5117313, and RC218312. These are all contributors/causes/correlations to the phenomenon of "RELIANCE".

PATTERN CODING MEMO: #15

The following Descriptive Codes are designated as indicators of alliance success:
"Low Cost" (33), "Few Problems" (34), "Higher Quality" (34), "Profit" (36), "Production Availability" (37), "Successful Localization" (39), "Percent Increase" (41), "Status Quo" (44), "Bottom Line Improvement" (#45), "Pride" (40).

Descriptive Code #38 ("Quality") is construed as a list of criteria for success given by the participants. This list could be used to compare against the success indicators listed in this Pattern Coding Memo (#15).

The criteria are as follows:
1.) meeting quality requirements, 2.) timely production, 3.) company-level responsibility, 4.) competitively-priced part, 5.) maintenance of relationships.
BIBLIOGRAPHY


