BEHAVIORAL ANTECEDENTS AND STRATEGIC OUTCOMES

OF

INTER-ORGANIZATIONAL COLLABORATIVE CAPABILITIES

JORGE MIGUEL CARRILLO RIVERA

A THESIS

IN

THE DEPARTMENT

OF

MANAGEMENT

JOHN MOLSON SCHOOL OF BUSINESS

Presented in Partial Fulfilment of the Requirements
for the Degree of Doctor of Philosophy in Administration at
Concordia University
Montreal, Quebec, Canada

August 2003

Your file Votre référence
ISBN: 0-612-90379-6
Our file Notre référence
ISBN: 0-612-90379-6

CONCORDIA UNIVERSITY
SCHOOL OF GRADUATE STUDIES

This is to certify that the thesis prepared

By: **Jorge Miguel Carrillo Rivera**

Entitled: **Behavioral Antecedents and Strategic Outcomes of Inter-Organizational Collaborative Capabilities**

and submitted in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY (Administration)

complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

Signed by the final examining committee:

Dr. D. Morin — Chair

Dr. R. Osborn — External Examiner

Dr. E. Price — External to Program

Dr. L. Hebert — Examiner

Dr. R. Molz — Examiner

Dr. T. Hafsi — Examiner

Dr. J. McGuire — Thesis Supervisor

Approved by

Oct 21 2003

Dean, John Molson School of Business

ABSTRACT

BEHAVIORAL ANTECEDENTS AND STRATEGIC OUTCOMES

OF

INTER-ORGANIZATIONAL COLLABORATIVE CAPABILITIES

Jorge Miguel Carrillo Rivera Ph.D.
Concordia University, 2003

Alliances have emerged as a strategy for firms to achieve and sustain a competitive position based on their capacity to innovate. Alliance success demands both strategic and behavioral fit. In order to assure alliance success, firms should develop relational skills by consistently performing a set of pro-social behaviors over time that cut across organizational boundaries. This study supports resource-based and social-exchange explanations of how firms develop relational and collaborative skills under the context of an emergent economy like Mexico. Cross sectional data revealed that sustaining a collaborative venture requires the development of certain sophisticated and complex organizational capabilities. Relational capabilities support and build the social architecture of exchange relationships. Collaborative capabilities support the interaction processes by focusing on preventing outcome discrepancies by working on the collaborative process discrepancies. The interaction of relational and collaborative capabilities results in the achievement of strategic outcomes like the development innovation capabilities.

DEDICATION

To God, who has placed the most extraordinary human being on the path of my life, my wife Claudia. She has been the light in the tunnel and the light at the end of it. With her love, strength, and courage, she has paved the road for me to finish this dissertation. Thanks for trusting me all the way, and being sure that we will always accomplish our dreams.

To my dad, who raised me and has been my best friend. He has taught me over the years the value of being thankful, generous, and persistent.

To Dulce my sister, who has always cheered me up and supported all of my many adventures since I was a child.

To all my professors, specially those who have left a very deep mark in my mind and soul. Thanks Jean, Gary, Rick, Louis, Baba, Alain, Taiëb,, Deborah.

To Carlos Enrique and his family, Monica, Maria, Calique, and Pope, who have believed in me for so many years and extended their love and a role model as a family.

To all my colleagues at ITESM for their encouragement and support.

And to my son, Sebastian, a 10 month old baby who has taught me with his little smile the real meaning of happiness.

Table of Contents

List of Figures

List of Tables

BEHAVIORAL ANTECEDENTS AND STRATEGIC OUTCOMES OF INTER-ORGANIZATIONAL COLLABORATIVE CAPABILITIES

Chapter I Introduction

Collaboration is a phenomenon that has been studied for ages. Political and organizational scientists have been intrigued by the uncommon behaviors and attitudes of either individuals or groups to help each other in order to achieve a common goal. Most existing literature looks for a logical and rational argument of why people help each other (Wood & Gray, 1991). Some authors see collaboration as a social as well as a biological phenomenon (Barnard, 1938; Homans, 1950) that could be older than life itself (Axelrod, 1984). However, in everyday life, effective and generous collaboration is the exception, not the rule, at both individual and organizational level. In practice collaboration fails due to factors that are human in nature, like egoism, combative instinct, opportunism or plain and simple perversity. Other more rational explanations of failure in collaborative efforts are lack of identification with the objective of the relation, incompetence, or lack of reciprocity.

The underlying principle of this work is that, overall, effective collaboration between firms can be enhanced and stimulated by certain pro-social behaviors that will develop emotional and rational ties. These pro-social behaviors might as well foster the development of a set of collaboration skills by virtue of promoting openness, transparency, and trust. In other words, managers can be very well

trained technically in managing partnerships and business relations. They can be qualified in negotiation techniques, partner searching, and strategic thinking. However, although important, this study claims that these skills are necessary but not sufficient. Commons (1950) suggests that purposes, values, and expected consequences are the grounds for human collaboration. Managing a successful business relationship requires managers to embrace certain values like generosity, altruism, and civic virtue, which are preconditions for a successful business venture at both organizational and inter-organizational level.

Collaboration, like change, or innovation, has this romantic connotation of being a good thing. However, collaboration is not always either good or beneficial (Campbell & Goold, 2000). Many studies report different success rates for business partnerships, ranging from 10% to 30% (Osborn and Hagedoorn, 1997; Geringer & Hebert, 1991). Collaborative efforts should have a positive direct effect on several performance dimensions of firms. This study proposes performance as the deliberate development of two core management capabilities: collaboration and innovation. Maintaining the willingness to cooperate is one of the three executive functions defined by Barnard (1938), along with providing a communications system and ensuring the integrity of the organization's purpose. Barnard affirms that the firm per se is a cooperative system where psychological, biological, and social factors determine the collaborative incentives and behaviors of individuals and groups. Collaboration, therefore, is at the heart of the management practice, it is the glue that unites and holds together entire corporations, supply chains, and even industries.

Drucker (1986) defined innovation as one of the two basic functions of any business enterprise, along with marketing. The capacity of firms to innovate, to constantly create and market new products and services has proven to be a fundamental competitive advantage and an important source of economic rents (Leonard-Barton, 1999; Moss Kanter, 1988a). Organizational collaboration was proposed by Steensma (1996) as an avenue to acquire technological competencies. Freeman (1991) affirmed that networks of innovators with pluralistic patterns of collaboration have been central to the identification of user needs; the integration of R&D, production, and marketing activities; as well as the development of linkages with external sources. In order to keep up with the competitive pace firms tend to form alliance networks that will compete in block against other networks, as well as between themselves (Gomes-Casseres, 1996). Therefore, the use of alliances to provide technological innovation (Hamel, 1991; Teece, 1987) appears to be a natural phenomenon, a product of complex and fast-paced technological breakthroughs that requires further specialization and increased complexity in the patterns of interaction, division, and integration of different innovation tasks. For instance, currently, internal research is frequently complemented with new forms of external R&D collaboration (horizontal links) or external marketing and distribution structures (vertical links).

Alliances are structures that force organizations to interact with their environment as an important element of their adaptive process. This study proposes, much in line with Henderson and Mitchell (1997), that inter-organizational collaborative strategies shape organizational capabilities. These are developed as

firms act in competitive, institutional, and cognitive environments, where capabilities arise intended or as emergent by-products of firms' actions.

Dependence on strategic alliances and inter-firm relationships has increased considerably in recent years, while partnerships with external actors have become a central strategy for many organizations in a wide range of industrial contexts (Badaracco, 1991; Beamish & Killing, 1997; Gulati, 1995). This reliance demands a deeper understanding of collaboration as one of the business phenomena that more aggressively permeates a wide variety of industries, contexts, and organizations.

Most of the literature about collaboration perceives it either as:

a) an input to enhance coordination of organizational performance variables like innovation (Hamel, 1991; Kotabe & Swan, 1995; Millar, Demaid, & Quintas, 1997)

b) a dynamic evolutionary process (Gray, 1985; Larson, 1992; Ring & Van de Ven, 1992, 1994; Zajac & Olsen, 1993)

c) a behavior either at an individual level (Homans, 1950) or at an organizational level (Lado, Boyd, Hanlon, 1997)

d) an outcome or dependent variable (Gray 1989).

These different perspectives provide several angles for scholars to analyze the phenomenon, and are not exclusive. The output perspective, where collaboration emerges as a result of an adaptive process, claims that collaboration is the result of actions taken by firms in order to survive in turbulent environments (Gray, 1989). The input perspective suggests that collaboration is one of the many strategies required to improve several dimensions of performance. This approach analyzes

collaboration as a structural issue, providing a framework to set up an efficient configuration of business transactions. The process approach breaks down collaboration, in an attempt to open the black box. Several steps are proposed, like negotiation, commitment, and execution (Ring & Van de Ven, 1994), or sequential phases, like problem-setting, direction-setting, and structuring (Gray 1989). Each of these approaches shares common ground in that collaboration is essentially a behavior that originates in the need of individuals to accomplish purposes which they are, by themselves, biologically unequal (Barnard, 1938).

The present study embraces another perspective of collaboration that can complement the understanding of this subject/subject matter. Collaboration can be viewed as a skill, a capability that is evolving and is learning over time, and that can potentially represent a distinctive competence and an isolating mechanism from competitors. This view has been developed recently by Lorenzoni and Lipparini (1999) Simonin (1997), and Spekman, Isabella and MacAvoy (2000). The basic argument of this perspective is that inter-organizational collaboration is indeed a relational capability that enables the development of a distinctive configuration of competitive advantages. A relational or collaborative capability is defined by the ability of firms to form and maintain inter-organizational ties, as well as integrating resources, capabilities, and efforts across organizational boundaries. This capability in turn will support the development of other layers of competitiveness, like innovation, or market knowledge.

An important implication of this approach (which draws its basis from the resource based view and dynamic capabilities theories) is that managers must

assess partners technically as well as in terms of their capacity to relate to other firms. In other words, partners must have strategic fit (e.g. complementary resources) and over time, must develop behavioral fit (share similar collaborative and trust building behavioral patterns).

A partner selection process (Geringer, 1991) should include questions about reputation and resource configuration, as well management style and corporate culture. Even with a perfect strategic fit, an alliance might be doomed if partners are not able to get along at a more personal level. Partners that have a healthy relationship are better able to leverage the skills each brings to the alliance. Cordial, open, and trusting relationships might reduce transaction costs through the generation of informal controls, and eliminate potential barriers (cognitive or behavioral) that could affect the shared pursuit of opportunities. Developing an alliance competency in the form of the firms' ability to successfully relate to each other and to cooperate is emerging as an acknowledged enabling skill as many firms are struggling with the mechanisms for nurturing these skills (Spekman & Isabella, 2000). Just as there are rules of successful conduct within contracts and hierarchies, there may be rules of conduct for a successful association. Therefore, it is important to explore what set of behaviors will lead to the development of inter-organizational collaborative capabilities (IOCC). IOCC antecedents might be a product of experience (Simonin, 1997) and they may also be an outcome of certain patterns of specific behaviors aimed to do more for the partner than what is defined within the formal agreement.

The objective of this research is to explore whether a defined set of pro-social behaviors can potentially precede the development of inter-organizational collaborative genes in firms, and explore the implications of IOCC in the development of innovation capabilities. By studying firms engaged in collaborative behaviors, its antecedents, and its consequences, I strive to advance the understanding of the dynamics of the phenomenon of inter-firm collaboration and its effects on the development of certain skills. An assumption of this work is that certain patterns of behaviors precede the development of inter-organizational collaborative skills, and that these skills will eventually lead to the development of certain capabilities like innovation. By innovation I mean the successful development and commercialization of new products or new processes (Dougherty & Heller, 1994).

I am particularly interested in how the organizational ability to relate to other firms and to work and cooperate with other organizations for a common purpose, enhances the capability of firms to innovate not as a single unit, but as an alliance where partners create a distinctive configuration of innovation capabilities, integrating and sharing some phases of the innovation process across organizational boundaries. All of these skills are important elements of a broad and complex developmental process of inter-organizational relations (Ring & Van de Ven, 1994). The majority of recent research centers on issues related to antecedents, conditions, or alliance structure in comparison with other governance forms, and not on the inner processes of cooperative relationship formation.

The central theme of this research is that firms operationalize and form their values, and develop collaborative capabilities by forming patterns of pro-social behaviors over time and eventually across organizational boundaries. In addition, the formation of collaborative capabilities must be related to the achievement of tangible benefits, like the development of innovation capabilities, market positioning, or profits. This research extends existing work about inter-organizational collaboration by 1) introducing the construct of inter-organizational citizenship behaviors that measures the extent to which firms engage in discretionary extra-role, pro-social behaviors with other firms, 2) relating these behaviors and past collaborative experience to the development of a set of collaborative capabilities, 3) relating these collaborative capabilities to the development of innovation competencies, 4) showing that the development of collaborative skills depends both on prior pro-social behaviors and collaborative experience, 5) examining the impact of firm size on the process, and 6) looking at a sample of firms from a developing country like Mexico.

This work is organized in six sections. The first section presents a literature review of the main theories and research streams used in this research to support the different concepts is presented in the next section. The second section develops the model and hypotheses. The third describes the methodology applied to evaluate the model in terms of methods, data collection procedures, and origin of respondents. The fourth reports the operationalization of variables and construct measurement. The fifth section performs a preliminary data analysis and reliability and construct validity issues. The sixth includes the data analysis of the results and

discussion of results. The final section presents the limitations of this research, and conclusions.

Chapter II Literature Review

2.1 The Concept of Collaboration

At the heart of the new mode of conducting business, especially in fast-paced industries is the notion of collaboration. Corning Glass chairman James R. Houghton has said: "Nobody can do it all alone anymore." (Gomes-Casseres, 1996, p. 2) This notion of collaboration as a fundamental preoccupation of scholars and practitioners has permeated management literature for many years. Chester Barnard's concepts of "willingness to cooperate" and the organization as a "collaborative system" are now, maybe more than ever, important issues for firms. For instance, alliances among high-technology firms are forging new units of economic power, where the competitive logic is shifting from a dyadic confrontation between rivals to a confrontation between several value-chains controlled by a network of firms (Jarillo, 1988). In other words, the key success factors in an industry are most likely not controlled by just one organization. The ownership and control of such required resources and capabilities is now most likely shared among a group of firms that act as an extension of one another, resulting in strong interdependencies, sophisticated coordination games, and increased specialization.

Collaboration, as a social phenomenon, has been recognized by the academic community as a domain rich in theory and academic origins (Smith, Carrol, and Ashford, 1995). Collaboration has intrigued scholars in fields of behavioral sciences, economics, political science, strategy and organizational theory.

The complexity of the phenomenon of collaboration whether at the individual, group or is reflected in the myriad definitions of cooperation. It is clear that inter-firm

cooperation lacks a definitional consensus (Klein, 1989). Among the most popular terminology encompassing the notion of inter-organizational cooperation are:

- collaborative agreements (Hergert & Morris, 1989)
- co-partnerships (Buckley & Casson, 1988)
- joint ventures (Harrigan, 1988)
- networks (Jarillo, 1989)
- quasi-integration (Blois, 1972)
- strategic alliances (Perlmutter & Heenan, 1986; Doz & Prahalad, 1989).

Contractor and Lorange (1988) identify cooperation as an intermediate alternative on an equity non-equity scale: "Between the two extremes of spot transactions undertaken by two firms, on the one end, and their complete merger, on the other end, lie several types of cooperative arrangements." (p. 5) They also proposed a typology of cooperative arrangements based on inter-organizational dependence. From a lower to a higher level of dependence, the authors rank the following types of arrangements: technical training/start-up assistance agreements; production/assembly/buyback agreements; patents licensing; franchising; know-how licensing; management/marketing service agreements; non-equity cooperative agreements in exploration, research partnership, development/co-production; and equity joint ventures.

One of the major attempts to define the concept of cooperation and to build a theory around it is offered by Buckley and Casson (1988) who equate cooperation to "coordination through mutual forbearance." Collaboration can occur in many ways and have different characteristics. It could be formal or informal, and the type of

cooperation can also vary with how parties are connected to one another. Vertically linked individuals, groups, and organizations can cooperate between agents and principals or buying and selling organizations. Horizontally linked parties are engaged in a common task where functional boundaries become irrelevant. Cooperation involving vertical links will differ from that involving horizontal links primarily in terms of interdependence. The level of parties' interdependence will generally be clearer and more direct in vertical links than in horizontal links (Smith, et al., 1995).

Collective action has important implications for firms. Sometimes, it increases transaction costs for organizations, introduces them to new multiparty relationships on which they must focus, requires them to develop new skills and abandon or reshape others, and makes them more explicitly and perhaps uncomfortably conscious of the relationships among stakeholders that do not involve them but may affect them (Wood & Gray, 1991). Collaboration can create new possibilities for action and interaction. Nevertheless, it can be a double-edged sword. It may increase environmental complexity and turbulence, by creating new dependencies and liberating control over resources and capabilities. It may reduce the environmental complexity and turbulence by re-gaining control over scarce and difficult to access resources, although control is not free. Control over some aspects of the alliance makes partners accountable for the performance over those resources and capabilities they control.

Next I will present some aspects of different theories that support the ideas of this study. Table I summarizes and contrasts a few facets of each theory then a more comprehensive explanation will be given for each one.

Table I **Literature Review**

Theory	Focus or Collaborative Issue	Unit of Analysis	Types of Relationships	Objectives	Message	Contributions to the study
Transaction Cost Economics (Williamson, Hennart)	Alliance formation, Normative basis, Alliance structure	Economic transaction	Between "horizontal" agent-principal, Contractual relationships	Cost minimization, Efficiency	"Avoid the negative"	Achieve efficiency by avoiding opportunistic behaviors through informal controls
Resource Based View (Simonin; Hamel; Das & Teng)	Co-learning, Access or leverage resources, Resource integration, Performance, Alliance formation	Configuration of resources, Jointly controlled resources and capabilities, Firm differences	Between resources and capabilities, Strategic relationships	Creation of competitive advantages, Value maximization, Integration of resources	"Be different"	Combine and integrate resources and capabilities like and through collaboration in order to create valuable and difficult to imitate distinctive competencies
Institutional (DiMaggio & Powell; Oliver)	How and why alliances emerge, are copied over time, and eventually become generally accepted	Mimetic isomorphism processes, Values and norms	Between socially constructed action takers, Social relationships	Creation of successful associations	"Be Alike"	A logic of association demands a common set of rules of conduct
Social Exchange (Wish, Deutsch, & Kaplan; Larson; Ring & Van de Ven)	Relationship formation, Trust building	Relationship	Between individuals, Inter-personal, Psychological relationships	Overlap role and interpersonal relationships, Creation of good inter-personal relationships	"Let's get along "	Behaviors that emphasize altruism, trust, and reciprocity may generate collaborative advantages
Resource Dependence (Pfeffer & Salancik; Thompson; Contractor & Lorange)	Strength of interdependencies, Alliance formation and structure, Control	Interdependence of resources	Between resources, Strategic relationships	Achieve strategic position, Survival	"We can't do it alone"	Sophisticated capabilities, like innovation, require the development of skills to manage a complex set of inter-organizational, interdependent resources

2.2 Institutional Theory

One of the most important driving forces in alliance formation is the environmental pressure that pushes organizations to relate as a way to assure survival (Song, 1995). DiMaggio & Powell (1983) studied how institutional processes predicted the formation of mimetic organizations over time. The institutional view of alliances suggests that inter-organizational relations are a product of the embeddedness of the firms in a context of great social pressures, where the focus is basically the alliance or relationship per se. The relationship is what drives the logic of association that goes beyond contracts and hierarchies.

Institutional theory of alliances strives for the development of successful rules of conduct that somehow integrates economic and strategic perspectives (Osborn & Hagedoorn, 1997). These rules of conduct are defined by a set of socially constructed values that emerge as firms become collegiate action takers (Holm, 1995) that create frameworks of inter-organizational collaboration.

Institutional theory assumes that industry pressures are not as strong a source of imitation as traditional societal driven forces. Isomorphism offers legitimacy, promoting stability, and buffering firms from environmental turbulence. Legitimacy therefore is the outcome that emerges of following socially accepted association patterns that may result in both the development of collective competitive and collaborative advantages, but will result in achieving a competitive parity, inhibiting the firm from attaining a dominant position in the appropriation of rents.

2.3 Transaction Costs Economics

The main focus of this theory is the study of the means by which organizations can achieve efficiency in their transactions with other organizations (Williamson 1985, Hennart, 1980). The unit of analysis is the transaction per se, and the main question is whether it is more efficient to depend on the market or on hierarchies. The core of Williamson's argument is that transactions, that involve uncertainty in their outcome, that recur frequently and require substantial transaction-specific investments of money, time or energy which are not easily transferred, are more likely to take place within hierarchically organized firms. Exchanges that are straightforward, non-repetitive and do not require transaction-specific investments will take place across market interface. As asset specificity in the form of specialized assets or tacit intellectual capital is involved in the transactions, the inefficiencies of structured hierarchies with clear governance policies and procedures will be preferred over the relative costs of market transactions due to coordination advantages.

Transaction cost economics (TCE) has been the principal theoretical approach for understanding formation of strategic alliances. This rationale of efficiency and optimization has dominated the study of R&D alliances as temporary mechanisms for multinational expansion and as an international entry mode (Buckley & Casson, 1988; Dunning, 1993), and of alliances for rationalization of operations, to attain economies of scale, have market access, to achieve a critical mass of customers, or spread risks (Hennart, 1988; Williamson, 1991). Transaction cost efficiency has been effective in predicting vertical integration among suppliers and buyers in

mature industries. There are two reasons for this. The first is bounded rationality i.e. the inability of economic actors to write contracts that cover all possible contingencies increases the probability that complex required transactions should be internalized. There is little need therefore to predict such contingencies since they can be handled within the firm's governance structure. The other reason is opportunism - the rational pursuit of self advancement/gain by economic actors using every means at their disposal, potentially including guile and deceit. In general with internalization, opportunism is neutralized by authority and power relations and by some sort of stronger identification and alignment of objectives that parties presumably have when they are joined under a common cause (Hennart, 1980).

Transaction cost perceives the firms as avoiders of costs of market exchange. Firms and market exchange are alternative methods for coordinating production. One of the assumptions of this theory is that the costs of negotiating contracts are high and a firm will tend to expand until the costs of expansion are equal to the costs of market exchange. The main "obsession" of this school, is its attention to opportunistic behaviors and conditions of asset specificity and a reduced source of suppliers as sources of dependability with certain market elements. In other words, firms exist because the opportunistic potential is significant, therefore, the main decision premise is to avoid the negative through normative bases like contracts, property rights, or employment relationships. These normative bases regulate whether it is more economical to perform an activity within the firm, where collaboration is regulated by the agent-principal relationship, or whether collaboration will be regulated by prices and laws. In TCE alliances are hybrid forms

between markets and hierarchies, under which governance and structural issues will be based on a negotiated platform of norms.

While helpful, this pure efficiency logic does not capture many of the strategic advantages of alliances such as building capabilities, creation of legitimacy, and improvement of strategic market/product position. An important tenet of TCE is that firms avoid opportunistic behaviors in the presence of market failure if they generate the right ownership incentives in the form of some equity-based alliance structure. As well, firms will try to minimize the dependability risks as efficiently as possible by setting up ad-hoc governance structures. What I propose is that there might be certain behaviors such as inter-organizational citizenship behaviors, and some skills that can prevent the emergence of opportunistic behaviors, and thus, reduce the formal control and governance costs through informal control mechanisms that could hedge the dependence risks. These altruistic and pro-social behaviors unfold through the interaction of employees of partner firms and are the basis of any business deal, functional interaction, or technology exchange. The main point here is that certain pro-social behaviors could lead to cost minimization, reducing transaction costs, enforcing psychological contracts rather than legal ones. Psychological contracts are developed in time, supplementing the agent-principal relationship with personal relationships (Ring & Van de Ven, 1994). Social exchange theory provides a solid conceptual framework that explains the process of extra-economical relationship formation.

2.4 Social Exchange

One of the main assumptions of social exchange theory, developed by social philosophers like Bentham, Stuart and Mark is that there may be compatibility between individual and social interest. Whereas an individual's weakness may lie in an excess of wants over an ability to satisfy them, together, individuals can simultaneously fulfill their own desires as well as those of others by pledging a fair and balanced reciprocity (Axelrod, 1984). Relationships grow, develop, deteriorate, and dissolve as a consequence of an unfolding social-exchange process. Although this theory is deeply rooted in sociology, biology, anthropology, psychology and other human sciences, it is very useful for understanding the nature and dynamics of business relationships, particularly at the inter-organizational level.

Social exchange focuses on the relationship per se, rather than on the individual, economic transaction, or the larger social system as the level of analysis. This relationship presents several characteristics that are a result of the structure of the relationship per se and evolution of the social interactions. Wish, Deutsch, and Kaplan (1976) developed four fundamental dimensions of relatedness: (a) cooperative-friendly, as opposed to competitive-hostile; (b) equal, as opposed to unequal; (c) intense, as opposed to superficial; and (d) socio-emotional-informal, as opposed to task-oriented-formal. The main emphasis of this research is on the (a), (c) and (d) dimensions.

Some core concepts in the advance of the field of alliances, especially in the management of inter-organizational collaborations have emerged from social exchange: reciprocity (Axelrod, 1984; Ring & Van de Ven, 1992), the importance of

good personal relations (Larson, 1992) and trust-based cooperation (Argyle, 1991; Ring & Van de Ven, 1994).

The norm of reciprocity dictates that an individual will be obliged to give something in return for something received. Quid pro quo is fundamental to keeping both parties interested in the relationship and in equalizing the bargaining power of the partners over time. Once cooperation based on reciprocity is established, it increases the probability of stability and attenuation of opportunism. Reciprocity might present itself as interdependencies (Thompson, 1967) that are fostered and maintained by appealing to collective interest rather than self-interest, promoting altruism, building trust, and emphasizing reciprocal exchanges among parties (Lado, Boyd & Hanlon, 1997). In other words, reciprocity is the outcome of the existence of a continuous exchange or access to valuable and scarce resources and capabilities between partners. A main assumption of this research model is that a fundamental antecedent of reciprocity is the enactment of organizational citizenship behaviors.

Good personal relationships are built over time, and represent a particular attribute of network exchange structures (Larson, 1992). Personal relationships that resulted in allegiances were found to shape economic outcomes in the publishing industry (Coser, Kadushin, & Powell, 1982). In the end, collaboration is an interactive process that begins at the individuals' dyad level, and keeps aggregating through several levels of analysis. Although Ring and Van de Ven (1994) assumed that role relationships and interpersonal relationships are not identical, definitely there is a reinforcement process, one supplements the other and vice-versa. The ways in which individuals make attributions about other's attitudes and behaviors will

vary significantly if the other is viewed as acting within a "role" as opposed to "qua persona" (Guitot, 1977). These intensive interactions generally lead to conflicts, hostility, and attempts of coercion, as a result of high levels of interdependency.

One special determinant, which virtually all social exchange scholars have agreed to as fundamental for collaboration, is trust. Trust is defined as an individual's confidence in the good will of the others in a given group and belief that the others will make efforts consistent with the group's goals (Ring & Van de Ven, 1994). It is believed that trust generates economic rents, because it increases coordination through social controls which have proved to be less expensive than formal controls (Barney & Hansen, 1994) in addition to serving as an integrative mechanism, much like reciprocity, that creates and sustain cooperation. Trust focuses on the expectations of mutual and open commitment to the development of the exchange, whereas reciprocity focuses less on the interpersonal dynamics of the relationship and more on the continuous assessment of the balance of mutual gains between partners, the strategic importance of the alliance, and the opportunity to obtain or lose bargaining power.

The importance of social exchange for this study is straight forward, rent-seeking behaviors that emphasize altruism (the most important factor in the inter-organizational citizenship behaviors construct), trust, and reciprocity may generate collaborative advantages (Moss Kanter, 1994). However, cooperative rent-seeking behavior, although necessary for generating composite quasi rents, is not sufficient for achieving sustained business performance through difficult to imitate competitive advantages (Lado, et al., 1997). This tension between collaborative behavior and

competitive behavior is what lead Lado et al. to develop a syncretic model in 1997 that proposes a dynamic balance between competitive and cooperative strategies based on exchange theories.

Although I agree with Lado et al. about the need for both behaviors it is important to try to isolate the elements of what constitutes a collaborative and competitive behavior and first analyze whether the proposed typology is required or not. If it is, then it is necessary to determine which behavior captures most of the variance relative to sustained performance under which particular contexts and circumstances, and finally, if there are any interactions between the behaviors mentioned.

Social exchange theory is fundamental for the understanding of relationships formation. The major contribution of social exchange is to reveal the human implications of business transactions. Enterprises are social entities, in constant interaction with their environment which includes other firms, thus including people. Inter-firm collaboration is conducted by individuals with different organizational identities, but with a similar or compatible set of incentives, values and principles. All behaviors are supported by inducements that encourage certain attitudes, even values and beliefs. Individuals conduct themselves in certain ways in an alliance context because they have expectations. Some expectations are in terms of alliance operation, others of alliance formation. Social exchange is more useful to explain how relationships unfold and provoke feelings and perceptions of trust, commitment, and reciprocity. These behaviors might lead to the development of stronger inter-

firm ties and social capital that could represent important advantages over other firms (Moss Kanter, 1994).

Other expectations include the basic rationales for alliance formation, such as attaining economies of scale, risk and cost sharing and gaining access to foreign markets. Another important rationale for forming alliances is to share and develop complementary resources and capabilities. Increased technological complexity and globalization, as well as market and cultural differences lead firms to become interdependent in many aspects along the value chain. The resource dependence theory provides a conceptual framework that explains this phenomenon.

2.5 Resource Dependence

Resource dependence is a theory rooted in an open system framework that argues that all organizations must engage in exchanges and interactions with their environment in order to obtain resources (Scott, 1987). Certain resources are more scarce than others, therefore organizations may compete for materials, human resources, customers, product legitimacy, and any other necessary resource. One of the reasons firms decide to collaborate with each other is because that they do not possess all the resources required to perform in a turbulent environment (Wood & Gray, 1985).

Competition can be either a driving or restraining force for collaboration. In situations of zero-sum growth and resource scarcity, collaboration is less likely to emerge (Sharfman, Gray, & Yan, 1991). The competitive paradigm has dominated the strategic management field for approximately the last 20 years (Barney, 1986;

Caves, 1984; Porter, 1980). Competition provides the impetus for innovation and entrepreneurship (Nelson, 1991; Schumpeter, 1934) and reduces transaction costs between parties (Williamson, 1985). The outcome of high levels of competition is competitive advantage efficiencies which are attained through two main sources: industry position advantages or, when the firm is able to combine and deploy distinctive or core competencies (Prahalad & Hamel, 1990; Selznick, 1957; Wernerfelt, 1984) that offer a superior value to customers relative to competitors (Porter, 1985).

Competition may facilitate collaboration and firms are increasingly realizing that sometimes they must collaborate with others if they want to fill the gaps of resources and capabilities required to be and remain competitive (Lado, Boyd, & Hanlon, 1997). In other words, firms must develop collaborative advantages in order to create and maintain their competitive advantages (Contractor & Lorange, 1988; Hamel, Doz, & Prahalad, 1989; Jarillo, 1988; Moss Kanter, 1994). Resource dependence theory (Pfeffer & Salancik, 1978) argues that no organization is self-sufficient; each must engage in exchanges with other organizations in one way or another to survive and gain a competitive advantage. Interdependencies are created because organizations possess or control vital resources (material, human, political, or symbolic) and thus are a source of environmental pressures for each other. Thompson's (1967) action theory of organization paid a great deal of attention to the different types of interdependence existing within organizations.

Two of the main preoccupations of this theory are the access and control of resources. Gaining control of vital resources can reduce environmental uncertainty

and turbulence, enabling parties to gain the most value possible from the resources controlled. In other words, firms under the resource dependence perspective acknowledge the complexity of generating, in isolation from the environment, the resources and capabilities required to survive or establish an advantageous position over rivals. This complexity is generated by many factors, most can be associated to the emergence of technologies that require the combination of diverse resources, not just for inventive purposes, like some R&D consortia, but for enhancing coordination across the supplier-customer chain, such as vertical alliances in electrical utilities (Niosi, 1995).

Gulati (1995) uses resource dependence theory to explain why firms ally, using another equivalent term, strategic interdependence. He proposes that firms will ally with those with whom they share the greatest interdependence. Like transaction costs, this theory is more useful to explain why firms form alliances, yet resource dependence also takes into account the partner's resources and the potential complementarity that are not necessarily rooted in gains of efficiency, but more in achieving a stronger strategic position. Carrol (1993) justifies the existence of interdependencies between organizations as a driven selection process to operate on higher order groupings of organizations. She suggests that the appropriate level of analysis for studying firm success is determined by the strength of interdependencies among the firms relative to the strength of the selection process. Galunic and Rodan (1998) proposed, based on Penrose (1959), that an outcome of interdependence is the recombination of resources, potentially

producing novel productive resources or novel logistics for integrating and using existing resources.

The recombination of resources at the alliance level brings up important issues, not just from a strategic perspective, but from a structural perspective as well. Interdependence forces firms to give up certain rights over their operations or decision making processes. The exchange or joint use of resources demands a re-configuration of hierarchies based on the relative importance of the alliance to the firm's survival. Alliances are fragile structures, with mobile control schemes, and sometimes unclear governance processes that demand the allocation of responsibilities under a different inter-hierarchical scheme.

The initial focus of resource dependence was on minimizing inter-organizational dependencies and preserving the organization's autonomy while recognizing that inter-organizational relationships are necessary to acquire resources. However, with the emergence of the resource-based view (Wernerfelt, 1984), the reach and meaning of this theory has evolved, from merely considering the interaction of the organization with its environment to fill a gap of resources, to broader strategic considerations, such as the joint development of rare, imperfectly imitable, and non-substitutable resources. In other words, although the resource-based view is centered on the notion that sustainable competitive advantages are based on internal firm resources (Barney, 1991), this study proposes that an important internal, idiosyncratic resource is the capacity of firms to create and maintain competitive advantages through inter-organizational collaborative strategies.

2.6 The Resource-Based View

The resource-based view (RBV) examines strategic capabilities as a pool of internal resources that are strategically important for the creation of competitive advantages (Amit & Shoemaker, 1993; Barney, 1991; Penrose, 1959; Rumelt, 1984; Wernerfelt, 1984). Barney also suggests that the combination of unique resources within a single firm will create synergies leading to sources of sustained competitive advantages.

The resource-based view fundamental aim is the study of firm differences as sources of differential rents. Oliver (1997) proposed that resource differences will more likely lead to firm heterogeneity and differential rents when firms in the same industry possess few intra-industry alliances. All these arguments hold within the same unit of analysis, a single firm as the competitive unit and if the level of integration of capabilities and resources between partners is low. When we move to the next level, where the alliance is a competitive unit, the arguments of homogeneity do not hold anymore. Partners might be able to develop distinctive competencies that will lead to alliance heterogeneity rather that just firm heterogeneity. The two focal points in the RBV of strategic alliances reside in the study of inter-firm differences as complementary to their strategic intent and the integration of every partner's resources and capabilities as the source of heterogeneity relative to other firms and/or alliances.

From a resource-based view, imperfect and incomplete factor markets are the source of resource mobility barriers that give rise to firm heterogeneity. Under the

logic of the RBV, collaboration capabilities might very well be a source, much like learning capabilities, of sustained competitive advantages if applied beyond the scope of a single firm.

The resource-based view has been helpful for explaining issues like alliance formation, alliance structural preferences, and even aspects of alliance performance (Einsenhardt & Schoonhoven, 1996; Kogut, 1988; Tyler & Steensma, 1995; Varadarajan & Cunningham, 1995). One of the dominant motives behind the formation of strategic alliances is the procurement by firms of resources and capabilities that are not readily available in competitive factor markets (Oliver, 1997). An important implication in applying the resource-based view to inter-organizational collaboration is that alliances arise when firms in vulnerable strategic positions need the resources and capabilities that alliances bring or when firms with strong social positions capitalize on their assets to create opportunities. Alliances are, therefore, cooperative relationships driven by a logic of resource needs and social resource opportunities. Firms lack the organizational capacity to develop new competencies quickly (Teece et al., 1997). This fundamental premise is even more relevant in joint ventures, which are formed primarily so that participating firms can gain core skills that would be very difficult for them to obtain on their own (Ho Park & Ungson, 1997; Murray & Siehl, 1989).

The resource-based view seems particularly appropriate for examining strategic alliances because firms use alliances to develop and learn new skills, and gain access to other firms' valuable resources and capabilities. A growing body of research suggests that firms enhance their competitive position through superior

resources and capabilities like location, technology, or knowledge (Simonin, 1997). By linking or pooling resources and capabilities in networks, firms may create alliances that increase their strategic flexibility (Sanchez et al., 1996) by enabling them jointly to realize asset mass efficiencies, achieve the advantages of asset interconnectedness, and overcome time-compression diseconomies (Dierickx & Cool, 1989). In building competencies, a firm will often have to draw firm-addressable assets and capabilities from outside the boundaries of the firm. In this kind of alliances, common benefits might have the same importance as the private benefits (Khanna, 1997). It is often the case that firms use a strategy of alliances to short-cut the process of resource acquisition or development of capabilities. However an issue that has not been under the lens of scholars with the same intensity is the issue of how capabilities or skills are developed and learned over time, which is precisely one of the issues under study.

A main assumption of this study is that organizations are not born with inter-organizational collaborative genes. Collaborative skills are learned and developed over time, and have the same characteristics of a capability. Before describing in detail the theory supporting collaboration as a capability, it is important to break down the concept of capabilities, and understand its nature and dynamics. The concept of capabilities is rooted in a more advanced version of the resource-based view of the firm, on what Teece, Pisano, and Shuen (1997) called, dynamic capabilities.

2.6.1 The Concept of Capabilities.

Clayton Christensen (1994) proposed a model of organization that comprised three main elements the first of which is a stock of assets. This element might include: people, and the knowledge, talent, intuition and experience that reside in their heads (tacit knowledge); equipment in which some level or vintage of technology is embedded; customers, investors, suppliers, including access to inputs at different levels of cost and quality than competitors; and finally codified information of all sorts (explicit organizational knowledge), ranging from information about markets and customers, to patents and engineering drawings.

These stocks of assets have several things in common: they can be hired or fired, bought, sold or traded, built or scrapped. Many of these stocks are tangible (engineering drawings or patents), but some are intangible (intuition and experience of individuals).

The second element is transformation processes or routine patterns of interaction, cooperation and coordination among the people, groups and other elements of the stock of assets listed above, which transform inputs of labor, materials, capital and information into products and services of greater value. These patterns of interaction, as Itami (1991) and Simon (1947) have noted, are created by the experiences an organization has engaged in.

The third element is values, which are the criteria used in an organization when deciding among alternative actions in a process. This means that the two organizations whose competitive positions and processes are very similar might evaluate the trade-offs in an important decision differently.

A primary feature about this model is the distinction between stock of assets and capabilities, identified as well by Grant (1991). What Christensen calls assets, Grant calls resources. The main characteristic about assets or resources is that most of them are not embedded in the organization per se. The organization controls the resources, but it does not own them. These resources do not have value if they stand alone. They can either be inputs and outputs of production, making the identification of causality more difficult in the generation of advantages. Some of these resources belong to the people within the organization and not the organization itself. All are actually or potentially transient, with respect to a particular organization. Therefore, resources ought not be considered organizational capabilities. Resources are only meaningful in the context of performing certain activities to achieve certain competitive advantages (Porter, 1991). Hofer and Schendel (1978) suggests five major categories of resources: physical, human, technological, reputation and organizational.

On the other hand, capabilities are organizational in nature. The capabilities of a firm are what they can do as a result of teams of resources working together. Capabilities are transformation processes that belong to the organization, largely independent of the incumbent people who occupy the positions within it. It is a small part of many people's job (Leonard-Barton, 1999). It is in these patterns of interaction, coordination and cooperation that capabilities of the organization reside. As Henderson and Cockburn (1994) and Sanchez, Heene, and Thomas (1996) suggested, the function of organizational capabilities is to deploy the firm's

resources and to develop new ones to create, produce and offer products to the market through repeatable patterns of actions.

In very simple terms, resources refer to the assets that you have, capabilities refer to the ability to create value with the resources that you have, in other words, what you do with what you have. Examples of these capabilities are the process of gathering and processing information, the linking of customer experiences with engineering design or the coordination between the factory and component suppliers, all of which are intangible assets that determine the uses of tangible assets. Resources are the matter and capabilities are the forces moving and transforming matter into something valuable. Sanchez et al. (1996, p. 8) defined competence as an ability to sustain the coordinated deployment of assets in a way that helps a firm achieve its goals. Hence, competence includes consistent and intended deployment of both, capabilities and resources.

Christensen (1994) and Teece, Pisano, and Shuen (1997) suggested, at a very different level, that innovation could involve changing the processes which assets are created. Some organizations may possess processes to improve processes (second order processes), what Teece et al. called dynamic capabilities, which are defined as the capability of the firm to renew competencies, to integrate, build, and reconfigure internal and external competencies to address a rapidly changing environment. In other words, organizational capabilities can act as a change force, or as a stability force.

Such second order processes might work autonomously to improve the value-added processes or capabilities in an organization. These second-order

capabilities lie at the core of what theorists call the "learning organization". Elements of this approach can be found in Schumpeter (1942), Penrose (1959), Nelson & Winter (1982), and Prahalad & Hamel (1990).

The factors that define competitiveness of firms in terms of their idiosyncrasy and identity are composed by the interaction of different elements: resources, capabilities, and activities. Performing any activity requires resources and capabilities. Resources are the inputs to activities, and capabilities are the processes that transform inputs into outputs. These processes may invoke the integration of different activities from different functions that will create some sort of routines or a consistent pattern of ordinary procedures. In its essence, capabilities are the result of the combination of resources through the integration of organizational action. The outcomes of this combination of resources might be as well resources (image, brand loyalty, quality, coordination, profits, etc.). Therefore, resources can act as inputs as well as outputs, and some of these resource-outputs, can act as well as inputs to activities (profits, quality) creating a self-reinforcing virtuous circle. Competence and capability have their roots in the bridge between resources and strategy.

An important implication for alliances is the relationship between resources and capabilities. A key ingredient in this relationship is the ability of an organization to achieve cooperation and coordination within teams that include members from more than one organization. The functioning of the alliance per se involves the capability to achieve cooperation and coordination between and across organizational boundaries.

2.6.2 Types and Characteristics of Capabilities.

The identification and analysis of the types and characteristics of capabilities is relevant because one important outcome of inter-organizational collaboration, involving capabilities building processes, is a substantial qualitative change on existing configuration of capabilities and resources of partners. In other words, it is important to identify what capabilities have to be developed and what characteristics are required.

The particular characteristics of each organization's capabilities and resources will define the strength of their strategic position. There are around 23 different characteristics in the literature of capabilities and resources, however, many of them are either redundant or properties of a higher order characteristic. Most of the efforts to find types of resources and capabilities have been based on the identification of similar characteristics either in terms of their visibility (Itami, 1991), complexity (Conner, 1991) or value (Prahalad & Hamel, 1991; Leonard-Barton, 1999). Most of the literature revolves around five characteristics of capabilities: imitability, value, mobility, substitutability, durability, and rigidity (Prahalad & Hamel, 1990; Grant, 1991; Barney, 1991; Conner, 1991; Leonard-Barton, 1995; Miller & Shamsie, 1995; Teece, Pisano & Shuen, 1997). Leonard-Barton (1999) defines three different types of capabilities:

a) Core capabilities constitute a competitive advantage for a firm; they have been built over time and cannot be easily imitated.

b) Supplemental capabilities add value to the core capabilities but that could be imitated.

c) Enabling capabilities are necessary but not sufficient in themselves to competitively distinguish a company.

There is as well across the literature a discussion about the mechanisms or processes that generate such characteristics in a configuration of capabilities, such as time compression diseconomies or causal ambiguity. Overall, the literature shows two streams of ideas regarding the nature of capabilities, one identified as static capabilities, the other as dynamic capabilities. Static capabilities are superficial, easy to identify, and are in charge of describing the qualities of a competitive advantage in the form of outcomes of a certain process. In contrast, dynamic capabilities are embedded in the social tissue of the organization, are hard to identify and explain, exist in the form of processes with the objective to improve or support the improvement efforts of firms. Inter-organizational collaboration capabilities by nature are rooted in the social fabric of the organization, maybe even in the form of observed and cherished values.

2.6.3 Collaboration as a Capability.

Whatever the duration and objectives of business alliances, being a good partner has become a key corporate asset, which Moss Kanter (1994) referred to as *collaborative advantage*, and Spekman et al. (2000) identified as *alliance competence*. Moss Kanter affirmed that alliances that both partners ultimately deem successful involve collaboration (creating new value together) rather than mere exchange (getting something back for what you put in). They also cannot be controlled by formal systems, but require a dense network of informal

interconnections between persons that support internal infrastructures that enhance learning.

Moss Kanter (1994) along with Lado et al. (1997) affirmed that collaboration is something that can be learned, and that can enhance the competitive position of a firm. Simonin (1997) introduced the construct of collaborative know-how that measures the extent to which a firm shapes its abilities in identifying, negotiating, managing, monitoring, and terminating inter-organizational collaborative ventures. Gomes-Casseres (1998) identified collaboration as the internal capability of a firm to manage alliances, which is a result of the organization within the firm.

The fact that the phenomenon of competition is becoming larger than the firm (Gomes-Casseres, 1996) demands an important stretch on the firms' abilities to engage in active collaboration. Active inter-firm collaboration takes place when companies develop mechanisms-structures, processes, and skills-for bridging organizational and interpersonal differences and achieving real value from the partnership (Moss Kanter, 1994). Collaboration also occurs when a group of autonomous stakeholders of a problem domain engage in an interactive process, using shared rules, norms, and structures, to act or decide on issues related to that domain (Wood & Gray, 1991). Multiple ties at multiple levels ensure communication, coordination, and control.

Collaboration competence has long been considered a valuable asset. For instance, Miller and Shamsie (1995) argued that knowledge-based resources often take the form of particular skills (know-how), including collaborative skills, assisting experts in working and learning together effectively. Prahalad and Hamel (1990)

also recognized NEC's competency in managing inter-firm collaborations as an important determinant in the company's ability to access and internalize new strategic assets from its alliance partners.

In an effort to synthesize and perhaps over-simplify this literature review, I propose the following scheme to illustrate the relationship between the different theories, and how they fit into the study. In essence, Figure I illustrates the theoretical framework used in this study, and how are they related through every numbered link used as a reference in the following explanation.

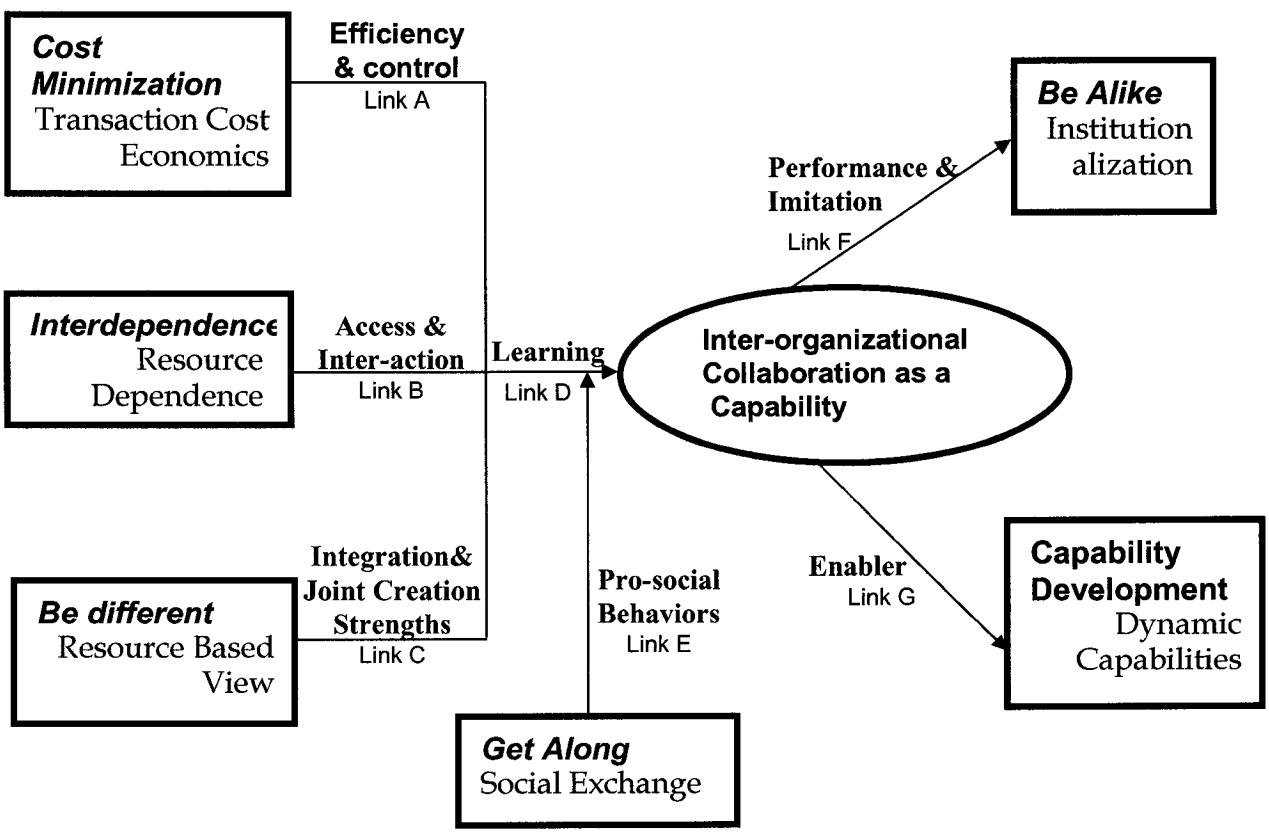


Figure I

At the center of the conceptual framework is the notion of inter-organizational collaboration as a capability. This notion encompasses some aspects of every theory. Link A represents how transaction cost economics focus on the important of the prevention of opportunistic behaviors through formal and informal controls, as well as how important is the structural aspect of conducting transactions with a perspective of operational efficiency whether through markets, hierarchies, or a combination of both, which is the case of inter-organizational collaborative arrangements. Link B, resource dependence, provides a framework to understand different issues of the relationship between organizations and the environment. This theory provides not just a rationale for alliance formation, but warns us about the complexities and requirements for managing sophisticated interdependencies, like negotiation or partner searching skills in order to get access to an extended set of resources. In the other hand, the resource-based view goes a step ahead of the resource dependence theory. It suggests that firms do ally not just to fill a gap of resources, but to create and integrate a bundle of resources (Link C), turning them into a jointly owned and controlled configuration of valuable, and difficult to imitate strengths.

The resource based view sees alliances as a closely coupled system of collaboration, where as the resource dependence suggests a more loosely coupled, arms-length co-operative approach. This strategic approach gives this study the logic that a capability is something that is developed and learned over time (Link D), and that is a set of skills embedded in the organizational fabric. However, in order to

embed the fabric with collaborative skills, values, believes, and behaviors must take place.

Social exchange provides a framework that explains how certain extra-role behaviors lead to the development of feelings and perceptions, like trust, commitment, or loyalty generating social and psychological ties. For many years, scholars have recognized the importance of positive discretionary behaviors that go beyond delineated role expectations and also benefit the organization (Barnard, 1938; Van Dyne, Cummins, & McLean Parks, 1995). Although the focus of this research is in cooperative inter-organizational relations, these relationships only emerge, evolve, and dissolve over time as a consequence of individual activities and behaviors directed to benefit both to the counterpart and the firm itself. Within the dynamics of collaboration, there is what is called, the "philosophy of partnership" (Larson, 1992). Strong relationships are not based solely on short-term economic transactions, but economic transactions overlaid thickly with a layer of friendship and mutual assistance. Collaboration includes day-to-day spontaneous pro-social gestures of individual accommodation to the work needs of others (Smith, Organ, & Near, 1983). Many cooperative behaviors have been framed by the social psychology literature as citizenship behaviors, like altruism, obedience, advocacy participation, and social participation (Smith et al., 1983; Van Dyne, Cummings, & McLean Parks, 1995; Wolfe, 1994). The general agreement of the literature is that citizenship behaviors are important because they lubricate the social machinery of organizations and are one of the pillars of the management of alliances.

The reality of inter-organizational collaboration is that, it is a group phenomenon as well. Homans (1950) found that the concrete behavior of a small group can be separated into factors or elements: emotion, personality, interaction, interests, association, activities, and the success of those activities. Activity refers to what people do; working in the physical environment, with implements and with other persons. Interaction refers to the fact that some unit of activity of one man follows or is stimulated by some unit of activity of another, aside from any question of what these units may be. Sentiment refers to the internal states of the human body. Linking this model with Homans' work, inter-organizational collaboration can be seen within the same small group framework. Inter-organizational citizenship behaviors capture some of the meaning of emotions and personality.

More than three decades ago, Katz and Kahn (1966) identified three basic types of behaviors essential for a functioning organization: people must be induced to enter and remain within the system; they must carry out specific role requirements in a dependable fashion; and there must be innovative and spontaneous activity that goes beyond role prescriptions. Concerning this third category, Katz noted, "an organization which depends solely upon its blue-prints of prescribed behavior is a very fragile social system" (p. 132). Every productive task performed in organizations depends on some extra-role behaviors, which are defined by Van Dyne, Cummings and McLean (1995) as "behavior which benefits the organization and/or is intended to benefit the organization, which is discretionary and which goes beyond existing role expectations" (p. 218). Classical theorists in management and

psychology (e.g. Barnard, 1938; Katz & Kahn, 1966; Roethlisberger & Dickson, 1964) have noted as well the significance of these behaviors to an organization.

Roethlisberger and Dickson (1964) affirmed that cooperation refers to something other than productivity. The latter was regarded as a function of the formal organization (i.e. hierarchy, role expectations, technology, policies). Cooperation, in the other hand, referred to acts that served more of a maintenance purpose to "maintain the general equilibrium." In their analysis of Roethlisberger and Dickson, Smith et al. (1983) concluded that "cooperation included the day-to-day spontaneous gestures of individual accommodation to the work needs of others, where as productivity was determined by the formal economic structure of the organization" (p. 683).

The implication of these spontaneous and generous behaviors in terms of institutional theory is that in time, they may turn into in-role behaviors. Jobs evolve, roles expand and contract, expectations change, and over time, what might originally was considered a generous gesture, may turn into part of the job description.

Institutional theory suggests that all alliances have a certain logic of association, with a defined set of rules based on certain values and norms. Institutional theory considers alliances as a source of homogeneity between firms. From an institutional perspective, social and economic interrelations among firms and common dependencies on a range of external actors are sources of pressures for isomorphism or conformity that give rise to firm homogeneity (DiMaggio & Powell, 1983; Oliver 1997). Applying institutional insights to a resource-based view

Oliver suggests five main sources of firm homogeneity: regulatory pressures, strategic alliances, human capital transfers, social and professional relations, and competency blueprints. The latter source of homogeneity suggests that alliances are now proven institutionalized structural arrangements that, based on the logic of performance improvement (Link F), have been imitated and used already by most of the organizations.

Using Leonard-Barton's concepts, inter-organizational collaborative capabilities are turning more into enabling ones, establishing a minimum for competition in an industry. I-O collaborative capabilities might not convey by themselves any particular competitive advantage, but rather, act as enablers, or catalysts to foster the development of other supplemental or core capabilities (Link G). None of the following jointly developed capabilities would have been possible without inter-collaboration capabilities; the know-how of money transferring that the Mexican bank Bancomer provided to Bank of Montreal (BOM); or the risk management capabilities that BOM installed in the corporate banking area of Bancomer; or the cost leadership position achieved by the joint venture Gonderson-Concarril through the production and marketing of railway specialized containers.

My point is that firms cannot aspire to fully take advantage of any inter-organizational relationship without having understood and developed inter-firm collaborative skills. These skills surely can be learned and developed over time, but more likely should be relatively symmetrically developed by all partners if they want to fully take advantage of the alliance. A basic feature for any business relationship is to get along at least at a primary level. The intention of this research is to

establish certain behaviors that can assist in the improvement of some collaborative skills, and hence, establish more durable, value driven alliances. As well, another outcome expected is to establish a relationship between the development of an enabling capability, like collaboration, and a core capability, like innovation.

2.7 Innovation Capabilities

The dynamism of technological changes, globalization, deregulation, dissolution of industries, and other major forces have led academics and practitioners to direct increasing attention to the use of alliances as fundamental mechanism to provide innovation (Chambers, 1991; Hamel, 1991; Miles & Snow, 1986; Teece, 1986). The knowledge-based view of the firm (Grant & Baden-Fuller, 1995; Conner & Prahalad, 1996) considers the ability to integrate the efforts of different actors as important as the capacity to innovate (Grant, 1996). Inter-firm relationships play a significant role in the development of new products and in the fine-tuning of competencies of partnered organizations (Lorenzoni & Lipparini, 1999).

Product and process innovation increasingly takes place in inter-organizational networks of firms linked through strategic alliances (Kotabe & Swan, 1995; Millar, Demaid, & Quintas, 1997). Innovation encompasses the ability to create, increase, and transfer new experiences and knowledge regarding: organizational transformation processes of production, service, and administration; intimate understanding of the market and relevant technologies; and relationships with customers and suppliers (Chambers, 1991).

Innovation, for the purposes of this research, is not limited to the content of new designs, hardware, techniques, or behaviors that are specific to one organization, which would merely constitute inventions, and might not be transferable or relevant to other activities. Rather, collaborative innovation is viewed as a process of joint knowledge creation, by which a knowledge base is developed through the interaction of two or more organizations to design and devise tools and procedures for their use. This collaborative effort decreases the uncertainty for meeting a set of needs or solving a set of problems. This broad definition includes the full spectrum of joint knowledge development and application from transformational processes to buyer and supplier relationships.

Increasingly, inter-organizational links are thought to enhance the innovative capabilities of organizations by providing opportunities for share learning, transfer of technical knowledge, legitimacy, and resource exchange, (Nohria & Eccles, 1992). Firm use inter-organizational coordination to acquire new technologies and expand their product-market reach (Pennings & Harianto, 1992), but the attempts to link this capability to the achievement of a sustainable competitive position has often led to results of limited value for researchers and practitioners. Empirical support for the effects of inter-organizational links on firm-level innovation has been inconsistent, and large-scale, longitudinal studies have been rare Goes & Park, 1997).

This study assumes that the sources of innovation do not reside exclusively inside firms; instead, they are commonly found in the boundaries between firms, universities, research laboratories, suppliers, and customers (Powell, 1990; Powell, Koput, & Smith-Doerr, 1996). Von Hippel (1988) stressed the importance of

collaborative skills. He affirmed that the trading and development of know-how often requires the establishment of long-term relationships in which exchange occurs within a learned and shared code.

There are, all across the relevant literature, studies that link alliances and collaboration with added value, either in the form of tangible benefits or intangible benefits (Kogut, 1988; Parkhe, 1991, Simonin, 1997). Tangible benefits are strategic and financial: sales growth, increase in profits, better market share, or return on assets. Intangible benefits are mostly knowledge based: learning specific skills and capabilities, access to a name, even learning how to behave cooperatively (Lane & Beamish, 1990). However, scholars like Simonin (1997) and Powell (1990) coincide that in the context of inter-firm collaboration, the relationship between innovation (e.g. knowledge development) and performance remains to be conceptualized and empirically verified.

The existing literature on managing product innovation is insightful, but it does not describe the underlying capacities that enable people in organizations and between organizations to carry out all the best practices and processes of sustained innovation. Dougherty (1998) proposes a framework that describes organizational capabilities necessary for sustainable innovation. She suggests that fundamentally, more innovative organizations operate with fundamentally different capabilities for learning, organizing work, and linking people.

Innovative organizations " Differentiate market, technology, and operations knowledge to focus each domain on developing its unique, and substantive, contribution value for customers, and integrate them using common referents for

action anchored in customer value" (Dougherty, 1998, p. 8). They also focus the integration of the process of innovation by dividing and defining work in terms of the whole process of innovation. What is striking about the process of organizing for innovation and inter-organizational collaboration is that both share two fundamental issues, one is differentiation and the other integration, and both literatures approach the same issues in different, but in complementary ways (see Figure II).

Innovation-Collaboration Grid

	Organizing for Innovation	Inter-Organizational Collaboration
Differentiation	- Work is divided into complementary sets of problems - Different realms of responsibility for every community of practice - Differentiation of tasks in terms of knowledge domains **I**	- Division of labor by design of a negotiated environment - Different realms of control - Differentiation of tasks in terms of dependency and strengths **III**
Integration	- Integrate domains - Implement processes to support connections - Manage nasty Politics **II**	- Integrated activities - Implement Collaborative Mechanisms - IOCBs' , social, and informal controls **IV**

Figure II

As quadrant **I** suggests, based on the work of Dougherty (1998), in terms of how firms organize themselves for innovation, innovative organizations differentiate work into complementary sets of problems within the whole process, and become integrated through loose networks of communities of practice. These organizations differentiate responsibility into distinct but complementary realms of responsibility, and each community of practice takes charge of a certain realm of work. Similar to

differentiation for *organizing for innovation* purposes, firms involved in inter-organizational collaboration base their differentiation activities in similar principles, as shown in quadrant **III.** Collaboration involves a division of labor, and with that comes division of control, as well as shared accountability. Therefore, activities are separated and differentiated under a rationale of expertise, control, and responsibility. Summarizing, quadrants **I** and **III** suggest that many of the activities for organizing for innovation imply organizing for collaboration as well.

For integration activities and issues the conceptual overlap is evident. The main difference exists in the focus of integration. As quadrant **II** shows, innovation literature centers on the integration of knowledge and expertise domains, where as inter-organizational collaboration (quadrant **IV**) deals with issues of integration of activities. Nevertheless, the issues involved in both literatures are basically the same, how to bring people together and compel them to work toward a common goal. This resemblance should not be surprising. After all, innovation is fundamentally a process that involves intimate and intense collaboration between different actors. Innovation therefore, is a collaborative process, which includes the balancing act of bringing together personal interests and organizational interests through a socially constructed framework of trust, generosity, and shared values.

Differentiation and integration are basically dichotomies in the whole process of inter-organizational collaboration and innovation. What brings them together is the effort of firms to manage both in a never-ending exercise: tear apart, improve or create, then put things together, or what Yang and Dougherty (1993) called "iterative organizing." Dougherty (1998), based on the work of Van de Ven (1986), Moss

Kanter (1988b), and Brown and Eisenhardt (1995), proposed three ordered sets of activities that perform both tasks, integration and differentiation, for different elements of the innovation process: a) linking market-technology knowledge to conceptualize and create products, businesses, and capabilities, b) linking tasks to tasks to implement ideas, and c) linking people with the organization to maintain the ongoing work relations. What is interesting about these groups of activities is that all use the term link, which in a way, a device to integrate different elements into a whole.

Market-technology linking involves creating knowledge about user needs, technology trends, or engineering capabilities (Garud & Nayyar, 1994), while at the same time, merging new products with the market and production realm. Eventually, this link incorporates gate-keeping functions to the partnership, keeping participants informed of the evolution of markets and technologies. The alliances are therefore, instruments by which organizations expand their contact with an enriched environment, and are able to assess the strength, value, and sustainability of their attributes.

Task-to-task linking refers to the coordination and linking between critical tasks. Innovation is a process with different steps, that go from idea generation, to technical development and diffusion. Task-to-task linking relies on multifunctional collaboration (Clark & Fujimoto, 1991) in how individuals and firms across functional and organizational boundaries jointly focus on problems that affect more than one unit, and involves networking all the domains of expertise across the organization (Ancona & Caldwell, 1990). Linking tasks include linking products in families, and

developing decision-making systems that enable firms to channel resources quickly and steadily over long periods of time.

Linking people to the organization involves an explicit or implicit contract between agents and principals. This relationship is very complex, because innovative behavior is highly tacit, and requires high levels of mutual adjustment and commitment over the completion of tasks. Linking people to the organization requires the facilitation of an appropriate context, including eliminating internal politics, destructive internal competition, and risk avoidance.

It is reasonable to suspect a potential relationship between the different linking sets of innovation activities and inter-organizational collaborative capabilities. Market-technology linking bases many of its activities on the existing expertise and learning capacities of partners. Task-to-task linking includes sophisticated coordination games and integrative mechanisms. Linking people to the organization requires the existence of formal and informal controls and the development of citizenship behaviors between partners as a product of high levels of interdependence, interconnectedness, and intensity of contact. Overall, innovation capabilities performed inter-organizationally demands high levels of integration of activities that require sophisticated and developed collaborative capabilities. Therefore, innovation looked as an inter-organizational phenomenon provides a fertile environment to study the sophisticated and complex collaborative behaviors, actions, and interactions.

This study attempts to integrate different bodies of knowledge, like social exchange theory, resource dependence theory, and organizational learning to the

actual stream of research in this area. My main focus is to complement and refine the actual models by complementing them with an inter-disciplinary approach as well as to explore empirically the relationship between IOCB´s, collaborative experience as antecedents of inter-organizational capabilities and inter-organizational innovation. It will serve as well as a mechanism to validate the measurement model (predictive validity).

Chapter III Model and Hypotheses

As has been discussed, social exchange theory suggests the importance of extra-role behaviors for a successful business relationship. Van Dyne et al. (1995) suggest that behaviors which go beyond expectations can be crucial to the survival of the organization.

Organizations evolve and become more complex everyday, therefore, the development and sustainability of competitive advantages demands employees to do more as an expected part of their job. The relationship between extra-role behaviors and constructs like individual performance (George, 1991), global performance (Graham, 1991), and work group performance (Van Dyne, 1993) has been proved empirically. Organizational citizenship behavior (OCB) is the best known and more extensively studied extra-role concept. OCBs, when applied to an inter-organizational context, are aimed to build trust, to become better acquainted with a partner (or potential one), as well as to facilitate access and avoid potential conflicts for all parties.

What this model proposes (see Figure III), is that exercising these extra-role behaviors is fundamental for the development of inter-organizational collaborative capabilities. Another implication of this model is that it affects the causality chain by suggesting that extra-role behaviors not only have a direct effect on performance, but play an important role in the development of capabilities that might affect performance positively as well. Figure II illustrates the conceptual operationalization of the theoretical framework into a testable model.

Conceptual Model

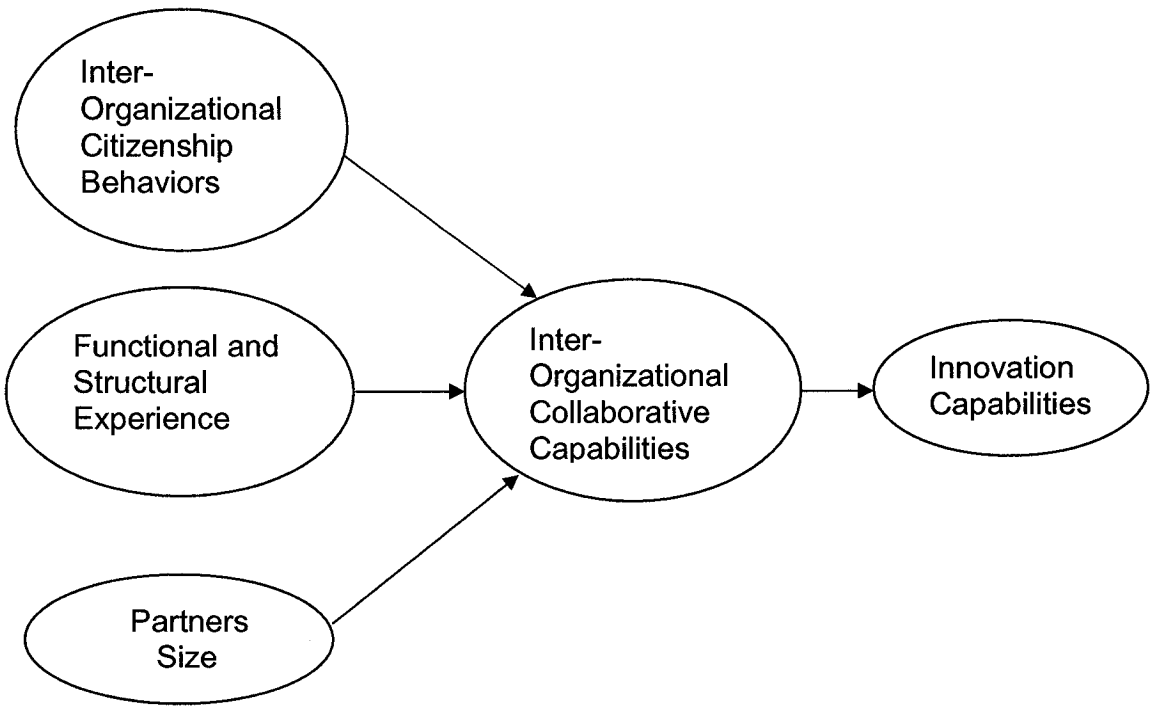


Figure III

3.1 Inter-Organizational Citizenship Behaviors (IOCBs)

In this decade there have been extensive efforts on redefining the concept of extra-role behaviors and its antecedents (McNeely & Meglino, 1994; Van Dyne et al., 1995). Organizational citizenship behavior (OCB) is considered by the literature as one of the four key constructs that concerns extra-role behaviors, along with pro-social organizational behavior, whistle-blowing, and principled organizational dissent. Organ (1988a) defined OCB as "individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organization." (p. 4) Organ also

proposed that OCB include behavior that is not an enforceable requirement of the role or the job description, like acts of altruism, helpfulness, and gestures of goodwill.

Most of the early citizenship research (Organ, 1988; Pearce & Gregersen, 1991) focused on two dimensions: altruism (characterized by helping specific employees in the organization); and conscientiousness (characterized by a more personal orientation, including behaviors such as work attendance and diligence). Three additional dimensions of citizenship emerged in this stream of research (Moorman, 1991): sportsmanship (maintaining a positive attitude); courtesy (including keeping the boss and coworkers informed); and civic virtue (responsible participation in the political life in the organizations).

Williams and Anderson (1991) suggested that there are two broad categories of OCB: 1) OCBO, or behaviors which benefit the organization and are focused on the organization (e.g. adhering to informal organizational procedures by giving advance notice of an absence), and 2) OCBI, or behaviors which immediately benefit particular individuals and indirectly benefit the organization (e.g. helping another worker who has been absent to catch up). Likewise, I propose that a fundamental set of behaviors required for firms to be able to engage in inter-organizational collaboration specially for the purpose of innovation and learning, are OCBs performed across the boundaries of the firm. OCBs might work for intra-organizational, inter-personal, and inter-organizational purposes. The central point of inter-organizational citizenship behaviors (IOCBs) is to identify behaviors of partners which benefit the alliance and are focused on the inter-organizational

interaction (e.g. openness, sharing of information, transparency).

The main difference between OCB and IOCB, besides the level of analysis, is the focus of the relationship and the level of aggregation that cuts across organizational boundaries. IOCBs are extra-role behaviors directed toward benefiting the alliance in a voluntary, intentional, positive, and disinterested fashion. For instance, the spirit of altruism is captured by a sense of unselfishness that consists of behaviors that help a specific other person. However, altruism at the alliance level consists on helping specific other individuals or groups outside the organization for the benefit of both organizations (alliance). IOCBs are not a product of aggregated or compounded behavior since individuals may behave helpfully and kindly inter-organizationally, but not intra-organizationally. In other words, we focus on behaviors that benefit the alliance directly, not the individual, or just one organization outside the alliance environment.

From the five dimensions proposed by Organ (1988a), I propose four that are fundamental at the alliance level: altruism, civic virtue, sportsmanship and courtesy. Conscientiousness was not included for two reasons: a) this dimension is limited to an organizational level of analysis since it is a reflection of the employees practices within the organization, and b) because it is not considered an extra-role behavior (Van Dyne, et al., 1995). In an effort to include the inter-organizational dimension, I redefined each one of the concepts in order to propose an inter-organizational dimension.

For IOCBs' purposes, altruism consists of behaviors that help a specific person from the partner organization. In a conceptual level, altruism is a voluntary helping to

others behavior (Podsakoff, Mackenzie, Paine, & Bachrach, 2000). Another helping behavior identified by Podsakoff et al. is courtesy, which consists of behaviors aimed at preventing work-related problems with the partner, for instance, by keeping them informed. Smith, Organ, and Near (1983) defined altruism as a behavior that is directly and intentionally aimed at helping a specific person in face-to-face situations, like orienting new people, or assisting someone with heavy workload. Van Scotter and Motowidlo (1996) named these behaviors as interpersonal facilitation, which includes deliberate acts that improve morale, encourage cooperation, remove barriers to performance, or help co-workers perform the task-oriented activities. Other helping behaviors include helping a coworker with a heavy workload and sharing resources, and calling attention to errors and omissions, or providing instruction in the use of state of the art technology when it is not part of the job description (George & Jones, 1997).

The other type of helping behavior, courtesy, was proposed by Organ (1988b) as "certain insightful gestures that help someone else prevent a problem, or touching base with people before committing to actions that will affect them, providing advance notice to someone who needs to know to schedule work" (p. 96).

Civic virtue includes behaviors reflecting responsible participation in, involvement with, and concern about the life of the partnership (instead of just the employing organization). Organ (1988, 1990) defined this behavior as " responsible, reflecting a constructive involvement in the political process of the organization, including not just expressing opinions but reading one's mail, attending meetings, and keeping abreast of larger issues involving the organization" (p. 96). Graham

(1991) proposed the equivalent concept of organizational participation as "the individual interest in organizational affairs guided by ideal standards of virtue; like being willing to deliver bad news or support an unpopular view to combat groupthink" (p. 255).

Sportsmanship is characterized by maintaining a positive attitude towards the alliance, and willingness to tolerate less than ideal circumstances. Organ and Konovsky (1996) has defined sportsmanship as willingness to tolerate the inevitable inconveniences and impositions of work without complaining. However, Podsakoff et al. (2000) suggest that the concept is more extensive. They propose that sportsmanship includes maintaining a positive attitude even in adverse circumstances, or are willing to sacrifice their personal interests on behalf on the group or organizations interest. Its important to mention that this concept is different from all the other OCBs proposed in the literature. Mackenzie, Podsakoff, and Fetter (1993) found important differences in the nature of the dimension and its antecedents.

"Citizenship behaviors are important because they lubricate the social machinery of the organization" (Smith, et al., 1983, p. 122), as well as the collaborative machinery of the alliance. These behaviors therefore might determine and facilitate at some extent the inter-organizational collaborative capabilities. It is important to underline that the nature of the dimensions proposed are not just organizational. IOCBs are present in individuals within an organization but the recipients of these behaviors do not necessarily belong to the same organization. In other words, IOCBs might be present at an inter-organizational level, but not

necessarily at an intra-organizational level. This construct basically describes a) helping behaviors, b) optimism, c) an unselfish approach to work aimed at the alliance functioning, d) generosity, and e) at some degree the individual involvement of individuals in the alliance operation.

3.2 Inter-Organizational Collaborative Capabilities (IOCC)

This research suggests that collaboration can be viewed as a capability, and as such, it can be considered a latent variable that depends on additional latent variables to indicate factors that account for the existence or not of the ability of firms to engage in productive relationships with other firms. The most pervasive factors that the literature proposes as critical determinants of inter-organizational collaboration capabilities are the following: a) design and structuring capabilities (partner selection, formal and informal controls); b) alliances management capabilities (operations and relational know-how); c) technological capabilities (accessibility, state of the art, learning capacity).

Such constructs suggest that firms in order to collaborate must possess capabilities in the form of particular sets of knowledge, skills and behaviors. To be capable or competent in a certain activity is to be proficient or good at performing that activity (Barnard, 1938). The concepts of distinctive competence (Selznick, 1957; Teece, 1992), core competence (Prahalad & Hamel, 1990), dynamic capability (Teece, Pisano, & Shuen, 1997), economic competence (Pelikan, 1989), architectural competence (Henderson & Clark, 1990), absorptive capacity (Cohen & Levinthal, 1990) will help to unpack the different constructs.

For instance, design capabilities are fundamental to run an effective partner selection process (Geringer, 1991), build governance structures (Chambers, 1991), and overall count with a strategy of alliances (Gulati & Singh, 1998). Coordination capabilities are important because the quality and intensity of the interaction between organizations is contingent to the communication mechanisms (Geringer & Hebert, 1991; Kumar & Seth, 1998) and practices that enhance the predictability of behaviors and actions (Moldoveneau, 1997) within the alliance. Coordination is the mechanism of interaction that leads to efficient and effective cooperative dynamics (Barnard, 1938).

Technological capabilities on the other hand, represent at what extent partners are able to add value to each other's strategic position by integrating diverse technological expertise or skills into a product or process. Reciprocity is a fundamental requisite to sustain bargaining power and interest in the alliance (Ring & Van de Ven, 1994). Partners with strong learning capacities, (Hamel, 1991; Lyles, 1988; Simonin, 1991) with state of the art technology in their domain (Chambers, 1991; Shrivastava, 1985), and accessible (Chambers 1991; Hamel, 1991) will remain attractive and valuable to each other.

The importance of technical change and technological know-how does not have to be pointed out. Technological development has been regarded as an important source of economic growth. This research adopts the definition of technology provided by Dosi (1982): "Technology is a set of pieces of knowledge, both directly practical (related to concrete problems and devices) and theoretical

(but practically applicable although not necessarily already applied), know-how, methods, procedures, experiences of successes and failures and also, physical devices, equipment, and market knowledge." Thus, changes in these sets of pieces of knowledge via innovation leads to technical change, consequently leading to the growth of the firm.

The construct of technological capability is the capability of the firm to change technology is analogous to second order learning. In the context of an alliance, technological capabilities gain a special place basically because they are the main source of reciprocity in the relationship. Miyazaki (1993) states that technological competence is also concerned with proficiency in the capacity to assimilate radically new technological opportunities, to expand the range of technological capabilities, and to deploy those technological capabilities. Technological capability is associated with becoming competent at the renewal function of the firm by creating technologies that add value to the firm.

Some of the main determinants of collaborative capabilities like designing and structuring capabilities or technological know-how have already been investigated. A crucial component of any alliance strategy is the design of control, hierarchy, and governance mechanisms able to manage the relationship and interdependencies between partners, as well as the know-how to identify elements of compatibility and balance in potential partners. Collaborative initiatives demand crucial abilities in structuring. Structuring can be understood as a dialectical unfolding of relations between embedded social actors that translates individual action into social consequences (Fombrun, 1986). Structuring inter-organizational relations is

interpreted by Fombrun (1986) as a "resolution of forces favoring convergence with forces provoking contradiction that tends to propel episodic, and metamorphic transformations in the social relations within and between organizations" (p. 48). The structure of an alliance must establish order, achieve stability, and maintain a state of homeostatic equilibrium (Katz & Kahn, 1966). The ability to design and structure inter-firm collaborative relationships is fundamental to direct and orient the different contradictory and divergent forces towards a managed and sometimes fragile and dynamic convergence.

This research assumes that structure is socially constructed through the interactions of human actors and knowledge about designing and structuring relationships. Structure is a system of signification that simultaneously enables and constrains the behavior of participants (Pettigrew, 1977; Smircich, 1983). The structure of any social collectivity could be said to consist of three layers of constraint on individual and organizational action (Fombrun, 1986): a) an *infrastructure* of productive activities, which embodies the constraints of technology, competition, and market context coupled with a b) *socio-structure* of exchange relationships, which encompasses both the administrative structure of the organization and its social architecture of exchange relationships, overlaid by c) a superstructure of shared values.

Literature on the management of alliances has identified three capabilities relevant to the design and structuring of strategic alliances: a) partner selection (Geringer, 1991), b) definition and implementation of governance structures, (Gulati & Singh, 1998; Geringer & Hebert, 1989; Kumar, 1993), and c) definition and

implementation of social controls (Larson, 1992). The first capability focuses on the capacity of firms to identify and choose the right partner, the second on the firm's ability to design and execute, ex-ante, mechanisms of contractual and hierarchical control, and the third centers on the capability of the partner to develop ex-post, informal control mechanisms that will decrease coordination costs and enhance trust.

For the purpose of this research, and based on one of the dependent constructs (innovation capabilities), I assume that cooperative innovation is fundamentally a transformational process that involves complex development issues between organizational units and firms. This assumption leads to the belief, shared with Chambers (1991) and Simonin (1991), that some elementary technological factors like: accessibility or ease of understanding and use; state of the art in application development; and learning capacity, are fundamental elements involved in the growth, sustaining, and development of mutual assumptions of reciprocity.

Having acknowledged the importance of these three factors, technological expertise, structuring, and design capabilities, it is possible to focus attention toward what it is argued about what makes a contribution to the existing theory of inter-organizational collaboration: the analysis of inter-organizational citizenship behaviors and experience as determinants of collaborative capabilities, and how such capabilities may affect the ability of organizations to innovate and learn (see Figure I).

Simonin (1997) proposed the concept of collaborative know-how as a complex, multifaceted construct based on what he calls the "four fundamental

phases of a collaborative cycle" (p. 1154) based on a sample of US firms:

1) The partner searching process (Geringer, 1991).
2) Negotiating the terms of the partnership and the structure of the collaborative agreement (Lorange & Roos,1990; Slowinski, Seelig, & Hull, 1996).
3) Monitoring and managing an on going collaboration (Browning, Breyer, & Shetler, 1995; Das & Teng, 1998; Ganitsky & Watze, 1990; Hladik, 1985).
4) Terminating the collaboration (Serapio & Cascio, 1996).

Simonin's perspective belongs mainly to the transaction cost economics literature in the sense that it focuses less on inter-organizational relations and more on inter-organizational transactions. Most of the items are not based on how much and how well a firm can relate to others, but on whether or not they are able to execute inter-firm transactions efficiently.

Simonin's collaborative know-how construct attempts to capture some of the most relevant variables in the form of certain organizational routines and applied knowledge covering a lifecycle of collaborative efforts. The implication of having this view of inter-organizational collaboration is that collaborative expertise is embedded in organizations in a conscious or unconscious manner, and is pervasive across the whole array of employees dealing with alliance issues. For instance, in some organizations, managers have personal experience in partner searching processes and issues to consider when trying to find potential partners. Some other organizations formally document all experiences and turn them into procedures and explicit knowledge. However, the more we move into the actual operation of the alliance, collaborative know-how becomes tacit and more difficult to codify it explicitly. Issues like what are the required activities and skills in order to have a successful negotiation, or to manage effectively an alliance or even terminating it

might be not only more complex to master, but contingent to the type of alliance, and the nature of the partners involved.

Simonin grouped alliance issues into four phases, assuming a linear, sequential, cyclical approach to collaboration: a) partner selection, b) negotiation, c) monitoring and managing an ongoing collaboration, and d) terminating a collaboration. One of the purposes of this study is to investigate the management dimension of the alliance while operating. It is then when IOCBs could actually take place and it is possible to have significant effects, however, the question is how can we structure and capture the complexity and tacitness of inter-organizational collaborative capabilities in just a single construct. Simonin (1997) assumed that alliances have four phases in their life cycle. He argues that mastering these phases depends on how firms could turn experience into knowledge, and that collaborative know-how is beneficial for those firms involved in the partnership. The main two differences between Simonin and the proposed model are a) collaborative capabilities might have certain behavioral antecedents, and b) collaborative skills are formed by different aspects of the whole phenomenon of inter-organizational collaboration, and its not a sequential cycle, but a continuum formed by recurring concurrent activities and sophisticated interactions that evolve depending on strategic and relational developments.

A cycle implies a loop, a linear logic, with a beginning and an end. Although in theory many collaborative events do take place many times, these cycles might not follow a prescribed logic of a life cycle, but a contingent logic, based on the particular needs of the business relationship at a particular time. The process of

interfirm ties formation is evolutionary (Doz, 1996), and dynamic (Barringer & Harrison, 2000), where partners keep adjusting their actions, interactions, and behaviors to the changing requirements of the alliance. For instance, negotiation is an activity that is pervasive across many phases of the collaborative venture, from the beginning to the end. Firms do negotiate the terms of the initial agreements and the termination of the alliance as well. They start monitoring and managing an alliance even before the agreement is signed. The main point is that the components of collaborative capabilities are transversal to the different phases of the life cycle of the alliance. Relationship building skills, negotiation skills, or learning skills cut across and may permeate all collaborative phases.

This research proposes a model of inter-organizational collaborative capabilities (IOCC) taking into account the before mentioned considerations. Using Simonin's (1997) 20 items of the construct collaborative know-how, I propose the following model for IOCC. Figure III tries to explain how every component of the construct inter-organizational collaborative capabilities might be related. To explore furthermore this construct is necessary because the one I am proposing present some differences from the one used by Simonin.

Inter-organizational Collaborative Capabilities

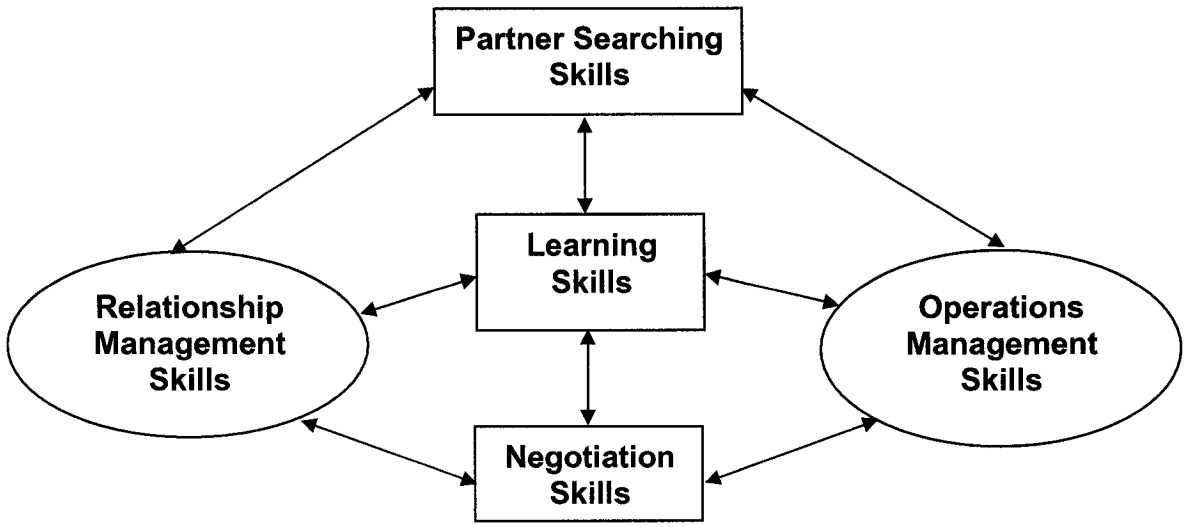


Figure IV

This model of inter-firm capabilities captures some of the complexities of collective collaboration under volatile circumstances. Basically the model proposes five dimensions of the IOCC construct. It assumes that relationships are built over time, and that operations influence much of the relationship dynamics and vice-versa, and that the kind of rules, tacit or explicit, governing the alliance have an important impact on how joint co-operation is put in place. As well, the relations-operations conceptual dyad is supported by three fundamental skills, partner searching, negotiation, and learning.

Learning skills are central to the development of other skills. Integration of activities implies allocating operational responsibilities based on partners' capabilities and operational requirements. Managing operations require managing relationships, negotiating and reaching agreements of who is doing what, when, and how are they going to be accountable. Cooperation requires coordinating logistics,

share resources, and even limiting at some point the access to crucial information. Partner-searching is a never-ending, on-going process. Firms constantly look for new learning sources and strategic opportunities, developing over time an acute ability to assess other firms in certain domains. Following there is a broader explanation of every component of the construct.

3.2.1 Collaborative Relationship Management Skills.

It refers to the capacity of firms to manage the relationship per se, focusing on issues of human interaction and relational skills. Items like trust, deal closing (not only performed at the initial stages), managing relations, conflict resolution, and renegotiation reflect the nature of some important aspects to take into account to maintain a healthy relationship. This dimension of the IOCC construct attempts to capture the effort of firms to manage constructively the differences and the convening power of partners without necessarily exercising formal authority (Gray, 1989). Actions like conflict resolution or renegotiation of initial agreements test the capacity of firms to create and agree on rules for managing their relationship, seeking constructive solutions to their operative and strategic problems. This dimension also attempts to capture the trust building capabilities of participants, based on the confidence in each others goodwill. Trust building efforts, specially if based on the moral integrity of the counterpart, produce socio-psychological bonds that lead to the emergence of mutual norms, sentiments, and friendship (Ring & Van de Ven, 1994). These sentiments as a result create the right environment for closing deals, and managing the partners' relationships. Lorenzoni and Lipparini (1999) found that relational capabilities facilitate the development of idiosyncratic alliance

based competitive advantages.

Blau (1964) affirmed that the difference between social exchange and economic exchange resides in the obligatory nature of the latter, and the discretionary nature of the former. Social exchange entails "unspecified obligations," which are "not stipulated in advance." (1964:93) Intense social exchange tends to engender "feelings of personal obligation, gratitude and trust; purely economic exchange as such does not."(1964:94) IOCBs are extra-role discretionary behaviors that drive social exchange and embody an important improvement of the social capital of the alliance. Nevertheless, in the end, inter-firm collaboration is a macro-event that involves individual decisions embedded in ongoing social relations (Granovetter, 1985), and social relations unfold as social capital increases.

Active participation in the partnership, a positive helpful attitude, and a proactive approach to anticipate miscommunication and tensions between firms are fundamental investments in social capital that allow partners to build trust, resolve conflicts and facilitate a smooth evolution of the relations between partners. Behaviors aimed to stress generosity and caring for others can result in the development of psychological contracts, informal controls, and an important decline of relational uncertainty, therefore:

Hypothesis I: Firms with high levels of inter-organizational citizenship behaviors will achieve higher levels of collaborative relationship management skills.

3.2.2 Collaborative Operations Management Skills.

This variable tries to capture some relevant competencies that are keen to the management of the alliance in terms of how partners share and integrate resources and capabilities. The operation of an alliance involves acting and deciding with an efficiency logic. Many cooperative actions and decisions involve the identification of problem domains, the prevention of potential issues, the definition of responsibilities, and the integration of resources and capabilities all around a bundle of products, processes, or services. Cooperation may become more complex and sophisticated if high levels of interdependence persist and the inter-firm relationship is change oriented.

The capacity of firms to operate the alliance is as important as the capacity of partners to get along. For instance, alliances between a firm that manages the website of the Mexico.com domain and two marketplaces were formed just after all parties proved that the partnership did obtain short term tangible results. Shared execution ability is what many partners value the most while evaluating a potential long-term partnership. In addition, some firms like Activamente (a Mexican e-business incubator) and Buen.com (an Argentine web communication and marketing consulting firm) had to learn to jointly operate the alliance through e-mail, video-conferencing, and telephone.

Operations skills involve intense coordination. The problem of internal coordination has been addressed previously by authors like Arrow (1975), Kreps (1991), and Moldoveanu (1997). These works attach various degrees of importance

to the role of intelligible and efficient communication for the achievement of successful coordinative outcomes. At first glance, coordination is one of those endemically-used terms, often ill-defined, that has pervaded a large body of the sociology, information system, and economics literature.

The set of operations capabilities that firms should develop are of two kinds, mechanisms to facilitate operations, and skills aimed to prevent disruption of operations. As important as coordination and communication mechanisms are, these are delivery channels for more advanced skills. For instance, the ability of firms to coordinate the logistics and resource transfer demands certain talents like deep knowledge of the partners or market needs, the mastery of certain information systems, or the ability of firms to foresee beyond the immediate operational implications of an action. In other words, some skills are made to act as channels to deliver some others with specialized content.

Grupo Industrial Maseca, and BIMBO, the two largest Mexican bread and tortilla producers identified skills like knowledge and skills safeguarding, exiting and profit repatriation as fundamental for the operation of their alliances in Colombia and Peru. Most of their partnerships are learning intense, international, and in a way fragile in the sense that partners are at the same time competitors in different business domains. One key issue in interfirm cooperation is the leakage of knowledge or the loss of idiosyncratic capabilities (Lorenzoni & Lipparini, 1999). The point here is that certain skills define the base for day to day operations of the alliance. For instance, profit and capital repatriation skills entail the ability of firms to build schemes into the operation that efficiently split profits through

mechanisms like price transfers or the development of investment policies were taxation systems are more responsive to the requirement of rents appropriation.

Exiting skills require not just ex-ante legal agreements but as well developed control mechanisms for detection of opportunistic behaviors embedded in different activities and actions. Organizations should have the ability not just to form alliances but as well to identify the right timing to detach from the collaborative venture as well as the right mechanisms to do so. The role of IOCBs in the development of exiting skills is threefold. First, partners with high levels of IOCBs might be able to gather more information from the partner that potentially could lead to a better assessment of the alliance development. Second, an important part of being a good partner is to accept when the organization starts to experience a downturn of performance, or to give advance notice about some potential problem in the accomplishment of expectations. Third, a genuine and constructive partnership includes observing to what extent each partner (including self criticism) is honoring the value proposition previously defined. Firms should have the enough foresight to identify and expose potential issues regarding a particular aspects of the alliance. This kind of openness and transparency might, in the short run, lead to a termination of the alliance, but it will leave open the possibility to form many more, perhaps with different partners. IOCBs should enhance the reputation and image assets of organizations by virtue of showing highly developed collaborative capabilities to the business community.

Behaviors aimed to build a social capital and layers of friendship and mutual assistance might facilitate the development of inter-firm operations skills. As

Homans (1950) affirmed, factors like emotions, personalities, interests, and associations, work together with other elements like interaction and activity to define concrete behaviors of small groups. As well, Katz and Kahn (1966) stated that essential behaviors for a functioning organization included innovative and spontaneous activities that go beyond role prescriptions, as IOCBs do. Behaviors aimed to prevent work-related problems, or keeping the partner informed of actions that will affect them may facilitate the improvement of operations skills of partners, therefore:

Hypothesis II: Firms with high levels of inter-organizational citizenship behaviors will achieve higher levels of collaborative operations management skills.

3.2.3 Collaborative Learning Skills.

Knowledge creation and transmission has emerged as a new paradigm in the study of inter-firm collaboration. Inkpen (1996), Chong, Golder, & Lee (1996), and Hamel (1991) with an international perspective, have adopted this paradigm as a way to explain the formation, operation, endurance and termination of strategic alliances. Tiemessen, Lane, Crossan and Inkpen (1996) proposed a knowledge management framework which explained how knowledge travels across all the elements of the system of interorganizational collaboration, both parents and the joint venture. They established the conditions, the structure and process and the potential outcomes, which focused on international joint venture learning. However, the Tiemessen et al. model focused just in one aspect of learning, the sharing of

knowledge.

A very important rationale for inter-organizational relationship formation is that firms form partnerships to capitalize on opportunities for organizational learning (Hamel, 1991; Kogut, 1988; Mowery, Oxley, & Silverman, 1996). Alliances have proven to be effective mechanisms of transferring knowledge across firms. Knowledge and skills are not easily acquired in the open markets, because of their tacit nature and difficult valuation (Mowery et al.). It is this tacit nature of knowledge why firms must put in place sophisticated collaborative efforts. Knowledge transfer processes, especially if the knowledge is highly tacit, require socialization (Nonaka & Takeuchi, 1995). Socialization is the process of sharing experiences and thereby creating tacit knowledge such as shared mental models and technical skills. The key to acquiring tacit knowledge is experience. Without some form of shared experience, it is extremely difficult for one person to project her-or himself into the thinking of another. Some socialization practices are off-site brainstorming camps, and the socialization with the subject of learning through observation, imitation and practice.

Nonaka and Takeuchi (1995) affirmed that tacit and explicit knowledge are not separate but complementary entities. They interact with and interchange into each other in the creative activities of human beings. The critical assumption of their model is that human knowledge is created through social interaction between tacit and explicit knowledge. They call this interaction knowledge conversion. In terms of alliances, the social interaction is between individuals from different elements of the system, partners and alliance.

Different cultures have different values and beliefs in how, where, and when it is appropriate to socialize. In Mexico, socialization is a fundamental part of business deals. Bank of Montreal CEO, Mathieu Barrett, and Bancomer CEO, Ricardo Guajardo, get together twice a year with their families for horseback riding at Barret's ranch and sailing at Guajardo's oceanside home. Japanese businessmen get to know partners at karaoke bars. Without an advance cross-cultural training, international alliances will it find difficult to attain the proper level of socialization that facilitates the sharing and learning of tacit and explicit knowledge.

Social interaction may become more effective in the presence of IOCBs. What socialization does is to build a field of interaction, which might be the inter-organizational inter-personal relationship. IOCBs can have positive effects by bringing together commonality of experiences and mental models. The basic tacit knowledge learning process is performed basically through individuals that are able to interact with some degree of closeness.

IOCBs can assist in the dissemination of knowledge from individuals to groups, then groups to organization, and organization to partners. Helping behaviors facilitate the learning by doing processes through voluntarily assisting partner employees with work related problems, or responding fast and accurately of any inquires. The dissemination of knowledge is more effective if employees of all partners attend meetings even if they are not required to go, or even voluntarily perform functions that are not required but where they have some experience to share. A permanent problem-prevention attitude may lead as well to share foresight with the partner firm in order to consider the impact of some decisions in the actual

and future performance of the alliance. Therefore:

Hypothesis III: ***Firms with high levels of inter-organizational citizenship behaviors will achieve higher levels of collaborative learning skills.***

3.2.4 Negotiation Skills.

Another aspect of collaborative capabilities is negotiation know-how (Simonin, 1991, 1997). A profound understanding of legal and taxation aspects of the deal, and the foresight to project the outcome of the partnership in terms of cash flows are elements that will always be present in the dynamics of any business alliance. The common denominator of all successful agreements is the willingness of each side to openly describe its requirements. A complete understanding of what is expected to contribute, and a realistic assessment of each partner's ability to deliver is a prerequisite to a successful relationship. Actually, it may be that the first intense interaction between firms takes place in the negotiation process, where one of the most important issues to consider is how partners will deploy their human resources across the alliance domain.

The terms and conditions of any agreement are the result of perceived requirements of parties negotiating as well as their skill. As in all negotiations, both sides must be convinced that their key needs are being satisfied and that the agreement is fair, otherwise the alliance could be jeopardized right from the beginning. Although most efforts should be spent on defining who is responsible for what, when, and how, as well, it might be worth it (an even a bit romantic) to focus in the potential risks the counterpart could face when partnering with us. It is obvious

to think that while negotiating firms will have a more selfish attitude, thinking more about themselves than about the partners. However, the presence of IOCBs could have some effects, although might just be marginal, in the development of negotiation know-how and more trustful relationships.

By being totally open and honest, firms could actually help their partner to foresee potential problems in the operation of the alliance. Helping behaviors while negotiating with partner, like transparency on your assets and capabilities position, or to assist a foreign partner in the understanding of the local culture and tax systems reflect not just maturity but foresight. Assigning the right employees to conduct negotiations without arrogance and acknowledging the rights of the partner could actually be positively linked to the intent of generating a shared goodwill, therefore:

Hypothesis IV: ***Firms with high levels of inter-organizational citizenship behaviors will achieve higher levels of negotiation skills.***

3.2.5 Partner Searching Skills.

The work of several researchers has showed that the choice of a partner may be an important variable influencing the alliance resulting performance (Beamish, 1987). Not only the choice of partner may influence alliance performance, but the partner selection process itself has frequently characterized as fraught with difficulty (Beamish, 1991). Therefore, it is critical for firms to develop an understanding not just of the mechanisms by which partners are selected, but as well to nurture the knowledge required to identify the level of influence of selection variable on the

potential outcome of the alliance.

Partner selection is as much a process as is a capability. Firms without a structured and developed processes of strategic management might struggle more to identify key attributes that might complement and fill resource gaps from potential partners than firms that do. A strategic management process is imperative to understand the so called strengths and weaknesses of firms. It is difficult enough to be able to 'Know Thyself,' let alone be able to deeply understand other firms. However, it is necessary to understand as deeply as possible the potential partner's configuration of resources and capabilities.

It is critical to assess which firms will actually deliver the benefits sought, to understand the strategic implications of choosing on firm over another, to accurately review technological and marketing capabilities, and to evaluate the likely responses of different partners to various contingencies, including critical information leaks. In this way, this research is concerned not just with the criteria by which firms will select partners, but with the mere existence of the searching know-how, in the way how potential partners are: identified; selected; and integrated as part of the long term overall collaborative strategy of the firm.

Examination of prior studies also suggests the potential for distinguishing two broad categories of partner selection criteria, namely, "task related" and "partner related" (Geringer, 1988). Task related selection criteria refers to the identification of the required resources and capabilities, intangibles and tangibles, that are related to the inputs required for the joint project. Examples of these resources and capabilities include technological know-how, distribution channels, management

skills, learning capabilities, image, patents, financial resources, or market position.

On the other hand, the concept of partner-related selection criteria covers two important issues. First, it provides the match between the required resources and capabilities required for the project and potential partner(s) (infrastructure), and second, it provides the collaboration capabilities of prospective partners relative to the firm, or in other words, the degree of compatibility (relational superstructure). Partner-related criteria may include variables like national culture, organizational culture, trust, commitment, size, bargaining power, reputation, and reciprocity.

Task related and partner related criteria requires intense data gathering processes. Firms are able to appreciate certain behaviors from their counterpart, like a positive attitude towards sharing information, transparency, concern with the needs of the firm, and enough foresight not just to identify the opportunities for co-operation, but the threats and risks that this collaboration can potentially carry, therefore:

Hypothesis V: ***Firms with high levels of inter-organizational citizenship behaviors will achieve higher levels of partner searching skills.***

3.3 Collaborative Experience

The resource-base view proposes that applied collaborative experience is fundamental to the development of collaborative capabilities through intensive learning processes. Collaborative capabilities are multidimensional and represent a set of different skills, as suggested by the dynamic capabilities theory. As well, this study suggests that inter-organizational collaborative capabilities facilitate the

innovation process by virtue of pooling different elements necessary for organizing for innovation

Firms with a history of engaging in collaborative ventures might have accumulated important amounts of know-how through learning by doing. A fundamental dimension of the learning organization is this ability to build from experience (Simonin, 1997). Experience has many dimensions, not just as a function of the number of collaborative ventures, but as well the depth and intensity, longevity, and forms of collaboration. Some alliances might involve intensive interaction, with many points of contact, coordination mechanisms and high levels of interconnectedness and interdependence. Some other alliances might just involve the split of some activities across a shared value chain or might represent not more than the access to critical resources or to an investment portfolio. Alliances like Dow Corning and Fuji-Xerox are joint ventures that stand on their own. Collaborative experience might turn itself into a competitive advantage if firms have been able to learn from their partners, fill resource and capabilities gaps, and perform better over time.

Lyles (1988) found that firms effectively change their approach and routines relative to inter-organizational collaboration based on prior experiences. Powell, Koput, and Smith-Doerr (1996) affirmed that the management of a portfolio of relational ties demands experience in recognizing different structural and functional features of a particular collaborative venture. Collaborative experience might present itself in many forms, in routines through sophisticated coordination games, or through the presence of strong personal ties. However, the danger of

collaborative experience is twofold: a) it might be knowledge that resides just at the individual level and therefore b) be highly tacit.

There is a widespread agreement that organizational learning is an adaptive change process that is influenced by past experience, focused on developing or modifying routines, and supported by organizational memory (Nonaka & Takeuchi, 1995). The expectation is that firms previously engaged in rich and diverse experiences with inter-organizational collaborative ventures will be able to capitalize the experience into the development of inter-organizational collaborative capabilities, therefore:

Hypothesis VI: ***Firm with high levels of collaborative experience will achieve higher levels of inter-organizational collaborative capabilities.***

3.4 Innovation Capabilities

Firms have diversified the sources of innovation, including not just suppliers or customers (Von Hippel, 1988), but as well partnerships and collaborative ventures. Internal R&D and other activities such as production, marketing, or distribution have benefited from inter-organizational relationships, creating richer, diverse, and more efficient paths toward the generation of innovative products and processes. As beneficial as alliances can be, any benefits from combinations and re-combinations of resources have the same origin, a robust, fluid and open relationship between individuals. Face to face interaction is imperative if there is the intent to develop innovation capabilities across organizational boundaries. Often, technology is a core competency that acts as the main asset to share and learn. The nature of technology is now much more specific, tacit, and deeply embedded in the expertise

and conception abilities of individuals. Thus, Niosi (1995) affirms that technological development requires intense collaboration, which in turn, makes alliances interactive and evolutionary learning processes.

Alliances and collaborative capabilities can bring congruence to the extraordinary efforts that innovative projects and ambitious objectives require of non-traditional strengths from partners. Innovation as an outcome of a collaborative venture might be the most complex, and ambitious objective that any alliance can have. The complexity and dynamics of innovative initiatives require multifaceted and flexible collaborative organizational forms and interaction devices.

The innovation process requires a very special symbiosis. Sophisticated interaction mechanisms will emerge as firms develop collaborative capabilities, which should have strong effects on the generation of superior innovation capabilities. The innovation process has several steps that require a superior level of collaboration, especially if conducted across organizational boundaries. Activities like technological development, the generation of prototypes, or even diffusion require permanent staffing (linking people to projects), resource transferring (isolating a task force with an independent budget) and even some negotiation (the distribution of responsibilities and control over projects) or networking people across the alliance with different domains of knowledge. The extent of the ability of firms to relate to others matters for innovation purposes, therefore:

Hypothesis VII: ***Firms with high levels of inter-organizational collaborative capabilities will achieve higher levels of innovation capabilities.***

Chapter IV Research Methodology

Too often collaboration, and particularly inter-organizational collaboration, is a topic that has been studied from a theoretical, if not subjective approach. Difficulties for conducting research about inter-firm collaboration range from small samples (less than 100 observations) to unstable measurements and aggregated effects. Longitudinal research is required to reflect the evolution of competitive driving forces that shape the nature of collaboration; for instance, the balance of power and the attractiveness of the partners.

This section discusses the survey methodology and the measurement procedures employed. The first part refers to issues related to the general approach and unit of analysis. The second covers the key informant methodology employed. The third section covers the pre-test process used. The fourth section discusses the data collection processes, as well as some characteristics of the sample. The fifth describes the operationalization and measurement of constructs and the sixth covers the method of analysis of association.

4.1 General Approach and Unit of Analysis

Hypotheses were tested using two processes: a) a cross-sectional quantitative methodology using multiple regression analysis and b) a qualitative methodology using content analysis. Perceptual data were collected through questionnaires using single key informants for the former process and a semi-structured interview was applied to 25 chief executive officers for the latter. The questionnaire was translated

to Spanish and back to English, to assure accurate translation (see Appendix A to review a questionnaire in Spanish and English). This process was conducted because all the instruments used were originally developed in English. Questionnaires represent an efficient and effective method for collecting standardized data and retrospective reports, especially in a context of geographical dispersion (Fowler, 1984). Informants are able to respond at a convenient time, and thus have the opportunity for thoughtful retrospection (Clover and Balsley, 1979).

Personal face to face interviews more effectively captured the complexities and fine points of an issue or the reasons supporting a relationship between variables. The rapport achieved between interviewer and interviewee may enhance the level of understanding of complex constructs like IOCBs or innovation capabilities.

The interviews were conducted over periods of one hour, with the following set of basic questions that were used as the interview unfolded:

a) What are the key factors that lead to the success/failure of the alliance?
b) What kind of behaviors and practices your firm has put in place in order to assure a good relationship with your partners?
c) What kind of behaviors and practices has your partner put in place in order to assure a good relationship with your firm?
d) What kind of behaviors and practices has your firm put in place in order to jeopardize a good relationship with your partners?
e) What kind of behaviors and practices have your partners put in place in order to jeopardize a good relationship with your firm?

f) Do you think that a good relation is fundamental to attain the objectives of the alliances?

g) What kind of behaviors do you find destructive for the alliance ?

h) To what extent was the alliance a factor in developing or fostering innovation in your firm?

i) What would be the most important collaborative skills firms must develop in order to assure alliance success?

j) What would you do differently if you could set-up your current alliance again?

k) What is most important, being compatible or to be a complement of each other?

l) Of the alliance formation process, setting-up, management, and termination, which step you find more difficult and why?

All the questions were designed to address either directly or indirectly some of the constructs. Appendix D illustrates some of the concepts that resulted of the interviews organized by industry and related construct. This information was used to complement the quantitative results and to assist in the process of interpretation of results.

The unit of analysis is the organization involved in the alliance, since the constructs under study refer to behaviors or skills that affect the management of inter-organizational collaborative forms from an organizational perspective. The measures proposed refer to the perceptions of a) the organization in terms of its own behavior directed to another partner, and b) the self-perception of the

organization in terms of certain collaborative and innovation attributes relative to knowledge, skills, or experience. These perceptions were captured through self-evaluation reports which brings potential research limitations like perceptual agreement problems, informant competency, and common method variance.

Another important issue for the sampling frame is finding the middle ground in terms of both heterogeneity and homogeneity of the respondent population. Broad heterogeneity may diminish the validity of the study, while a very homogeneous sample may limit the external validity of the study (Cook and Campbell, 1979). Therefore, the scope of the study was reduced in terms of two partner characteristics, nationality and industry. For this study, three industries accounted for almost 80% of the total convenience sample: banking (10%), pharmaceutical/chemical (40%) and computing/telecommunications (29%).

Table II

G r o w t h R a t e (%)

Source	**Industry**	**1997**	**1998**	**1999**	**2000**	**2001**
CANACINTRA **	Pharmaceutical	2.3	1.5	1.5	0.7	-0.9
INEGI ***	Chemical	1.4	0.34	-2.4	-1.2	-5.7
SE ****	Computing	na	na	3.7	6.8	9.9
INEGI	Telecomm	9.7	6.34	6.3	4.9	2.7
INEGI	Banking	3.7	4.7	3.6	5.2	4.1
INEGI GDP	Mexico	6.7	5.03	3.75	6.85	-0.3

** National Chamber of Manufacturing Industries

*** Mexico's National Institute of Statistics, Demography, and Information

**** Minister of Economy

Table II indicates how the dynamics of different industries vary relative to the gross domestic product of the country. As can be observed, these industries are very dynamic, with economics that are driven fundamentally by innovative initiatives and therefore prone to form the kind of alliances that is necessary for this study. These industries were chosen because they have the following features:

a) global scope

b) high rates of technological development

c) constant Innovation

d) intense competition

e) empirical evidence of intensive use of alliances

It is important to avoid a bias towards industries with just positive growth and vice-versa. An interesting characteristic of a developing country like Mexico is its dependence on only few industries like chemicals and petrochemicals for its development and economic growth. However, despite the overall negative growth for Mexico in 2001, several of the industries studied experienced important growth. It is important to notice that the research data was collected in 2000, when there was still a worldwide economic boom.

4.2 Key Informants Methodology

Key informants methodology was chosen for the research for the following five reasons:

a) because the specificity of the research required informants with deep knowledge of the issues under study rather than respondents
b) limited access to narrow alliance management expertise in a country lacking a research culture like Mexico,
c) very limited access to a broad set of respondents per alliance
d) to avoid the effects of asymmetries in perceptions
e) there is empirical evidence about the validity and reliability of this methodology in many studies related to alliances

Relying on key informant accounts is appropriate when the content of inquiry is such that complete or in-depth information cannot be expected from representative survey respondents (Anderson & Weitz, 1992). Respondents describe their personal feelings, opinions, and behaviors, and differ in terms of their relative knowledge of the issues under study. On the other hand, informants generalize about patters of behavior, after summarizing either observed (actual) or expected (prescribed) organizational relations (Seidler, 1974). Informants, and in this case firm managers, have been exposed to alliance issues by virtue of their position and tasks performed over the life of the alliance. The access to these experiences and interactions with partners at the alliance management level is overall restricted to a few individuals.

Other studies support the use of single key informant strategy. Pearce, Robbins and Robinson (1987) found that self-reporting produced reliable data and represented a reliable and valid method for business policy research. Additionally, the results reported by John and Reve (1982) offer empirical evidence suggesting

that single key informants were a source of reliable and valid data on the subject of inter-organizational relationships To diminish the effects of asymmetries in perceptions, Kumar, Stern, and Anderson (1993) suggest the use of key informants.

There are some trade-offs to be taken into account when using this methodology. The lack of information, not just from several respondents per firm, but from all alliance partners does not allow the corroboration of perceptions and validity testing (Jap, 1995). However, when data have been collected from multiple informants in inter-organizational relationship research, reports often failed to demonstrate high levels of perceptual agreement (e. g. Anderson & Narus, 1990). Researchers also recognize the difficulties associated with gathering such data (Anderson & Weitz, 1992).

Staw (1975) raised some questions about the dependence on perceptual data and the single key informant approach. He argued that respondents base their answers on their own understanding of the phenomenon under study. Systemic biases may be present in key informants' respondents that can cause over or under reporting (Phillips, 1981). There are some factors like the informant's position or job satisfaction, or even some social desirability could affect responses. Generalization of results or even subjectivity might contaminate the perception of key informants. Furthermore, common method variance might also constitute a threat to the validity of results.

Recognizing these concerns, several actions were taken to minimize risks of biases and threats to validity. The questionnaire was organized and the questions formulated in ways that tried to minimize causal attributions and the impact of

implicit theories. In the questionnaire, dependent and independent variables were mixed, and key informants were asked to gather information from other sources if there was uncertainty about some issues. As well, objective data was gathered like size and type of alliance from secondary sources when possible.

Figures IV illustrates that all the questionnaire respondents (140) have an acceptable knowledge about the alliance and the partner, with a cutoff point of 4 out of 7 on a Likert scale. This cutoff point has been used in other alliances studies (Simonin, 1997).

KNOWLEDGE ABOUT ALLIANCE AND PARTNER

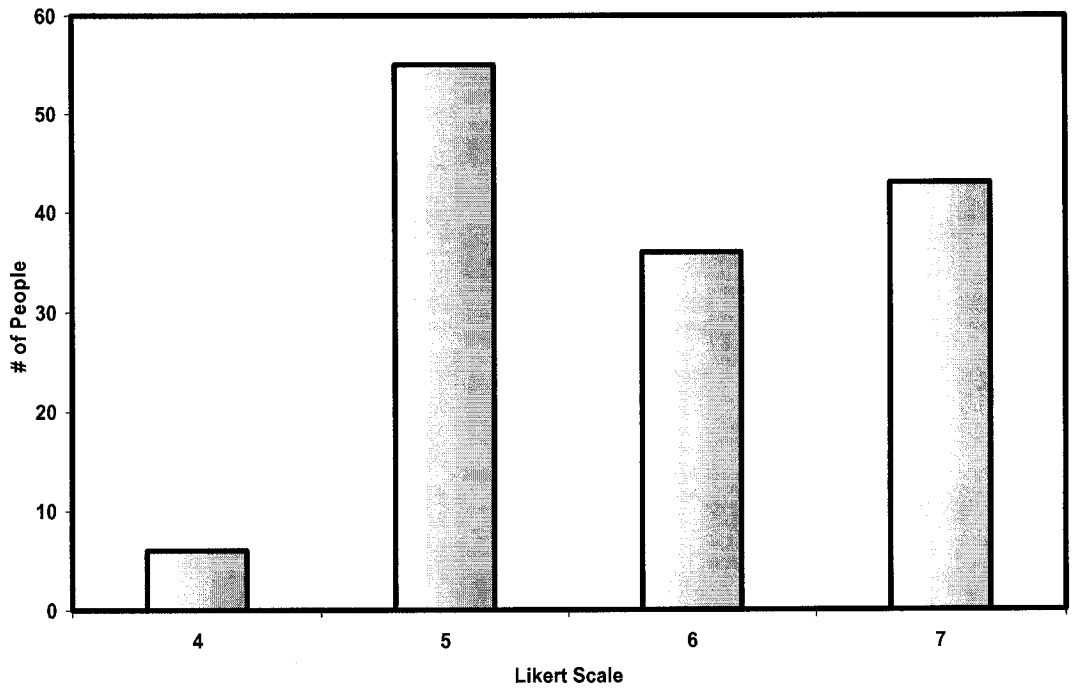
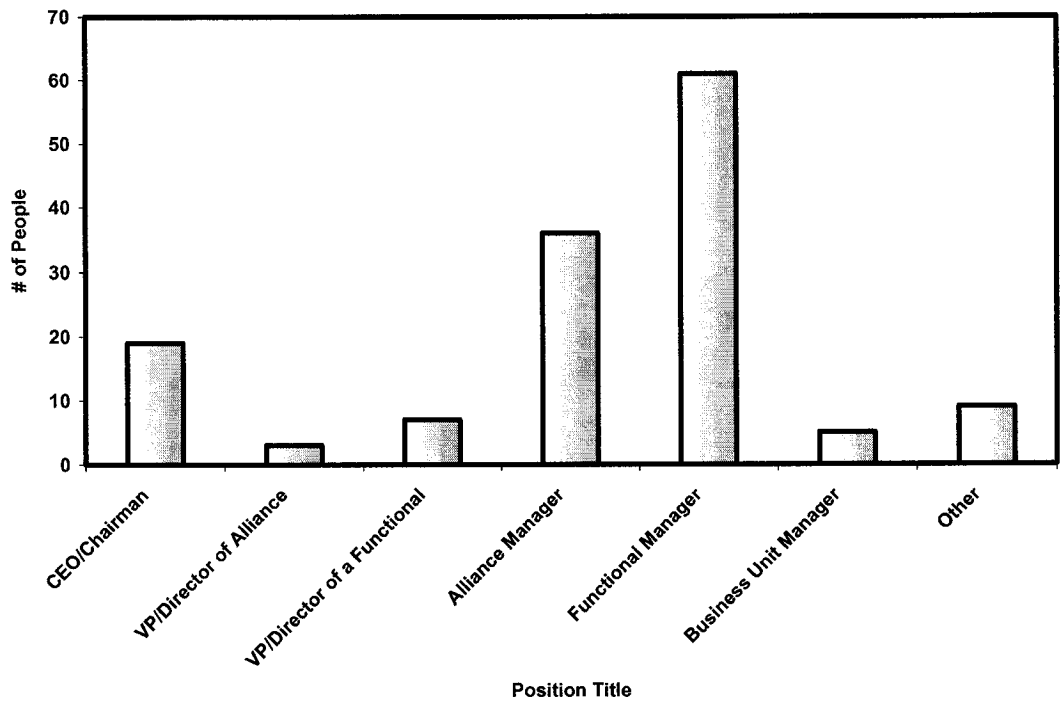


Figure V

As well, as figure V illustrates, all key informants have management positions. As informants are reasonably close to the alliance formation and development, and as they are part of the management structure, this gives some assurance about the

WHICH TITLE REPRESENTS YOUR POSITION AT YOUR FIRM?



kind of exposure they have of alliance issues. It is expected that a manager involved in the alliance should have a broader spectrum of alliance issues than employees operating at a lower level, particularly in issues relative to relationship formation, skills formation, and development of innovation capabilities.

4.3 Pre-test Process

Although the unit of analysis is an organization involved in alliance activity, alliances are elusive collaborative structures. Alliances have high birth and mortality rates, with exceedingly inconsistent longevity. A sampling frame is difficult to put in place because there is not a listing or directory of existing alliances neither in Mexico nor in any country in the world. Therefore, it is very difficult to aspire to a true probability sample. Also, there are classic complications with the data caused by self-selection and survival predisposition (Lambe, 1998). It is difficult to survey failed alliances; hence samples are usually less representative of the population of dysfunctional alliances. This may produce some homogeneity in the alliances with most of them claiming that they are "well run" which may not generate enough variance to produce significant results.

The data collection process overall was an interesting challenge. Once relevant industries were identified based on acceptable levels of dynamism and evolution, a list of potential firms was prepared using diverse sources, like the Mexican stock market, local chambers of commerce, industrial associations and embassies. Around one thousand firms were identified that fulfilled at least three out of the five characteristics listed before (see paragraph below table III). The expected response rate was between 15% and 20% based on previous results of diverse studies. Once firms were identified, it was necessary to investigate the name of potential informants within each firm, addresses, position, telephone, and e-mail.

A data-base was built with data of around 1,500 contacts. A pilot study was conducted during the summer of 2000 to assess the data collection instruments and

procedures. A random sample of 10 organizations currently involved with alliances was carried out in the metropolitan area of Mexico City. Key informants in these firms were visited to conduct personal interviews. Before the semi-structured, one hour interview, they were asked to complete the initial version of the questionnaire. Individuals were asked to comment on the data collection approach, the questionnaire structure, content, length, and format. They confirmed the validity of the topic in terms of the relevance and the potential insight that results might offer for the improvement of inter-organizational collaboration capabilities and innovation.

The comments made by the key informants resulted in changes that did not entail a modification in the scales, or the content of the research variables. Since the final questionnaire was only marginally different from the initial questionnaire and a random sample was used, data from the pilot sample was included in the main sample. Different t tests were conducted to verify potential differences between the pilot and main samples, no significant differences were apparent.

4.4 Data Collection Process

Questionnaires were sent by normal mail and electronic mail with a letter explaining the research project, and a confidentiality agreement. Mailing questionnaires to potential key informants proved to be a dreadfully poor method to gather data. Follow up phone calls showed that, in general, many Mexican managers were hesitant to share this kind of information without further explanation of the purpose and an institutional safeguard about how the information will be treated, even though there was a letter of confidentially backed up the university' s

letterhead. Since hard copy questionnaires arrived through the mail in a university envelope, managers took between one or two months to open it and realize that it was not promotional material.

It is important to notice that the context under which this study was conducted differs in many ways from other studies. Mexico is a country where research is better conducted with an interactive approach. Managers must feel that they are not answering a questionnaire, but rather providing relevant information to a person that they had already met face to face. To overcome these problems, the researcher personally delivered 47 questionnaires and explained the objective of the research to the respondents, and also the seriousness of our intention of honoring confidentiality. Conducting research in Mexico is complicated to say the least. Mexican firms and even Mexican subsidiaries from large multinational firms lack a research culture, where persuading firms to grant access becomes an issue of leveraging the social capital of the institution and exploiting the personal networking of many people.

Follow-up phone calls and visits were made on a weekly basis getting around 54 questionnaires out of 1,000. Still the sample was not big enough due to the number of variables involved in the study (15). The sample size needed was at least 150, following the rule of 10 observations per variable (Hair, Anderson, Tatham, and Black, 1998).

Another data gathering strategy was put in place. Complimentary short seminars on alliance management were organized through a local university directed to top executives of firms from the same five industries already proposed.

This invitation was issued from the office of the rector, as a proof of the seriousness and institutionalization of the event. The response was satisfactory. Eight short seminars were offered, with an average attendance of 40 executives. Executives were asked to voluntarily answer the survey, stressing the confidentiality issues and the objective of conducting research in Mexico. They answered the survey before the seminar was given to avoid any potential systemic bias due to the content of the seminar. This strategy for data gathering attracted executives interested in the alliance phenomenon, as well as alliance managers and personnel involved in the operation of inter-firm ventures. I obtained 240 questionnaires out of 315 that were distributed at the seminars, of those, 80 were usable (33%), another 6 came from personal contacts with top executives; added to the 54 that came from the original mailing gives a total of 140 usable questionnaires. The reason of such a low rate of usable questionnaires is because the respondents did not match with the required profile.

An important effort was put in place to assure enough variance and validity in a representative sample. The importance of a more general sample is threefold. First, alliances with different cooperative objectives and forms may experience dissimilar interaction dynamics, however, the relationship variables are the same (Hoyle 1995). Second, even with different dynamics, Hoyle argued that relationship variables should have the same directional effects, with possibly varying magnitudes. Third, a more general sample enhances the external validity of the results.

It is also necessary to explore whether or not the two different procedures of data gathering may have produced systemic bias. The first survey procedure was an arms-length one, with responses arriving through the mail, in which the respondent was not physically at the university and there were no time constraints. The second was a general request to respond on paper, within a group having some expectations about receiving training on alliance management. A t-test was performed suggesting no evidence of systemic bias.

All data was entered into SPSS. Frequency analysis and visual inspection were conducted to identify input and potential coding mistakes. One variable, sportsmanship, was reversed and recoded when factor scores were required. These procedures revealed that the data collected included a very low number of missing data points, attributable to the fact that the letter stated clearly that it was important that all questions be answered. In any case, if many answers were missing the questionnaire was discarded. A visual check was performed in the presence of the respondent to verify that no data was missing immediately after gathering the answered questionnaires. When data was indeed missing a substitution approach was employed. This approach minimized the impact of replaced values on the distribution of the variables, and therefore reduces the possibility of damage the quality of the data. For a review of the descriptive statistics and normality tests please refer to Appendix B.

4.5 Operationalization and Measurement of Constructs

For every construct proposed in the conceptual model, indicators were proposed that have been previously tested and accepted as reliable measurements. For hypotheses I through V, IOCBs and collaborative experience are independent variables where every variable of the construct inter-organizational collaboration capabilities (IOCC) represents a dependent variable. Hypothesis VI considers IOCC as a dependent variable in the form of a first order construct. Hypothesis VII considers IOCC as the independent variable and innovation capabilities as the dependent variable.

In the case of inter-organizational citizenship behaviors, an adaptation to Podsakoff et al. (1990) was required to move the unit of analysis from within the organization towards the interaction with partners. In other words, the inter-organizational dimension was included in the measures. A group of ten management professors was asked to discriminate a list of questions between the original OCB construct metrics (which explore intra-organizational behaviors) and the new IOCB construct metrics (which explore inter-organizational behaviors). The questions were mixed in no particular order. In all cases the grouping was 100% accurate proving that the construct had content validity relative to the inter-organizational level of analysis.

4.5.1 Construct: Inter-Organizational Citizenship Behaviors.

The factors for this construct were taken from Organ (1988a) and later refined by Podsakoff et al. (1990). It is important to underline the fact that the internal consistency reliabilities were taken from the original measurement and that IOCBs'

role in this research as an independent variable. Since this is an adaptation of the measures to an inter-organizational context, a confirmatory factor analysis was performed loading the following 4 items:

Variables

- **Civic Virtue** (α=0.7): Discretionary behavior that indicates that the organization responsible participates in, is involved in, or is concerned about the life of the alliance, e.g. attending important but non-mandatory meetings; keeping abreast of changes in the alliance.
- **Altruism** (α=0.85): Discretionary behavior that has the effect of helping key players of the alliance (either the partner's employees or their own employees) with an alliance relevant task or problem.
- **Sportsmanship** (α=0.85): Willingness of the organization to tolerate less than ideal circumstances, in the context of the alliance, without complaining; to avoid complaining about petty grievances, and protest against real or imagined slights.
- **Courtesy** (α=0.85): Discretionary behavior by the organization aimed at preventing work-related problems with partners from occurring; mindful of the effects of the organization's behavior on the partner; not abusing partner's rights.

4.5.2 Construct: Collaborative Experience.

This two multiple-item scale is taken from Terpstra and Simonin (1993) and Simonin (1997). In both cases, the authors did not report the alpha, however, they

affirmed that the composite reliabilities ranged from 0.9 to 0.95 and all the Cronbach's (year) alphas were greater than 0.7, satisfying Nunally's (1978) minimum criterion for internal consistency. Collaborative experience is an independent variable.

Variables:

- **Experience with collaborative structures** This variable represents the level of experience in five different collaborative forms (informal cooperation, contractual agreements, equity joint ventures, equity purchase/swaps, and consortia) on a seven-point scale for each form (1=not at all, 4=moderate, 7= a great deal).
- **Experience with functional collaboration** This variable reflects the level of collaborative experience with the following ten different functional collaborative modes across the value chain: joint research, joint product development, joint production, joint marketing, licensing and cross-licensing, manufacturing arrangements and subcontracting, distribution and cross distribution, after-market servicing, franchising, and barter and countertrade.

4.5.3 Construct: Inter-Organizational Collaborative Capabilities.

The items comprising this construct were taken from Simonin (1997). He proposed a set of 20 measures developed through the literature review and pre-test stages. These items were selected because they group a set of skills that theoretically include and represent the most pervasive issues, in the form of skills, of

the collaboration literature. Simonin claims that these 20 items cover a broad spectrum of alliance issues, ranging from alliance formation to alliance management and termination. IOCC items act as dependent variables for hypotheses I through V, and the IOCC construct as a dependent variable for hypothesis VI and an independent variable for hypotheses VII.

Factor analysis resulted in 5 items with the following grouping:

Variables:

1. *Collaborative Relationship Skills*
    a) Building trust with the partner
    b) Managing alliance-parent company relations
    c) Conflict resolution
    d) Closing the deal
    e) Renegotiating initial agreements
2. *Collaborative Operations Skills*
    a) Understanding strategic implications of collaborating
    b) Logistics and resource transfer
    c) Knowledge/skills safeguarding
    d) Profit or capital repatriation
    e) Exiting from the alliance
3. *Partner-searching skills*:
    a) Partner selection
    b) Partner identification
    c) Negotiations
    d) Technological assessment
4. *Negotiation skills*
    a) Legal aspects
    b) Estimating asset values and future cash flows
    c) Tax aspects
    d) Staffing (recruiting, training, rewarding, rotating)
5. *Learning skills* (2 items):
    a) Cross-cultural training
    b) Knowledge/skills acquisition

4.6 Construct: Innovation Capabilities

This construct is based on Dougherty's (1998) study of organizational capacities for product innovation. Hypothesis VII is based on the expectation that

inter-organizational collaborative capabilities actually improve the performance of the dependent variable innovation capabilities. Based on theoretical assumptions, I expect to find three factors that will reflect the main dimensions of organizing for innovation. This measurement has not been used before, therefore it was necessary to perform the usual tests of face validity (pre-test), verify reliability levels through Cronbach's alpha, as well as verify if factor loadings are significant (t-value). A pre-test process was conducted with a panel of five experts on product development and management: one management professor, one marketing professor, one marketing manager, and two process engineers from three large multinationals distinguished by their innovativeness. They were asked to relate the different items, mixed randomly to the variable under study. The panel was in 89% accurate in grouping the correspondent item to the required variable.

Variables:

- ***Market-Technology Linking***: This includes four items, each item reflects the possible development or improvement of linking activities at different "locales of practice:" a) creation of knowledge about user needs and values, b) link new and old products with the market, technology, and operations domains, c) synchronize the organizations with both the market and its technologies, and d) connect the organization with its external environment.
- **Task-to-Task Linking**: This variable includes three items: a) multifunctional collaboration, b) networking of different domains of

knowledge across the organization, and c) linking different teams of people with specific products and markets.

- **People-Project Linking:** This variable includes four items: a) collective accountability, b) context of work that encourages creativity, c) eliminates impediments to innovative work, such as internal politics, destructive internal competition, or risk avoidance, and d) inclusion of people in strategic conversations.

Control Variable: Firm size. Firm size has been considered a key impediment to organizational learning (Marquardt & Reynolds, 1994) and a determinant of alliance participation (Hagedoorn & Schakenraad, 1994). It was measured through two items: total sales and number of employees. Size may improve the chances to learn and develop inter-organizational relational and operative expertise.

Control Variable: Type of industry. Different sectors have different rationales for alliance formation. Theses differences establish several patterns of collaboration that demand different degrees of development in terms of relationship management skills, operations management skills, or even partner searching criteria. Pharmaceutical alliances tend to last around 5 years, and have mostly face-to-face interaction, where in the e-business sector, alliances might last just months, and the interaction is sporadic and conducted mostly through asynchrony long-distance interaction. An important implication is that for the computing and e-business industry the speed and agility to form alliances and the ability to handle many alliances at the same time is more appreciated than in any

other industries. As well IOCBs might be less prone to develop in long distance relationships.

Control Variable: Partner's nationality. National culture might shape the kind of behaviors and prejudices that people have over collaboration, and overall, over the propensity of the firm to trust, to honor commitments, or to individualize interests.

4.7 Statistical Procedures

A multivariate analysis was conducted that included factor analysis and multivariate analysis of association as presented in Appendix C. There are three popular methods in the social sciences which is possible to study the pattern of association among variables: structural equation modeling, path analysis, and multiple regression analysis. Structural equation analysis is seen as an attractive technique because it combines a measurement model with a structural model. It was preferable to do most of the analysis at a variable level and not at a construct level in order to have a more detail perspective at a variable level vs. a construct level. However, it is useful to use structural equation modeling (SEM) in this case as well, since the study is testing relationships between observed and latent variables. SEM provides information about potential causality between constructs. It is necessary to conduct a SEM analysis since this study is using first order constructs in combination with variables. SEM was used as a complementary statistical procedure which can be reviewed in Appendix E. Multiple regression analysis was chosen as well because it clearly reflects the importance of each variable and assesses the nature of the relationship between independent and dependent

variables. Additionally, multiple regression analysis provides insight into the relationship among independent variables in their prediction of the dependent measure (Hair et al., 1998).

Chapter V Construct Validity and Preliminary Data Analysis

This study includes Mexican firms operating in industries including: pharmaceutical and biotechnology; computers and software; banking; and telecommunications. The vast majority of alliances studied had either North American partners (77.8%) or Western European partners (21.4%) from a sample size of 140 firms. A relevant characteristic of this sample is that 71.5% of the alliances were still operating at the time of the survey, while 21.4% terminated between 1995 and 2000, and 7.1% terminated between 1990 and 1994, therefore, a greater portion of the respondents should have a fresh recall of the issues under study.

In addition, 72 respondents (51.4%) reported that they were considered the *alliance manager*, supporting the key informant reports used in this study. It is interesting to note the dominance of functional managers running or being intimately involved in inter-organizational collaboration duties.

The sample attempts to generalize across several alliance characteristics, like size using sales and number of employees (Figure VI and VII), types of alliance structural forms (Figure VIII) and types of inter-firm cooperation (Figure IX).

ANNUAL SALES

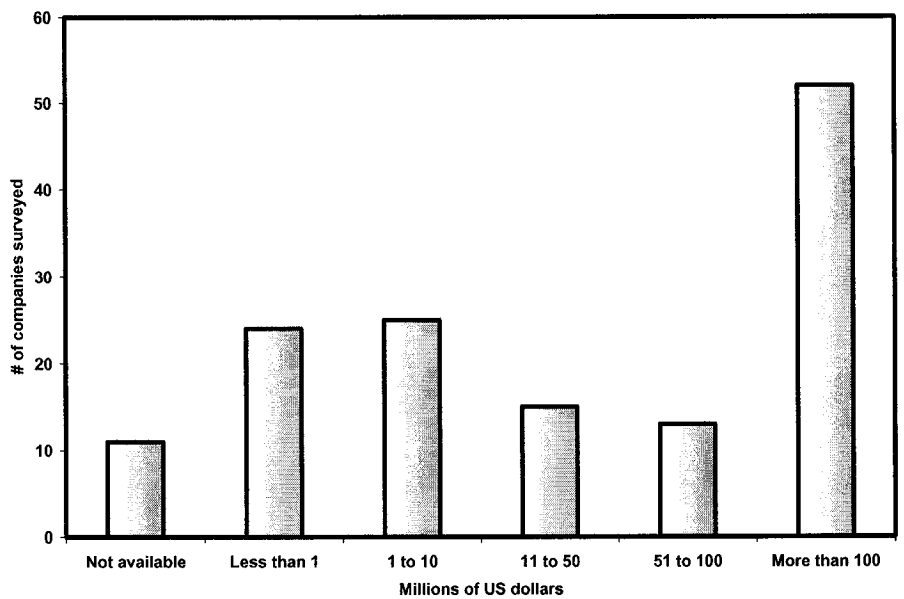


Figure VI

FIRM SIZE BY NUMBER OF EMPLOYEES

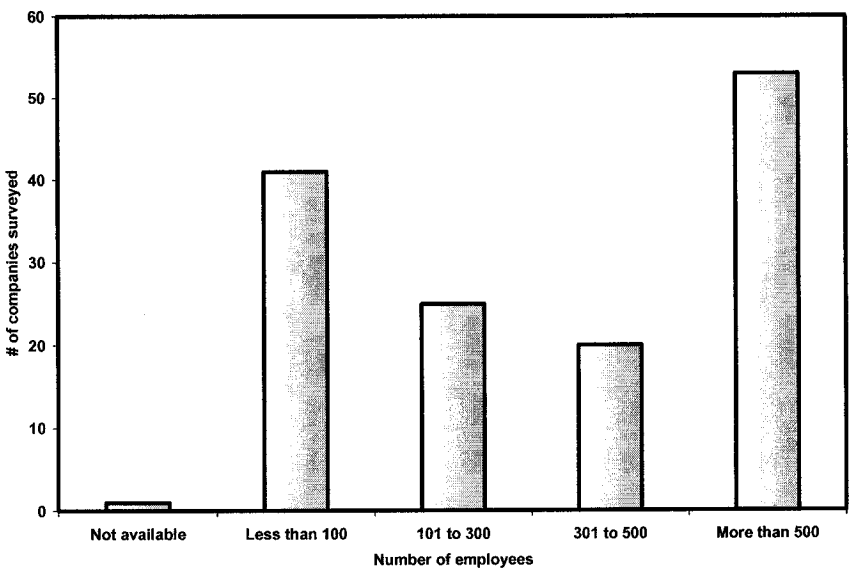


Figure VII

STRUCTURAL FORMS OF INTER-FIRM COOPERATION

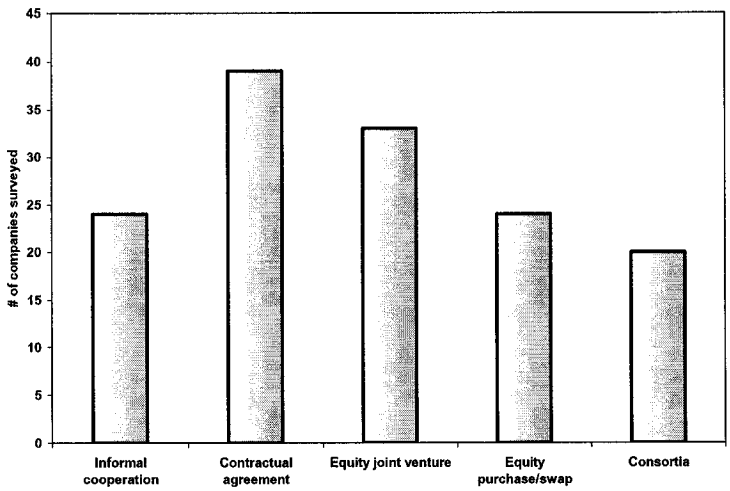


Figure VIII

TYPES OF INTER-FIRM COOPERATION

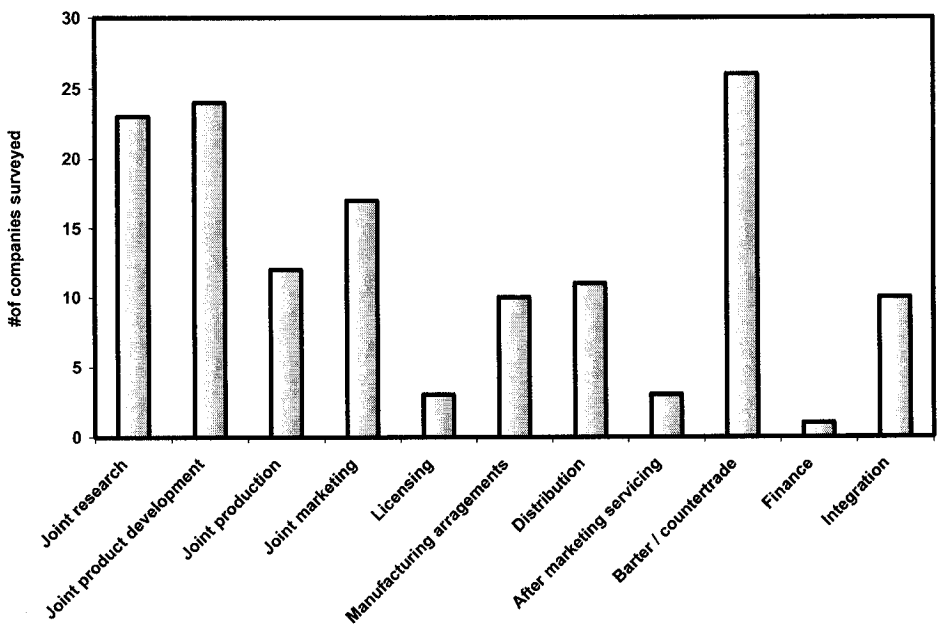


Figure IX

To test the assumptions of generalization an examination of the data was performed focusing on the means and standard deviations that the five different forms and eleven types of alliances included in the sample had for the factor scores computed for the main three constructs of the conceptual model: IOCBs, IOCC, and Innovation Capabilities. Tables III and IV indicate that both means and standard deviations for structural collaborative forms and types of alliances seem to be similar.

Table III

MEANS AND STANDARD DEVIATIONS COMPARISONS

Structural forms of inter-firm cooperation

	IOCB		IOCC		Innovation Cap	
Variable	**Mean**	**s.d.**	**Mean**	**s.d.**	**Mean**	**s.d.**
Informal cooperation	3.58	2.55	3.58	2.48	3.59	2.42
Contractual agreements	4.17	2.42	4.17	2.40	4.18	2.45
Equity joint venture	3.87	2.62	3.87	2.37	3.88	2.40
Equity purchase/swap	3.69	2.79	3.69	2.57	3.66	2.68
Consortia	3.70	2.60	3.70	2.36	3.69	2.45

Table IV

MEANS AND STANDARD DEVIATIONS COMPARISONS

Types of inter-firm cooperation

	IOCB		IOCC		Innovation Cap	
Variable	**Mean**	**s.d.**	**Mean**	**s.d.**	**Mean**	**s.d.**
Joint research	4.33	2.30	4.33	2.04	4.31	2.00
Joint product devel.	4.67	2.39	4.67	2.09	4.65	2.08
Joint production	4.17	2.51	4.17	2.36	4.15	2.29
Joint marketing	4.47	2.39	4.47	2.15	4.46	2.20
Licensing	3.44	2.57	3.44	2.35	3.41	2.21
Manufacturing arrang.	4.38	2.51	4.38	2.31	4.36	2.40
Distribution	4.47	2.49	4.47	2.29	4.46	2.42
After market serv.	4.42	2.33	4.42	2.22	4.41	2.31
Franchising	2.35	2.10	2.35	1.91	2.32	1.94
Technology Trans.	4.40	2.48	4.39	2.51	4.38	2.37

A one-way ANOVA showed that across both alliance characteristics, form and type, no severe systemic differences exist between factor scores at an alpha level of 0.01 as shown in Table V and Table VI.

Table V

One-Way ANOVA Alliance Structural Forms

INTER-ORGANIZATIONAL CITIZENSHIP BEHAVIORS

	Sum Square	df	Mean	F	Sig.
Between	1.048	4	0.262	0.256	0.905
Within	137.95	135	1.022		
Total	139.00	138			

INTER-ORGANIZATIONAL COLLABORATIVE CAPABILITIES

	Sum Square	df	Mean	F	Sig.
Between	4.675	4	1.169	1.175	0.325
Within	133.32	134	0.995		
Total	138.00	136			

INNOVATION CAPABILITIES

	Sum Square	df	Mean	F	Sig.
Between	7.600	4	1.900	1.953	0.105
Within	129.4	133	0.973		
Total	137.00	137			

Table VI

One-Way ANOVA Types of Alliances

INTER-ORGANIZATIONAL CITIZENSHIP BEHAVIORS

	Sum Square	df	Mean	F	Sig.
Between	11.52	10	1.153	1.167	0.319
Within	127.47	129	0.988		
Total	139.00	139			

INTER-ORGANIZATIONAL COLLABORATIVE CAPABILITIES

	Sum Square	df	Mean	F	Sig.
Between	19.01	9	2.112	2.292	0.051
Within	117.98	128	0.922		
Total	137.00	137			

INNOVATION CAPABILITIES

	Sum Square	df	Mean	F	Sig.
Between	19.96	10	1.996	2.165	0.055
Within	118.03	128	0.922		
Total	138.00	138			

A preliminary data analysis follows focusing on issues like normality assumptions, reliability of measurement and construct validity. Some issues about aggregation methods and the approach to data analysis are discussed as well.

5.1 Normality

The most fundamental assumption in multivariate analysis is normality, referring to the shape of the data distribution for an individual metric variable and its correspondence to the normal distribution. If the variation from the normal distribution is sufficiently large, all resulting statistical tests are invalid, as normality is required to use the F and t statistic. Several statistical tests were performed to asses normality as well as graphical analyses. Skewness and kurtosis, as well as the Kolmogorov-Smirnov test of normality were performed for every variable. Statistical z value of skewness and kurtosis exceeding 2.58 (absolute value) at a 0.01 probability level are indicators of a non-normal distribution. Of all the variables used in the study, 10 out of 16 needed some kind of transformation. Transformations required were mainly the squared of the item value, and one squared root. In addition to the statistical tests, visual checks were conducted using normal probability plots and box-plots.

Reports of graphical analysis of normality, including the normal probability plot, histograms, and box-plot graphs for both, the untransformed and transformed variables, as well as the statistics are available for consultation.

5.2 Reliability

As a preliminary data analysis, the reliability assessment of each theoretical construct with all its proposed measures (to be included in model testing) was performed. This complete examination offers some initial information of the behavior of measurement models, and helps to point to problem prone constructs and questionable measures. Nunnally (1978) suggests that reliability measures should exceed 0.7. Cronbach's alpha (1951) is used to determine internal reliability. Table VII reports the value of the Cronbach's alpha for which all but one have values over 0.7, along with the correlation values, means, and standard deviations of all variables.

Cronbach's alphas for each construct using factor scores as the aggregation method were performed, showing in all cases values well above 0.7 . All constructs and variables showed alphas larger than 0.7, as well as Cronbach's alpha if deleted (CAD) consistently lower at the item level than the total alpha reported at the variable level. For instance, altruism reported an alpha of 0.8022, courtesy 0.7824, relationship management skills 0.9134. There are some variables, like sportsmanship, where CAD of one item was better than the alpha of the whole variable but for less than 0.01. No major improvement in reliability is achieved by discarding any one particular measure at a construct level, only minor differences exist.

Table VII

Means, Standard Deviations and Correlations

	Variable	Cronb α	Mean	s.d.	X 1	X 2	X 3	X 4	X 5	X 6	X 7	X 8	X 9	X 10	X 11	X 12	X 13	Y 1	Y 2
X 1	Altruism	0.8022	4.12	1.53															
X 2	Sportmanship	0.7663	1.64	0.38	-0.24														
X 3	Civic virtue	0.7807	22.3	12.13	0.364**	-0.13													
X 4	Courtesy	0.7824	4.53	1.45	0.516**	0.049	0.465**												
X5	Experience Functional																		
	Collaboration	0.842	4.22	1.35	0.05	0.027	0.042	0.155*											
X 6	Experience Structural	0.6275	3.64	1.28	0.005	0.013	-0.027	0.125	0.349**										
	Collaborative Forms																		
X 7	Annual sales		3.29	1.75	-0.013	0.194*	-0.079	0.029	0.339**	0.354**									
X 8	Employees		0.49	0.3	0.046	-0.158	0.061	0.127	-0.155	-0.241	-0.67								
X 9	Relationship																		
	Management Skills	0.9134	29.07	12.08	0.228	-0.282	0.243**	0.237**	0.245**	0.240**	0.107	0.017							
X 10	Operations																		
	Management Skills	0.847	25.56	12.14	0.266**	-0.01	0.218**	0.243**	0.309**	0.249**	0.282**	-0.24	0.558**						
X 11	Negotiation Skills	0.8335	27.83	12.81	0.241**	-0.083	0.116	0.241**	0.385**	0.352**	0.350**	-0.257	0.556**	0.568**					
X 12	Partner Searching Skills	0.8261	30.54	11.98	0.231**	-0.11	0.238**	0.175*	0.296**	0.255**	0.216**	-0.06	0.501**	0.545**	0.595**				
X 13	Learning Skills	0.786	4.60	1.48	0.313**	-0.161	0.160*	0.244**	0.334**	0.230**	0.199**	-0.232	0.594**	0.663**	0.502**	0.494**			
Y 1	Market to Techonoly Linking	0.8371	26.37	12.40	0.244**	-0.071	0.138	0.377**	0.334**	0.289**	0.185*	-0.083	0.339**	0.392**	0.407**	0.402**	0.394**		
Y 2	Task to task Linking	0.8409	26.06	13.19	0.360**	-0.068	0.177*	0.339**	0.302**	0.129	0.097	-0.077	0.348**	0.380**	0.414**	0.343**	0.552**	0.734**	
Y 3	People to Project Linking	0.8714	25.78	13.39	0.297**	-0.292	0.251**	0.224**	0.246**	0.148*	-0.033	-0.008	0.423**	0.421**	0.395**	0.314**	0.417**	0.616**	0.712**

** Correlation is significant at the 0.01 level (1-tailed)

* Correlation is significant at the 0.05 level (1-tailed)

5.3 Construct Validity

Construct validity is the extent to which an instrument measures the construct it is supposed to measure. Construct reliability is the extent to which an instrument measures the construct it is supposed to measure in a consistent manner. Before conducting multivariate regressions, measurements must be evaluated to determine if it exhibits satisfactory levels of reliability and discriminant validity.

Stone-Romero (1997) affirmed that overall, construct validity is threatened by operational definitions that a) are biased, b) underrepresented the focal construct, and c) lack reliability (p. 158). In order to attempt to neutralize these threats, several actions were taken.

In order to avoid bias in measures, the three focal constructs, IOCBs, IOCC, and Innovation Capabilities were conceptually compared with similar constructs developed across the literature in order to identify any potential confusion and avoid conceptual overlaps. Neither was there any single-item measurement, and as the factor analysis demonstrated, all constructs are multidimensional trying to cover as many facets as possible. Finally, satisfactory levels of systemic variance were found in the measurements (see section 5.1).

For the construct Inter-organizational collaborative capabilities a nomological network was specified in section 3.1 figure III supporting its constitutive definition. This was necessary, because although the items were taken from the study published by Simonin in 1997, factor analysis tends to be sample specific. Simonin's sample and this sample differ in terms of size, nationality, context, and industries.

Convergent validity, which represents the extent to which maximally different attempts to measure the same concept converge, was examined by observing the significance of factor loadings (t-values greater than 2) and the shared variance by a construct, which should be greater than the amount of measurement error (Cool, Diedricks, and Jemison, 1989). Similarly, discriminant validity, the degree to which a construct differs from others, was assessed by comparing the amount of variance shared between that construct and other constructs.

An exploratory common factor analysis was conducted to verify if the structure of the interrelationships of the variables matched the theoretical model. For constructs with more than one factor the orthogonal rotation method employed was varimax. Measurement validation started with a purification of the scales (e. g. Churchill, 1979) involving some iterations, where the aim is to develop highly consistent and reliable measures. Only factors with eigen values greater than 1 were extracted, and in the case of IOCC an additional factor was extracted with an eigen value of 0.912. The decision rule taken from Hair et al. (1998) is that items with factor loadings lower than 0.4 or with substantial loadings on more than one factor were discarded, which is a conservative approach. This guideline for identifying significant factor loadings is defined on a sample size basis, with a 0.05 significance level ($\propto$), a power level of 80%, with standard errors assumed to be twice those of conventional correlation coefficients.

Appendix C reports factor analysis for IOCBs, IOCC, and Innovation Capabilities. In the case of IOCBs, 15 items loaded on 4 factors explaining 65% of

the total variance. All factors loaded as expected, confirming Podsakoff et al. (1990) refinement of scales, this time with a Mexican sample.

IOCC have 20 items loading on 5 factors explaining 74.64% of the variance. Differences in terms of loadings compared with Simonin's (1997) model are important. Simonin proposed five factors with an American sample. Three out of five factors loaded different for the Mexican sample. The name of Simonin's three factors are collaborative know-how, knowledge and skills transfer, and exiting skills. However, loadings for the Mexican sample had a different allocation, and even a different meaning. Three variables, grouping differently around the same set of items proposed by Simonin (1997), can conceptually explain this difference as proposed in the nomological network in section 3.1.

a) Relationship Management Know-How As shown in Appendix C, variables relmg 1, 2, 3, 4, 5 refer basically to the capacity of firms to manage the relationship as such, concentrating on the issues of human interaction like trust building, a permanent effort to close deals (at the alliance, not just important negotiations are performed at the negotiation stage, but many micro-deals are in place in the everyday operation), managing relations, conflict resolution, and re-negotiation reflect the nature of some important aspects to take into account to maintain a healthy relationship.

b) Operations Management Know-How This is the most relevant difference relative to the construct proposed by Simonin. Variables opmgs 1, 2, 3, 4, 5 refer to operational issues. These items embody some relevant operations competencies that are fundamental to the management of the alliance in terms of

how partners manage the assets and talents of their employees. Some characteristics of the sample could explain why loadings allocate in a different way. For instance, 76% of the sample reported that the alliance includes a legal agreement, therefore, the capability of firms to exit the alliance (opmgs5) becomes fundamental, since breaking-up might have important legal implications. As well, 71% of the sample refers to alliances involved in some sort of resource exchange, or capabilities transfer. Joint R&D, technology transfer, or joint product development, are incentives for alliance formation and operation where proficiency in items like logistic and resource transfer (opmgs2) permeate across the literature as important to master.

More than 60% of respondents considered their partners a future competitor. Firms are particularly careful of the extent to which they disclose or share more information than they should, consequently knowledge/skills safeguarding (opmg3) actions respond to the nature of this sample. In addition, 73% of the alliances reported in the sample have a foreign partner. This characteristic is important because foreign partners and particularly large firms identified that profit or capital repatriation (opmgs4) plays an important part in the everyday alliance management.

c) Learning Skills In the original model, Simonin found that two items, knowledge and skills acquisition, and knowledge and skills safeguarding grouped in the same factor, which he called *knowledge and skills transfer*. This was not the case for the Mexican sample. Permanently and through all types of extractions and rotation methods, knowledge and skills transfer and cross-cultural training

keep grouping in the same factor. As explained in the section model and hypotheses, skills may have two components, one that facilitates the delivery of the ability, and other that provides the content. Cross-cultural training provides the context and conditions to facilitate the emergence of country-specific socialization and interaction dynamics that will lead learning processes.

The point is that all of the above items do not refer to pre-alliance or post-alliance activity, but to an ongoing concern of how to manage the joint operation of the alliance. The argument is that the linear phases model proposed by Simonin might not hold for the Mexican context. Phases do overlap, and might not be linear. Many items loading in the relations and operations factors were labeled by Simonin as collaborative management skills. The proposition of this thesis is that collaborative management is a complex, multi-faceted concept that requires further conceptual refinements. These refinements will come up by conducting exploratory research in different settings and contexts. The sample of this thesis suggests that collaborative management skills may split in two main categories: relationship management skills, and operations management skills. One focused on the development of interaction policies and maintenance of personal relationships. The other, centered in the joint management of resources and capabilities, in the establishment of coordination mechanisms, and in the prevention of operational breakdowns.

The construct innovation capabilities suggests theoretically the three variables as shown in **Appendix A.** Exploratory factor analysis suggests indeed three factors out of 11 items, each one with eigen values greater than 1, loading as expected in

their respective factor. This is an important outcome since this it is the first time that this construct is operationalized in a research work. The three factors, market to technology (link 1, 2, 3,and 4) , task-to-task (task 1, 2, 3) , and people-to-project (peop1, 2, 3, 4) accounted for almost 74% of the total variance. All factor loadings are above 0.5.

In order to verify the degree of generalization of the results to the population and the potential influence of individual cases or respondents on the overall results, two confirmatory factor analysis techniques were applied. First, for each construct two factor analyses were performed with random split samples. **The analysis** did not show a significant difference for IOCBs and Innovation Capabilities. For the IOCC construct some differences exist, showing the need to further develop this construct and make it more robust. Although the vast majority of loadings group within the same factor, there are three in one sample and four in the other out of 20 items that grouped in a different factor.

Chapter VI Data Analysis and Interpretation

This chapter has six sections. The first discusses the approach to variable selection, the second discusses the aggregation methods, the third reports different tests on the assumptions of multiple regression analysis. The next section reports the estimation of the regression model and the interpretations of results, while the fifth provides a summary of the results and finally, the sixth part presents the limitations of this study.

6.1 Approach to variable selection

The approach used for the estimation of the regression model is confirmatory specification, wherein the researcher completely specifies the set of independent variables to be included. This model was chosen because there is a theoretical framework supporting the inclusion of variables that will achieve the maximum prediction while maintaining a parsimonious model. The approach of this model is not to maximize the prediction with the smallest number of variables employed, but to prevent a specification error through a relatively comprehensive model.

6.2 Aggregation Methods

Summated scales, along with factor scores were applied as methods to form composite measures. Summated scales were used for performing regressions at the variable level, and factor scores at the construct level. Summated scales provide two benefits (Hair et al., 1998). First, to some extent it provides a means of overcoming the measurement error inherent in all measured variables. A second benefit is its ability to represent the multiple aspects of a concept in a single measure. The unidimensionality required for creating summated scales was assessed by verifying high loading in a single factor. In order to confirm reliability, Cronbach's alphas were performed and reported in Table VII at the variable level, and at the construct level. Another measure of internal consistency is to perform item-to total and item-to-item correlations. In all cases, item-to-total correlations exceeded 0.5, and item-to-item exceeded 0.3, in accordance to the rule suggested

by Hair et al. (1998).

When the regression analysis required the use of a set of variables grouped together in a construct, factor scores were employed. Conceptually, the factor score represents the degree to which each individual scores high on the group of items that have high loading on a factor. The one key characteristic that differentiates a factor score from a summated scale is that the factor score is computed based on the factor loading of all variables on the factor, where as the summated scale is calculated by combining only selected variables.

6.3 Assumptions in Multivariate Regression Analysis

Departures from normality, homoscedasticity, and linearity can diminish correlations between variables. Normality has been assessed already (see section 5.0). In terms of heteroscedasticity, diagnosis was performed using studentized residual plots against the predicted dependent variables. Reports available for consultation illustrate a consistent pattern of variance over the range of the predicted dependent values in the residual plots, and visually it is possible to not suspect heteroscedasticity.

The linearity of the relationship between dependent and independent variables represents the degree to which the change in the dependent variable is associated with the independent variable. The concept of correlation is based on a linear relationship, thus making it a critical issue in regression analysis. In a partial regression plot, a curvilinear pattern of residuals indicates a non-linear relationship between a specific independent variable and the dependent variable. No indications

of serious non-linearity were found after a visual examination of the partial regression plots.

6.4 Estimation of the Regression Model and Interpretation of Results

Table VIII reports the results of regression analysis. The F tests performed for the 7 models indicate that the amount of variation explained by the regression models is more than the variation explained by the average. All values range between 9 and 27, with 138 degrees of freedom. The sample size is of 140 firms involved in alliance activity, which is a fairly large amount. Most studies on alliances have between 80 and 100 observations with more variables. The adjusted coefficients of determination (Adjusted R squared) do not show signs of data "over-fitting."

Table VIII also reports the standardized values of regression coefficients (beta), as well as a t-test as a significance testing procedure. Beta values will indicate whether or not the t-test is significant at 0.001, 0.01, and 0.1 levels of confidence.

The units of analysis are a) respondent's behaviors aimed to help the partner (IOCBs) and b) respondents perception on the degree of development in terms of IOCC and Innovation Capabilities. All responses share a common origin: the single perpective of one partner per alliance.

Table VIII

Results of Regression Analysis[a]

Construct	Inter-Organizational Collaborative Capabilities	Collaborative Relationship Management Skills	Collaborative Operations Management Skills	Collaborative Learning Skills	Negotiation Skills	Partner Searching Skills	Innovation Capabilities b A	Innovation Capabilities b B
Inter-Org. Citizenship Behaviors		0.282***	0.296***	0.297***	0.250***	0.249***		
Experience	0.422***	0.279***	0.235***	0.255***	0.336***	0.290***	0.194*	0.199*
Control Size	-0.126	0.031	-0.224***	-0.165**	-0.230*	-0.064	0.107	0.104
Control Industry	-0.042	0.069	0.002	-0.033	-0.067	0.022	-0.089	-0.071
Control Nationality	0.04	0.089	-0.023	0.19 *	0.01	0.064	0.034	0.031
Inter-Organizational Collaborative Capabilities							0.529***	0.525***
I-OCC x Experience								-0.046
R^2		0.168	0.235	0.218	0.292	0.175	0.374	0.377
Adjusted R^2		0.15	0.218	0.201	0.277	0.157	0.36	0.358
F		9.094***	13.810***	12.554***	18.583***	9.563**	26.743***	20.085***

a Values are standardized regression coefficients, N=140
b "A" indicates analyses without interactions, "B" indicates analysis with interactions.
* p<.1
** p<.01
*** p<.001

6.4.1Hypothesis I.

As shown in Table VIII, the dependent variable of Hypothesis I is collaborative relationship management skills and the independent variable is inter-organizational citizenship behaviors. The coefficient for IOCB is significant at $p<0.001$, supporting the hypothesis that pro-social, extra role behaviors have a positive relationship with relational skills. The findings of the semi-structured interviews showed not just the importance of IOCBs, the complexity and degree of development of relational skills, but how both variables interact at various levels.

Truly balanced win-win situations apparently are utopias. IOCBs such as openly sharing information to the partner, or avoiding conflicts by giving up some potential individual gains for the sake of the alliance are claimed to improve the relationship atmosphere and generate a less biased perspective towards the partner's private benefits. Generous, altruistic behaviors generate a collaborative mindset, neutralizing potential defensive or offensive positions in processes like deal closing and renegotiation of the terms of the initial agreement. Partners should perceive clearly the desire to look after the common well being as the most important priority. This was the case in the alliance between Wal-Mart and a Mexican manufacturer of corn flour. GIMSA realized that teaching Wal-Mart how to make tortillas in Wal-Mart stores, fresh, and open to the public could represent good business for Wal-Mart, and may increase corn flour consumption. GIMSA did not ask for a share on the tortilla sales, their business is to sell corn flour, the most important raw material for tortilla production.

Furthermore, IOCBs generate positive collaborative experiences that will lead

to trust building and generate a moral capacity, commitment, and sensitivity to be responsive to each other's needs. This moral capacity supports the dissolution of everyday small disagreements through an unfolding, step by step, process of incremental intimacy. For instance, an alliance between Activamente an e-business incubator and a Mexican internet service provider. This is a typical asymmetric joint venture, where a small promising firm complements some of the strategies followed by a much larger, consolidated company. Due to the volatility of the e-business industry, Activamente was short of cash to pay its accounts receivables to the parent Mexican ISP, as well as some of the dividends from the previous fiscal year. Far from this situation creating a break-down in the relationship, the alliance helped to make it stronger. This joint venture was supported by the good personal relationship between CEOs and the pool of talent that both partners brought together. Activamente gave the Mexican ISP 30 days of advance notice of this issue and proposed a payment plan. The ISP provider, instead of trying to take advantage of the situation, by swapping the debt for shares and gain a majority, it supported Activamente not only by agreeing to the payment plan but also by making an additional infusion of resources.

These diplomatic attitudes are more appreciated than arrogant and selfish ones. Tolerance and respect are reflected in how positive partners are responsive to adversity (sportsmanship), like when sudden changes in environmental variables cause short term performance problems. Mr. Snaider, the Bank of Montreal's (BOM) country manager in Mexico suggested that diplomacy describes the type of relationship that BOM has with Bancomer. Diplomacy includes a mutual respect for

each others capabilities and requirements.

By conducting a more detailed analysis and performing a regression of every IOCB variable against relationship management skills, there are some interesting findings. Of the four variables composing the IOCB construct, only the sportsmanship coefficient is significant at $p<0.01$. The other three variables do not show significance even though altruism has a fairly large t value (1.6) still $p=0.112$. This means that sportsmanship is by far the most significant variable, accounting for most of the variance in the relationship between constructs. Therefore, it is possible to argue that tolerance and having a positive attitude towards the alliance despite adverse circumstance is the most important behavior to exercise in order to positively influence the development of collaborative relationship skills even though civic virtue component of the IOCB factor analysis has the largest eigen value. Personally, I was expecting a more relevant role of altruism in the development of relationship collaborative skills and social capital because of the theoretical weight given it in the related literature. It is possible therefore to presume that it is more important to be optimistic and tolerant when managing an alliance relationship rather than being helpful, have responsible participation, or being considerate when trying to build trust or solve conflicts. As a probable explanation, it is possible that this happens because of the constant uncertainty and volatility of the alliance in a Mexican context. Uncertainty demands having an optimistic spirit, patience, and tolerance in order to neutralize potential sources of external disruptive events that may affect the alliance, therefore extending the shadow of future collaborative tasks. Rami Scharzts, CEO of Mexico.com commented that after the Nasdaq crash on

March 15th, 2000, the venture capitalists started to question many of the decisions regarding the strategy and operation of the web site. However, Rami designed and implemented an information system that helped to actively involve venture capitalists in the management and decision making processes of the business. Although the stock market breakdown slowdown created tension and nervousness, a good rapport between partners and the agreement to have adjustments in the expectations created better outlook to the alliance survival.

Axelrod (1984) affirmed that mutual collaboration can be stable if the future is sufficiently important relative to the present. Alliances tend to support strategies expecting medium to long term outcomes, these are not usually found in the context of a less developed country. It is also important to state that the component that has the highest eigen value of the inter-organizational collaborative capabilities construct is the collaborative relationship management skills variable.

Doz and Hamel (1998) suggest that in order to secure the strategic compatibility of partners it is fundamental to strive for a value creation profile for the alliance, which includes the capacity to manage the relationship over time. Lynch (1993) captured the statements of several executives related to alliances, mentioning that the most important thing about a cooperative alliance is chemistry. Chemistry defines and describes the quality of the relationships among the people in the alliance. The CEO of the subsidiary of Abbott Laboratories in Mexico affirmed that it is fundamental not to lose sight of the human aspects of the alliance.

However, IOCBs have downsides as well. Some of the most sensitive issues for many CEOs is that partners should be careful to not to "invade" a territory or

areas that are not part of the original agreement. In order to be effective and positive to the alliance, discretional, helping, and generous behaviors must not be perceived as intrusive.

6.4.2 Hypothesis II.

Table VIII supports Hypothesis II: the beta coefficient is positive and significant at $p<0.001$, inter-organizational citizenship behaviors are significantly related to the dependent variable collaborative operations management skills. Clearly, this means that discretional pro-social behaviors should facilitate the operation of the alliance in terms of variables like knowledge and skills safeguarding and understanding the strategic implications of the relationship.

As many interviewees agreed, operations management skills are about the ability to execute, to implement plans and to achieve goals. The execution of the actions of partners requires a deep understanding of the strategic implications of the alliance. Very often however, this understanding is clear at the apex of the alliance management structure, and very fuzzy at the tactical or operational level. Therefore, inter- and intra-organizational communication is fundamental for the alignment of both strategic objectives and operational goals. This communication includes not only the objectives, but also keeping all the alliance actors informed of the developments and achievements of the relationship. Additionally, the documentation of achievements, mistakes, plans, methodology of operation, and negotiations was mentioned by many CEOs as a critical task in order to safeguard and share the knowledge and skills generated by both partners. Partners must assure that their proprietary knowledge will be safe with the partner, and there must be enough

assurance in all parties that betrayal is a punishable behavior that will raise the exiting costs of the guilty partner. Knowledge becomes volatile and agreements expire when there is a constant turnover of alliance actors, breaking contact points and raising the relationship costs. It is the role of IOCBs like courtesy to prevent these problems in the interaction.

It is clear that a prominent objective of all partners is to keep bringing value to the alliance. Performance pushes the alliance to the convergence of objectives through the integration of tactical decision makers with strategic decision makers. This integration is achieved through exercising civic virtue behaviors like attending non-mandatory meetings and showing a special interest in alliance developments. An active participation in the life of the alliance by all the hierarchies will lead to the development of effective coordination mechanisms in the form of a) designing common procedures, b) joint planning, c) joint forecasting, d) having a shared budget, or e) attending routine and special meetings. For instance, when Banco Bilbao Viscaya, a Spanish bank, acquired Bancomer, the second largest Mexican bank, the participation of Bank of Montreal on the board of directors diluted from two seats to no seats. However, it was perceived as critical for both parties, Bancomer and Bilbao Viscaya to have BOM as an active member of the board, despite the ownership structure due to the strategic value of the partnership. They changed the board composition from 12 to 13 members.

The development of a clear action plan was mentioned as perhaps the most important coordination mechanism for alliances. It includes the people responsible to carry out the activity, the performance measures, the resources and capabilities

required, as well the timing.

A fundamental aspect of the operation of any alliance is control. The previously mentioned coordination mechanisms can act as control mechanisms, where results are reviewed and follow-up is conducted. A Mexican-based joint venture between an important Canadian transportation company and an American manufacturer of railway containers conduct weekly meetings with their product engineers based in the United States, their process engineers based in Mexico, and the marketing staff of both parent companies. These meetings are useful to coordinate operations and to review the financial aspects of the joint venture. The Canadian partner is used to working in a very systemic manner, with detailed forecasts and elaborate cost controls, and accustomed to operate with high margins with a project oriented operation. The American company is used to working in a very pragmatic flexible manner, with very uncertain forecasts due to the nature of the products that were considered commodities in the markets. The manufacturing process was mostly to build stock, where margins are reduced, but cash turnover and sales volume is high. These differences in management style between the parent companies lead to serious control conflicts. For instance, take the agreement on which criteria should rule the acceptance of an order: a 6% margin policy of the American parent company against 12% for the Canadian parent company. Another example is the decision about which cost control methodology should be implemented, activity based costing or job-order costing. Not only did the Canadian parent company not understand the business, but did not wish to adjust to the requirements of a market difficult to influence and predict. These problems remain

unsolved at the present time.

The presence or absence of sportsmanship behaviors might shape and influence dynamic controls schemes that should adjust depending on the contingencies found during the duration of the alliance. Although 80% of the CEOs agreed that the more uncertain the environment the more control mechanisms were required, they suggested that control domains should remain unchanged, due to the fact that control carries accountability and responsibility over a set of resources and capabilities involved in the partnership. Confidence in the partner's capacity to overcome less than ideal circumstances requires patience and tolerance and a deep understanding of the locus of control of the partner relative to the environment.

Conducting a statistical analysis regressing the four IOCBs items against the operations management skills, altruism and civic virtue reported significant beta coefficients both at $p<0.1$. This may imply that helping behaviors and the intense involvement in the different alliance tasks leads to the development of alliance operations skills like logistics or resource transfer and a deeper understanding of the different aspects of the alliance strategy. This makes sense since these two behaviors can take place only if the actor is directly involved in alliance activities or has had hands on experience dealing with alliance issues.

Nevertheless, and after taking a further look at the empirical evidence and literature available regarding this variable, I conclude that it may be still ambiguous and incomplete, since operations must include many more items than the five proposed due to the level of complexity found. Qualitative evidence reflects that operations do not have an exclusive functional or efficiency rationale, and that the

better the strategic fit, the more difficult the operational fit (Lynch, 1993). Operations includes skills aimed to: a) facilitate operations, b) prevent disruptions, c) exploit resources and capabilities, d) integrate decision makers with action takers, e) foster interaction across hierarchies, f) develop flexible and dynamic control mechanisms. It is at the operational level of the alliance where contracts, legal and psychological, are exercised, honored, and improved. It is also at this level where all the gaps in agreement are exposed and (most of the time) fixed. An additional aspect of the alliance operation that was found to be fundamental in the qualitative data is to implement processes that will assure accountability, as mentioned by the general manager of a transportation joint venture based in Mexico: "Lack of accountability makes the management of the joint venture very difficult. The less accountable, the more control mechanisms are required to put in place, creating an atmosphere of distrust and uncertainty." Apparently there is a need to have a balanced focus on the alliance tasks and operations, along with the allocation of attention and resources to the relationship maintenance side. In other words, there should be equilibrium between performing the tasks and developing a relationship (Dent, 1999; Spekman et al., 2000).

6.4.3 Hypothesis III.

The relationship between the dependent variable collaborative learning skills and inter-organizational citizenship behaviors is significant and positive at $p<0.001$ as shown in Table VIII.

The level of significance suggests that pro-social, helping discretionary behaviors may facilitate and develop collaborative learning skills, like knowledge

and skills acquisition and/or develop a special sensitivity for cross-cultural issues (either organizational or national) by virtue of generating social spaces for intensive interaction. These spaces are fundamental to understand the differences in the interpretation of certain factors involved in the alliance. For instance, in practice, letters of intention have almost the value of a contract in Mexico, whereas in the USA the letter of intention is a preliminary list of the terms of the agreement.

It is clear that even in the closest business relationship, or the most intimate alliance there will be a segmentation of competencies. This segmentation often draws certain limits (intentional or not) to the access of some resources and specialized knowledge. Therefore, learning might be limited to the boundaries defined by the alliance actors. Some interviewees from the manufacturing industry suggested that the existence of a champion of the alliance or an alliance coordinator has proven to be an excellent gate-keeper for all partners. An alliance champion might facilitate and/or impede learning, depending on the value of what is to be learned and the intention of the "student" partner.

An important implication for the development of collaborative learning skills is that the more active participation of many employees in the alliance, the more access to the partners' knowledge stream. Civic virtue, courtesy, and altruism might be the key to unlocking ambiguous or hidden resources and capabilities that have not been exploited properly by the alliance. The alliance between a Canadian brewery and a Mexican brewery is a good example. In the beginning, the Canadian brewery's objective was to open the door to the most important Latin American market with the acquisition of 20% of the voting shares of the Mexican counterpart.

On the other hand, the Mexican brewery was struggling financially after a brutal devaluation of the peso in 1994 that sky-rocketed their financial expenses. After two years they decided to explore further avenues of collaboration, mainly in the distribution and sales arena. On the other hand, the Canadians discovered almost three years later (and by accident) that their Mexican partners had a very sophisticated water-treatment process in order to respond to the water scarcity of the northern region of Mexico and to adhere to local regulations. This pressure was not present for the Canadian firm, however, they were sure that by transferring the water-treatment technology they would save costs and become a more ecological firm, which is good not just morally but market wise.

The more learning and cultural fit partners achieve, the more the alliance might transform into a more ambitious and sophisticated inter-organizational structure. In the pharmaceutical industry, some alliances that started as a co-marketing joint venture became research boutiques. Many arms-length piggy back distribution deals had developed into opportunities for co-marketing different brands of the same product resulting in a faster market penetration and an expansion of the market in the mid-term for the alliance between a multinational pharmaceutical company and a Mexican local drugstore chain. Collaborative learning therefore is about systematically creating new options or opportunities to expand the collaborative venture.

A more detailed statistical analysis, regressing every IOCB variable against learning skills, the only variable statistically significant with a beta coefficient $p<0.001$ is altruism. Being generous in terms of the self-disclosure of data,

information, and knowledge (Dent, 1999) might foster, more than any other behavior, an unfolding learning loop process that includes cross cultural training as a skill that supports the delivery and sharing of knowledge content by virtue of developing cultural compatibility (Spekman et al. 2000). Altruism might lead to the development of trust and transparency on both ends, facilitating the learning processes (Hamel, 1991).

6.4.4 Hypothesis IV.

As confirmed by Table VIII, the dependent variable negotiation skills is positively and significantly related to inter-organizational citizenship behaviors at $p<0.001$. Negotiation skills are useful not just at the moment of negotiating the terms of the contract or the conditions of the alliance, but as well in the everyday interaction. Partners need to constantly clarify and agree on governance, operative, control, and performance aspects of the relationship. IOCBs are fundamental to conciliate different environmental and contextual perspectives, or to reduce the rigidity of business plans, forecasts, or terms of contract in order to adjust the alliance to changing circumstances. Sportsmanship and courteous behaviors are catalysts to the process of preventing and adjusting changes in control positions or market positions.

An interesting aspect of the negotiation process was brought by the CEO of Activamente, Ms. Ana Cravioto. She affirmed that even in alliances between large and small firms (asymmetric), all negotiations should be conducted between peers with the same level of authority and hierarchy. Her experience was definite in this matter: "You cannot expect to have the same level of commitment and credibility if

you are dealing on the other end, with a low-rank functional manager of a big firm, and the owner of the small firm in the other...." She identified that when negotiations are not conducted between peers, they turned into scenes of a Tom and Jerry cartoon, the sheep against the wolf. Courteous and civic virtue kind of behaviors shall prevent problems like arrogant, bluffing attitudes, extreme rigidity in defining some terms of the agreement, or trying to lever excessively on the resource gap between firms.

Regressing the IOCB variables against negotiation skills, only altruism had a significant impact at $p=0.021$. A basic helping behavior is to openly discuss each others strengths and weaknesses. Full disclosure during negotiations benefits the alliance since it helps to develop a clear understanding of both firms' needs, expectations, and goals (Slowinsky, Seeling, & Hull, 1996). Negotiations include deliberately pursuing a win-win atmosphere that guides the process, seeking to understand the partner's strategic stake in the alliance, and showing sportsmanship by keeping sight on long-term goals even if the initial negotiating conditions are less than ideal (Spekman et al. 2000).

6.4.5 Hypothesis V.

Partner searching skills proved to be positively related as a dependent variable with IOCB' at $p<0.001$. The selection, identification negotiation, and technology assessment processes associates with the existence of helping, courteous, and considerate behaviors. Partner selection was described by CEOs from the computers and e-business industry as the most important aspect of the whole alliance formation. They describe it as a complex process, full of challenges and

risks.

The most important challenge mentioned by several CEOs is to be able to truly get to know the people from the potential partner and explore if they share the most fundamental business values. Common values enable firms to have the right start and build a strong foundation for the steps that follow. Having an accurate technological assessment is neither enough nor the most important aspect of the searching process. The assessment of moral capacity and of social capital appeared as the main preoccupations for many chief executive officers. An executive from a large pharmaceutical company commented that: "Partnering with a large pharmaceutical company is like dating an octopus. Two arms are hugging you, two arms are strangling you, and God knows what the other four arms are up to." Candid openness and sincere transparency are human aspects of the partner searching process described as the most important and difficult to achieve, and very often underestimated or overlooked. Firms must have a mental structure to form alliances. Once fundamental values are shared, and foundations identified, some other aspects of the potential alliance must be looked after.

Regressing the IOCB variables against partner-searching skills both altruism and civic virtue resulted with a significant impact at $p<0.05$. This is interesting, since authors like Hitt, Dacin, Lecitas, Arregle, and Borza (2000) found that firms from emerging markets like Mexico prefer to partner with firms that are willing to share expertise. This willingness is a result of a predisposition to exert citizenship behaviors towards the prospective partner.

A strategic assessment must be carried out in order to identify and define the

following aspects of the potential association: a) clarity of intents, b) a clear and shared definition of either common or complementary objectives, c) matching the strategic and market needs with the partner's profile, d) integration potential, e) cultural fit, and f) looking for a partner that can be a good mirror, a good feedback provider. None of these aspects can be identified without a shared attitude towards full disclosure, tolerance, along with a long term perspective.

6.4.6 Hypothesis VI.

The relationship between the independent variable experience, and the dependent variable inter-organizational collaborative capabilities resulted positive and significant a $p<0.001$. However, previous experience alone does not ensure that firms will reap the benefits of a collaborative venture. Previous experience develops a collaborative mindset in firms with positive implications like being able to expedite the partner searching process or the development of a common social capital. Collaborative experience enables firms to view alliances as a natural phenomenon, with life cycles, with ups and downs, with structural difficulties as well as psychological ones.

Five CEOs of manufacturing firms suggested that experience lets you detect when a partner's employee takes individual positions or institutional positions towards alliance issues. In a way, collaborative experience represents the tacit documentation of previous collaborative ventures with different structures and objectives. Experience creates an organizational memory that will be exploited and enriched if there is a formal documentation process and if the turnover is minimal. This study provides additional evidence for studies that have succeeded to

document a substantial positive impact of experience with collaborative ventures (Lorenzoni & Lipparini, 1999; Lyles, 1988; Simonin, 1997; Powell, Koput, & Smith-Doerr, 1996). This relationship confirms the notion that learning builds on past experience (Cyert & March, 1963).

6.4.7 Hypothesis VII.

Two models were employed as shown in Table VIII, one without interaction (A), and one with interaction (B). Model A confirms Hypothesis VII, which proposes a positive significant relationship between innovation capabilities and inter-organizational collaborative capabilities, (beta=.529), controlling both for size and experience. Model B included interaction effects between experience and IOCC, showing no significance in the beta value, and an important deterioration of the F value (from 26.7 to 20. 08).

Inter-organizational collaborative capabilities facilitate the several innovation processes like market-technology linking, task-to-talk linking, and people-to-project linking. Collaborative capabilities foster the unfolding of dynamic learning processes that enable firms to better understand clients, technologies, users, and the environment.

This research was conducted in the context of a developing country, where there is not extensive R&D activity, but there are important efforts in other steps of the innovation process, like diffusion and incremental process innovation. Therefore, all the comments and remarks will have this context.

Collaborative capabilities influence the capacity of firms to rapidly integrate cross-boundary tasks, products and processes. In the pharmaceutical industry,

many firms do ally to speed up the merchandising of their products through different channels. A Latin firm called Mercado Libre, a multinational e-business that offers the same service as ebay, formed a joint venture with the Star-Alliance airline network (whose members are Lufthansa, Mexicana, and United among others) to offer airline tickets at a 50 to 70% discount rate. Dell computers signed an alliance with Elektra, a discount merchandise Mexican store to distribute their refurbished computers, breaking Dell's policy of not having indirect distribution channels.

Efficient management of the relations and operations of the alliance creates a context of creativity and joint learning. Bimbo, the largest Latin American bread company believed that one of their core competencies was their distribution capabilities. They are able to reach every spot of their markets, with a large number of trucks and very sophisticated logistics systems. Their logic was to divide the market geographically to deliver their products. However, they learned that this logic did not hold for the Southl American market. The Colombian and Peruvian partners jointly with Bimbo developed a process where distribution will be done taking into account the type of customer, not the geographic location. This ended up to be cheaper, and accommodated the needs of customers, and now the same system is in place in Mexico.

IOCC helped firms to give value to the ideas of partners, and to foresee additional areas of interaction. Although many pharmaceutical firms formed alliances to complement their distribution channels, they also learned that by generating co-branding agreements with local drugstores they would be able to increase the market size, and potentially extend the life cycle of the product through

what they called *re-innovation*. Re-innovation was conducted when they were able to conduct part of their phase III research (human tests) in Mexico, and obtain a permit from the health minister to extend the patent protection for a longer period.

Pharmaceutical multinationals realized that their domination of the international developments in this industry was a very valuable asset to local firms. Pharmaceutical firms were able to link their product and process technologies to the particular needs of a local market and local partners to participate in commercialization and distribution strategies even before the product was launched in other markets. The localization of the product and the localization of the production processes enabled the joint development of very valuable human resources at a local level that were ex-post linked to R&D teams or marketing teams.

Knowledge creation is the result of a favorable collaborative context, where ideas flow back and forth as well as egos and politics. Conflicts and selfishness arise as well as opportunities. Relationship management skills influence some people to project linking activities by the inclusion of people in strategic conversations, eliminating impediments to innovative work, and preventing harmful behaviors. Finding new ways to link markets to technologies and vice-versa imply finding new avenues for related diversification for both partners.

In an effort to advance more in the understanding of the relationship between innovation capabilities and inter-organizational collaborative capabilities, I regressed every component of innovation capabilities against all variables composing the construct IOCC. There are some interesting findings worth to discuss.

Using people-to-project linking as the dependent variable, relationship management skills and learning skills had significant effects at $p<0.1$. It is possible to assume that in order to create a positive context that encourages creativity, and that foster a culture of inclusion, it is important to build trust and to develop conflict resolution systems. Knowledge acquisition processes, fundamental for any innovation project, are facilitated by the ability of firms to engage in a healthy dynamic of trust full and effective dealings.

Regressing task-to-task linking against all the IOCC' variables none of them showed any significant impact. This was not expected since at least in theory there should be a relationship between collaborative operations skills and task-to-task linking since this component of innovation capabilities is in fact, related to operative alliance tasks. This is a sign that the variable collaborative operations skills need further refinement.

In terms of the relationship between market-technology linking and IOCC variables only partnership skills beta coefficient was significant at $p=0.034$. This outcome makes sense, since this link exists by design of the partner selection process. The complementarity of partners in terms markets and technology know-how comes through by virtue of a clear differentiation and domain of different locales of practice. As well, with a fairly large t value (1.561, at $p=0.12$), learning skills corroborate their importance for linking user needs and values with the correspondent technologies available to develop products and services to satisfy or even modify new patterns of buyers and consumer requirements. Linking customers with technology and vice-versa is indeed a constant learning process for the

alliance. All partners must develop absorptive capacities at the market and technology levels, in order to achieve a better interpretation, understanding, and operation of the alliance.

The previous findings are supported by the work of Sivadas and Dwyer (2000). They found that cooperative competency, a construct derived from related concepts of mutual adjustment, absorptive capacity, and relational capability, is proposed as the key factor affecting new product development success, regardless of whether it is an intra- or inter-firm endeavor. Powell, Koput, and Smith-Doerr (1996) concluded that in technologically fast-paced industries like biotech, "the locus of innovation is found within the networks of inter-organizational relationships that sustain a fluid and evolving community." (p. 142) They confirmed that a fundamental prerequisite is to develop a relational capability that enables firms to effectively manage a portfolio of collaborative activities. What is interesting about most of the studies about alliances and innovation is that most of them focus on the importance of being a member of a network, and how the networks evolve and are organized or structured (Ahuja, 2000). However, very few tackle the processes that must take place in order to enter the network, and how to develop and maintain relational assets.

6.5 Summary of Results

Hypotheses I through V were assessed regressing the correspondent dependent variable against the factor scores of the constructs inter-organizational citizenship behaviors, experience, and size. In all cases, IOCBs had significant effects on the dependent variables relationship management skills, operation management skills, learning skills, negotiation skills, and partner searching skills, all

of them at p<.001, supporting H I, II, III, IV, and V.

This means that overall, collaborative skills benefit from altruistic, helping, extra-role behaviors. Even skills like negotiation and partner searching reported significant effects even though a pattern of steady intense interactions might not have been present. This suggests that citizenship behaviors may have positive effects in the collaborative process even before any formal form of cooperation is established. However, IOCBs have as well downsides. Some of the most sensitive issues for many CEOs is that partners should be careful in not to "invade" a territory or areas that are not part of the original agreement. Discretional, helping, and generous behaviors in order to be effective and positive to the alliance must not be perceived as intrusive.

Size as a control variable confirms that in most cases it is not significant. However, significance is reported in collaborative operations skills, and learning skills. The negative beta only reflects the transformation required. Industry was included as well as a control variable, and also partner nationality. Industry type was not significant in any of the regression equations, however, partner nationality was at p<0.1 when regressing IOCB against collaborative learning skills. Alliances with multinational partners had a higher level of learning skills on average than alliances formed with local or national firms. This is interesting, since it is possible that, based on their management expertise and capabilities configuration, multinationals might be better partner targets that most other firms basically because they might have more to offer, more tacit and explicit knowledge to share, and more resources to attain access and leverage.

6.6 Limitations

As with many studies of this kind, it is important to acknowledge issues like common method, single-respondent, social desirability bias, and control variables. To assess the possibility of common method variance, two distinct approaches were used. First, a Harman's one-factor test was done on the questionnaire measurement items. The resulting principal component factor analysis yielded 11 factors with eigen values greater than 1.0, that accounted for 72 percent of the total variance. Since several factors, as opposed to one single factor, were identified, and since the first factor did not account for the majority of the variance (only 28%), a substantial amount of common method variance apparently is not present (Podsakoff & Organ, 1986). As well, several interviews were conducted that conceptually confirmed the value of the scales through the emphasis of the responses. However, the presence of common method variance cannot be discarded.

A fundamental methodological imperative for this research was for each informant to be intensively involved in the alliance formation and operation, and also highly knowledgeable with the overall strategy and operational issues of the whole firm. In this aspect, all respondents were highly involved with the alliance and the majority of them had positions that let them overview the firm across operational boundaries. However, many of the respondents were functional managers, which had a role in the alliance, but this was limited to their function.

In terms of social desirability bias, I did not perceive it as a major issue in this study. Although survey data are sometimes subject to social desirability bias

(Podsakoff & Organ, 1986), anonymity reduces social desirability bias of sensitive topics (Konrad & Linnehan, 1995). Anonymity was assured in the design and implementation of the survey, but as well with a letter signed by the author. As well, respondents were eager and candid to share their experiences openly, since for most of them it was the first time they participated in a formal research study. Nevertheless, it is not possible to discard a potential social desirability bias, specially in a culture like Mexico.

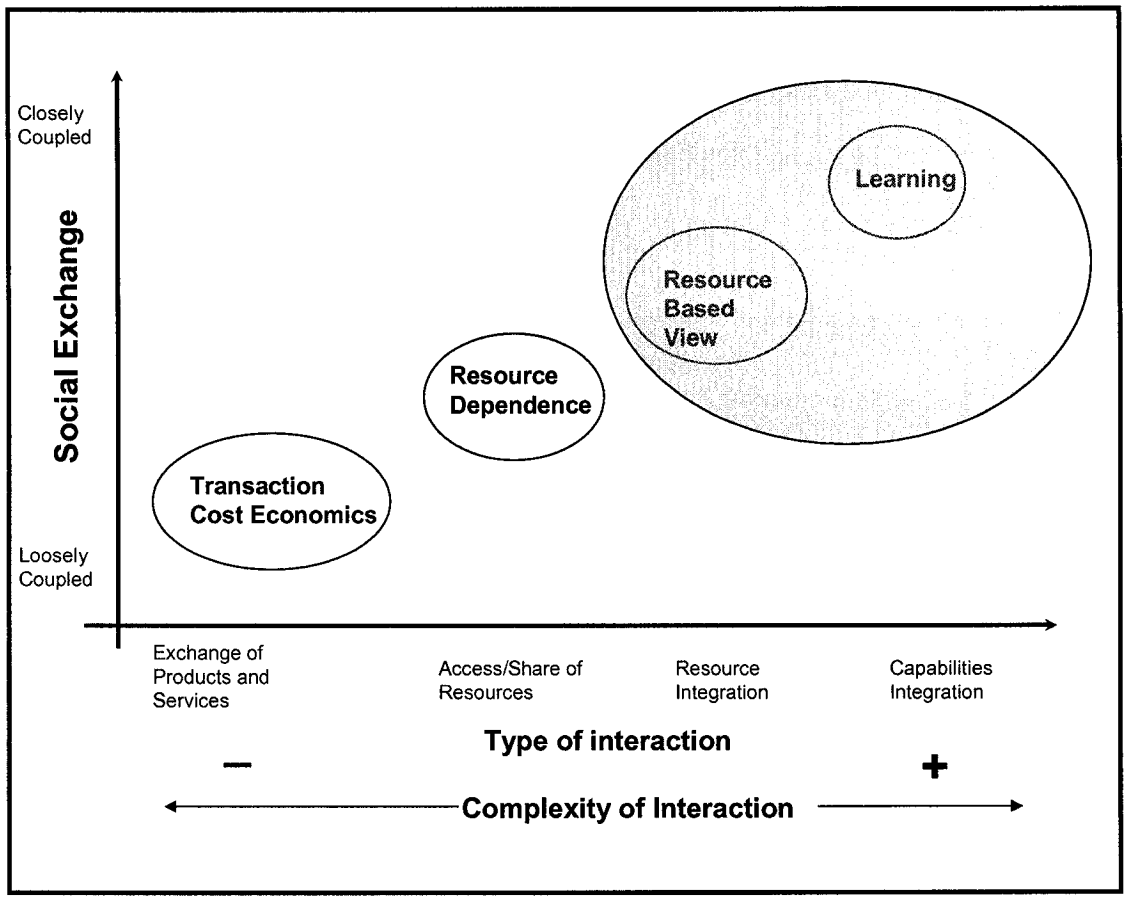
Size as a control variable was necessary in the study but not sufficient. This study might have been enriched by including a control variable like the level of interdependence between partners. The intensity in terms of scale and scope of interaction may influence the intensity and development speed of certain collaborative capabilities and the relationship characteristics. IOCBs might as well have more effects in inter-dependent alliances than in co-dependent ones. This control variable arose as the product of the interviews. Although it is important and might absorb an important amount of variance, still I suspect that the significance of the main independent variables will hold.

By far the most important limitation of this study is that it is cross-sectional which does not assure causality. This is as well worth to point out, since still further research is needed to find out whether or not collaboration indeed improves the performance of firms at a longitudinal level. The dependent variables used were somehow proxies to performance, assuming that innovation capabilities lead to differential rents. Although there are many studies have not rejected such hypothesis, still, innovation has proven to be a double-edged sword.

Something interesting found in the literature that studies collaboration from a strategy perspective is that the focus is on how networks are formed and structured, not on how a collaborative net works.

Chapter VIII Conclusions

The approach of this study can be described with the following figure.



The focus of the present study is on understanding the collaboration phenomenon in those alliances that demand the integration of resources and capabilities like innovation (gray area), along with a closely coupled social exchange system. The complexity of the required interaction dictates the level of relational capabilities required.

This section is organized in six parts. The first five parts refer to the findings, issues, and future challenges for future research in terms of the most important constructs used in the study. The sixth section refers to the explicit differences

found in terms of alliance formation and management. The final part focuses on some managerial recommendations to improve the chances of success in an inter-organizational collaborative venture.

8.1 Inter-organizational citizenship behaviors

This research provided further evidence of the strength and parsimony of this particular construct across different national contexts and levels of analysis. The factor analysis confirmed the conceptual and statistical strength of the variables, scales, and measurements. It was fascinating to note how interviewees provided examples of altruistic, or sportsmanship behaviors, as well as the examples of behaviors described.

One of the top five contributions of this study is to propose inter-organizational citizenship behaviors as behavioral testimonies of a moral capacity of partners to respond to each other in good and bad times. IOCB's are permanent proof of good will behaviors that lead to overcoming the most operational, strategic, or even psychological difficulties. They are vivid evidence of what constitutes a capacity to develop a true sense of partnership by developing collaborative psychological contracts, and as such, prevent antagonism and competitive behaviors within the alliance. An interesting research question is: what are the inner drivers of these behaviors? What inspires humans to go beyond what they are supposed to do, to break contractual boundaries and create common causes that will go beyond sharing goals and thus will unify dreams? To summarize, strategic processes, especially those placed at the boundaries of the firm, require the construction of a

social structure as the foundation of strategic processes. Firms have to create a social fabric if they intend to add and create value in their partnerships.

8.2 Inter-organizational collaborative capabilities

This construct proved to still be in an exploratory stage. Factor analysis proved that the variables might have different meanings for different contexts and samples. This construct is very complex and has many variables that might not be totally orthogonal. However, it was interesting how the construct responded to the nature of the sample, by allocating factor loadings in a way that conceptually made sense. The second top contribution of this study is to advance the definition and study of collaborative capabilities. The operationalization of capabilities into a set of more or less parsimonious skills and activities is an effort that will surely pay-off since it is how we can provide some suggestions of what to do and how to do it to practitioners.

In addition, the interviews generated an important number of skills that in my opinion should be included in the scales. For instance, a concept that was mentioned by 20 out of the 25 CEOs interviewed as the most important collaborative skill was inter- and intra-organizational communication capabilities. Employees of all the firms involved in the alliance should clearly understand its purpose, and must be informed of the performance of the alliance and the development shared projects, in spite of the hierarchy or the activity of employees. Collaborative mechanisms like joint planning, procedures, regular meeting, and joint action plans should prevent communication problems.

Another ability that is considered fundamental is to be able to prevent the clash of equals. A clash of equals arises when employees with similar responsibilities and competencies from different partners start to interact without a clear definition of the alliance purpose and each others' roles. The people involved may act in offensive and defensive ways, trying to protect their territory, increasingly generating rivalry and operational difficulties.

Interviewees mentioned the importance of being flexible several times, understanding flexibility as: having clear rules of operation and decision making and yet, have some leeway to act; being able to react to new market requirements; being available; developing the ability to identify when a problem is momentary or is permanent; identifying when the counterpart is acting institutionally or responding to individual interests; and being able to tell the difference between the partner's fault and the environment's fault when a performance issue arises.

I suspect that this construct needs more exploratory qualitative research, and pre-test studies so we can identify which are the most important and representative collaborative capabilities. Nevertheless, this study let us complement the understanding of the meaning of many skills by trying to open the black box.

8.3 Collaborative experience

Collaborative experience again proved to be a fundamental antecedent to efficiently develop and exploit collaborative ventures. However, I propose that this construct should go beyond how many alliances a firm has had over time and of what type. It should also include the respondent's experience in dealing with alliance

issues, his or her professional experience (number of years working), as well as their success rate and turnover ratio of alliance champions.

All in all, it might be adventured to affirm that the more experienced organizations alliance wise will tend to be better partners, and be more successful. It all depends whether or not these experiences have been absorbed by the organization and converted into valuable knowledge through learning. I perceive that literature has oversimplified the concept of experience, by handling it in practice as a constant, when conceptually and research-wise it is a variable.

8.4 Innovation Capabilities

Innovation capabilities, along with IOCC were considered to be the dependent variables. However, I suggested innovation capabilities as a proxy of an important dimension of performance. The third most important contribution of this study was to test a scale that tried to capture some relevant elements of innovation capabilities. Most of the research portrays innovation in terms of outcomes (patents or new products), rather than on organizationally driven capabilities. This construct proved to be conceptually and statistically solid. Alliances, and particularly IOCC proved to represent an important innovation factor, confirmed by the interviews. Innovation capabilities were favored by inter-organizational collaborative capabilities mainly developing product diffusion processes and allowing further specialization of capabilities without losing integrative cohesiveness.

Effective collaboration has important benefits for several innovation processes. Partners are important sources of ideas and opportunities for innovation at product,

process, or service levels. Partners eager to share information and learn tend to support and participate in environmental scanning activities and share risks and rewards evenly. Nevertheless, results should be taken with caution. This construct needs further refinement as it should be tested in more studies to confirm the validity.

8.5 Size

Size matters, although statistics might not agree with this affirmation thus far. The qualitative research suggested that larger firms then to have certain advantages and disadvantages in terms of collaborative capabilities relative to smaller firms. Larger firms tend to: a) delay decisions, b) have managers that tend to be less available, c) be less disposed to re-state the conditions of the partnership if necessary, d) demand more control mechanisms that smaller firms, e) be more bureaucrat and, f) be less independent because of their dependence of headquarters.

On the positive size, larger firms tend to: a) document procedures, decisions, and learning, b) implement a structure to manage the relationship, c) have an alliance strategy, d) extend the alliance life longer that smaller firms, e) set up more sophisticated coordination mechanisms.

8.6 Managerial Implications

Without trying to be normative or exhaustive, this study identified as the fourth most important contribution, some elements that managers may take into account to

increase the probability of success in an inter-organizational collaborative venture. I suggest two lists of factors that can impede or enhance the quality of the inter-firm business relationship and by such increase the chance to achieve success.

Destructive Factors

1) Constant suspicion
2) Fake strengths and deny or hide weaknesses
3) Intentional delays and procrastination of
    a. Decisions
    b. Reports
    c. Definition of policies
4) Ambiguity in the original agreement or in the directives
5) Arrogant attitude
6) Protagonism and individualism
7) Complain of the partner's behavior with the alliance team
8) Selfishness
9) Performance below expectation
10) Lack of a common understanding of the strategic implications of the alliance across the different hierarchies and functions of the firm
11) Intolerance
12) Betrayals
13) Duplicity on the chain of command
14) Be too intrusive
15) Red tape

Constructive factors

1) Flexible
2) Honorable
3) Humble
4) Team work spirit
5) Openness
6) Honesty
7) Document decisions, actions, procedures, knowledge
8) Exceed partner's expectations
9) Avoid dysfunctional behaviors that might sabotage the partnership
10) Develop a common understanding of the alliance objectives
11) Communication
12) Name alliance coordinators
13) Be a diplomat
14) Harmony
15) Considerate
16) Have control with accountability

17) Attain balanced private benefits
18) Availability
19) Responsiveness
20) Loyalty

Overall, collaboration is both a natural and unnatural process, sometimes instinctive, other times rational. However, to sustain a collaborative venture requires the development of certain sophisticated and complex organizational capabilities. Relational capabilities support and build the social architecture of exchange relationships. Collaborative capabilities support the interaction processes by focusing on preventing outcome discrepancies by working on the collaborative process discrepancies. The interaction of relational and collaborative capabilities defines what Spekman et al. (2000) called the *alliance spirit*.

The fifth most important contribution of this study is trying to present the alliance phenomenon not as an orderly management and strategic process, clearly divided by sequential phases or steps through a pre-defined life cycle. Although this is necessary for comprehension purposes, alliances do have a very hectic and messy nature, especially when interactions are intense. Depending on many factors, the alliance might start to exist and operate even before any negotiation has started (the case of Mexico.com). Partner searching processes include potential partner testing processes operating pilot projects to start *dating*. Alliances tend toward entropy especially when they are born after a weak conception process.

Collaboration is an evolutionary process, composed by both seemingly altruistic behaviors and selfish ones. Collective action's biggest and most important challenge is how to motivate individuals to act on the interest of a business

community before the personal interest. Managers must persuade or even inspire employees to develop their collaborative genes by exercising reciprocal altruism. I would like end this study by trying to exemplify the process of collaboration with an analogy.

Collaboration as a phenomenon is like sailing. When we attempt to sail in shallow waters, and we have a large boat, chances are the boat will get stuck. Relational capabilities will give the alliance enough depth of water to be able to sail the kind of ship (alliance) we want. Collaborative capabilities in the other hand provide the appropriate ship characteristics that will help attain the objective: a fast boat for fishing, or a large ship for cargo. Now, it is up to the captain and the crew to take this ship to its destiny, despite of all weather conditions or uncertainties found in the sea. The larger the ship, (the more complex, intense, and sophisticated the alliance), the more depth of water required.

BIBLIOGRAPHY

Ahuja, G. (2000). Collaboration networks, structural holes, and innovation: A longitudinal study. *Administrative Science Quarterly, 45,* 425-455.

Amit, R., & Shoemaker, P. (1993). Strategic assets and organizational rent. *Strategic Management Journal*, *14*(I), 33-46.

Ancona, D., & Caldwell, D. (1990). Beyond boundary spanning: managing external development in product development teams. *High Technology Management Research, 1,* 119-136.

Anderson, J. C., & Narus J. A. (1990) A model of distributor firm and manufacturer firm working partnerships. *Journal of Marketing, 54,(1),* 42.

Anderson, E., & Weitz, B. (1992) The use of pledges to build and sustain commitment in distribution channels. *Journal of Marketing Research, 29, (1)* 18.

Argyle, M. (1991). *Cooperation: the basis of sociability*. London: Routledge.

Arrow, K. (1975). Vertical integration and communication. *The Rand Journal of Economics, 6,* 173-189.

Axelrod, R. (1984). *The evolution of cooperation*. New York: Basic Books.

Badaracco, J. (1991) Alliances speed knowledge transfer. *Planning Preview*, *Vol 8,,* p 215-224.

Barnard, C. (1938). *The functions of the executive*. Cambridge, MA: Harvard University Press.

Barney, J. B. (1986). Types of competition and the theory of strategy: Toward an integrative framework. *Academy of Management Review, 11,* 791-800.

Barney, J. B. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, *17,* 99-120.

Barney, J. B., & Hansen, M. H. (1994) Trustworthiness as a source of competitive

advantage. *Strategic Management Journal, 15,* 175.

Barringer, B. R. & Harrison J. S. (2000) Walking a tightrope: creating value through inter-organizational relationships. *Journal of Management, 26,(2)* 367

Beamish, P. (1987) Joint venture in LCDs: Partner selection and performance. *Management International Review, 3,* 124-133.

Beamish, P. (1991) International Management: text and cases. New York: Irwin.

Beamish, P., & Killing, J. (1997) (Eds). Cooperative strategies, North American perspectives. San Francisco: The New Lexington Press.

Blau, P. (1964). *Exchange and power in social life.* New York: Wiley.

Blois, K. J. (1972). Vertical quasi-integration. *Journal of Industrial Economics, 20,* 253-72.

Brown, S., & Eisenhardt, K. (1995). Product development: Past research, present findings, and future directions. *Academy of Management Review, 20,* 343-378.

Browning, L. D., Breyer, J. M., & Shetler, J. C. (1995). Building cooperation in a compatitive industry: Semantech and the semiconductor industry. *Academy of Management Journal, 38,* 113-151.

Buckley, P. J. & Casson, M. (1988). A theory of co-operation in international Business. *MIR* Special Issue, 19-37.

Campbell, A., & Goold, M. (2000) *The Collaborative Enterprise*. New York: Perseus.

Carrol, G., (1993) A sociological view of why firms differ, *Strategic Management Journal, 14,(4)* 237

Caves, R. (1984). Economic analysis and the quest for competitive advantage. *The American Economic Review, 74,* 127-133.

Chambers, B. R. (1991). *Alliances for innovation and the strategic intent to build core competence*. Unpublished Ph. D. Thesis, University of Michigan.

Chong, J., Golder, C., & Lee S. H. (1996). Redefining the global triad. *European Business Review, 3.* 155-169.

Christensen, C. (1994). Making strategy: learning by doing. *Harvard Business*

Review, 75, 141.

Churchill, G. (1979). A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research, 16,* 64

Clark, K., & Fujimoto, T. 1991. *Product development and performance: Strategy, management and organizations in the world auto industry.* Boston, MA: Harvard Business School Press.

Clover, V.T. & Balsley, H. (1979) *Business Research Methods.* 2nd ed. Columbus, Ohio: Grid Publishing Co.

Cohen, W., & Levinthal, D. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly, 35,*128-153.

Commons, J. R. (1950). *The economics of collective action.* Madison: University of Wisconsin Press.

Conner, K. (1991). A historical comparison of resource-based theory and five schools of thought within industrial organization economics: Do we have a new theory of the firm? *Journal of Management, 17,* 121-185.

Conner K., & Prahalad C. K. (1996). A resource-based theory of the firm: knowledge versus opportunism. *Organization Science, vol 4,* p259-278.

Contractor, F. J., & Lorange, P. (1988). Why should firms cooperate? The strategy and economics basis for cooperative ventures. In F. J. Contractor & P. Lorange (Eds.), *Cooperative strategies in international business*: 3-28 Lexington, MA: Lexington Books.

Cook, T., & Campbell, D. (1979). Quasi-experimentation: Design & analysis issues for field settings. City: Rand McNally College Pub. Co.

Cool, K., Diedrickx, I., & Jemison, D. (1989). Business strategy, market structure and risk return relationships: A structural approach. Strategic Management Journal, 10, 507-522.

Coser L., Kadushin C. & Powell W. 1985 The culture and commerce and publishing, *University of Chicago Press.*

Cronbach, L. J. (1951) Coefficient alpha and the internal structure of tests. Psychometrika.

Cyert, R., & March, J. (1963). *A behavioral theory of the firm.* Englewood Cliffs, NJ: Prentice-Hall.

Das, T. K., & Teng, B. S. (1998). Between trust and control: Developing confidence in partner cooperation in alliances. *Academy of Management Review, 23,* 491-512.

Dierickx, ., & Cool, . (1989). P. 23

DiMaggio, P., & Powell, W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. American Sociological Review, 48, 147-160.

Dosi, G. (1982). Technological paradigms and technological trajectories. *Research Policy, 11,* 147-162.

Dougherty, D. (1998). *Organizational capacities for sustained product innovation.* Paper presented at the annual meeting of the Academy of Management in San Diego.

Dougherty, D., & Heller, T. (1994). The illegitimacy of successful product innovation in established firms. *Organizational Science, 5,* 200-219.

Doz, Y. (1996). The evolution of cooperation in strategic alliances: Initial conditions or learning processes? *Strategic Management Journal, 17,* 55-83.

Doz, Y. & Hamel G. 1998 Alliance advantage: The art of creating value through partnering, *Harvard Business School Press*

Doz, Y. & Prahalad, C. K. (1989). Collaborate with your competitors-and win. *Harvard Business Review, 67,*133-140.

Drucker, P. (1986). *Innovation and Entrepreneurship*, McGrawHill.

Dunning, J. (1993). Internationalizing Porter's diamond. *Management International Review, 33,* 7-16.

Eisenhardt, K., & Schoonhoven, D. (1996). Resource-based view of strategic alliance formation: Strategic and social effects in entrepreneurial firms. *Organization Science, 7,* 136-150.

Fombrun, C. J. (1986). Structural dynamics within and between organizations. *Administrative Science Quarterly, 31,* 403-421.

Fowler, J. Jr.. (1984). *Survey research methods.* Beverly Hills, CA: Sage.

Freeman, C. (1991). Networks of innovators: a synthesis of research issues. *Research Policy, 20,* 499-514.

Galunic, C. & Rodan, S. (1998). *Resource recombination in the firm: Knowledge structures and the potential for Schumpeterian innovation.* A version of this paper is forthcoming in the Strategic Management Journal.

Ganitsky, J. & Watzke, G. E. (1990) Implications of different time perspectives for human resource management in international joint ventures. *Management International Review, 1,* 29-33.

Garud, R., & Nayyar, P. (1994). Transformative capacity: Continual structuring by intemporal technology transfer, *Strategic Management Journal, 15,* 365-385.

George, J. M. (1991). State of trair: Effects of positive mood on prosocial behaviors at work. *Journal of Applied Psychology, 76,* 299-307.

George J. & Jones T. M. 1998 The experience and evolution of trust: Implications for cooperation and teamwork, *Academy of Management Review,* 23: 531 - 546.

Geringer, J. M. (1988). Selection of partners for international joint ventures partner selection criteria for developed country joint ventures. *Business Quarterly, 2,* 125-136.

Geringer, M. J. (1991). Strategic determinants of partner selection criteria in international joint ventures. *Journal of International Business Studies, 22,* 41-62.

Geringer, J. M., & Hebert, L. (1989). Control and performance of international joint ventures. *Journal of International Business Studies, 4,* 356-378.

Geringer, M. J. & Hebert, L. (1991). Measuring performance of international joint ventures. *Journal of International Business Studies, 22,* 249- 263.

Goes, J. B., & Park, S. H. (1997). Inter-organizational links and innovation: The case of hospital services. *Academy of Management Journal, 40,* 673-696.

Gomes-Casseres, B. (1996). *The alliance revolution*. Cambridge, MA: Harvard University Press.

Gomes-Casseres, B. (1998). Do you really have an alliance strategy? *Strategy and Leadership, 26,* 6-11.

Graham, J. W. (1991). An essay on organizational citizenship behavior. *Employee Rights and Responsibilities Journal, 4(4),* 249-270.

Grant, R. M. (1991). The resource-based theory of competitive advantage: Implications for strategy formulation. *California Management Review, 2,* 123-133

Grant, R. M. (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal, 3,* 287-294.

Grant R,. M., & Baden-Fuller, C. (1995). A knowledge-based theory of inter-firm collaboration. *Academy of Management, Best Paper Proceedings 1995,* 17-21.

Granovetter, M. (1985). Economic action and social structure: the problem of embeddedness. *The American Journal of Sociology, 91,* 481-510.

Gray, B. (1985). Conditions facilitating interorganizational collaboration. *Human Relations, 38,* 911-936.

Gray, B. (1989). The pathways of my research: A journey of personal engagement and change. *The Journal of Applied Behavioral Science, vol,* p.

Gray, B., Sharfman, M & Yan, A. (1991) The Context of Interorganizational Collaboration in the Garment Industry: An Institutional Perspective, The Journal of Applied Behavioral Science.

Gray, B. & Wood, D. J. (1991) Collaborative alliances: moving from practice to theory. *Journal of Applied Behavioral Science*, 27: 3-22.

Gray, B. & Wood, D. (1991) Toward a Comprehensive Theory of Collaboration, The Journal of Applied Behavioral Science.

Guitot, J. M. (1977). Attribution and identity construction: Some comments. *American Sociological Review, 42,* 692-704.

Gulati, R. (1995). Social structure and alliance formation: A longitudinal study. *Administrative Science Quarterly, 40,* 619-652.

Gulati, R., & Singh, H. (1998). The architecture of cooperation: coordination costs and appropriation concerns in strategic alliances. *Administrative Science Quarterly, 43,* 781-814.

Hagedoorn, J., & Schakenraad, J. (1994). The effect of strategic technology alliances on company performance. *Strategic Management Review, 15,* 291-309.

Hair, J., Anderson, R., Tatham, R., Black, W. (1998). Multivariate data analysis. NJ: PrenticeHall.

Hamel, G. (1991). Competition for competence and inter-partner learning within international strategic alliances. *Strategic Management Journal, Summer Special Issue, 12,* 83-103.

Hamel, G., Doz, Y., & Prahalad, C. (1989). Collaborate with your competitors and win. *Harvard Business Review, 67,* 133-139.

Harrigan, K. R. (1988). Joint ventures and competitive strategy. *Strategic Management Journal, 9,* 141-158.

Henderson, R., & Clark, K. (1990). Architectural innovation: The reconfiguration of existing product technologies and the failure of established firms. *Administrative Science Quarterly, 35,* 9-31.

Henderson, R., & Cockburn, I. (1994). Measuring competence? Exploring firm effects in pharmaceutical research. *Strategic Management Journal, 12,154-161p.*

Henderson, R., & Mitchell, W. (1997). The interaction of organizational and competitive influences on strategy and performance. *Strategic Management Journal, 18,* 5-14.

Hennart, J. F. (1980). L'Effet des Syndicats Francais sur les salaires: The Differential Wage Impact of French Labor Unions. *Sciences Economiques,*

vol 3, p 198-214.

Hennart, J. F. (1988). A transaction costs theory of equity joint ventures. *Strategic Management Journal, 9,* 361-375.

Hergert, M., & Morris, D. (1989). Accounting data for value chain analysis. *Strategic Management Journal, 10,* 175-189.

Hitt, M., Dacin, M., Levitas, E., Arregle, J. L., & Borza, A. (2000). Partner selection in emerging and developed market contexts: Resource-based and organizational learning perspectives. *Academy of Management Journal, 43,* 449-467.

Hofer, C., & Schendel, D. (1978). Strategy formulation: Analytical concepts. New York:*West Publishers.*

Homans, G. C. (1950). *The Human Group.* New York: Harcourt, Brace, and World.

Ho Park, S., & Ungson, G. R. (1997). The effect of national culture, organizational complementarity, and economic motivation on joint venture dissolution. *Academy of Management Journal, 40 (2),* 279.

Hoyle, R.H. (1995). Structural Equation Modeling. London: Sage Publication

Inkpen, A. C. (1996). Creating knowledge through collaboration. *California Management Review, 4,* 124-136.

Itami, H. & Roehl, T. 1987. ***Mobilizing invisible assets***. Harvard University Press: Cambridge, MA.

Jap, S. D. (1995). *A longitudinal approach to the effects of partner firm characteristics, the environment and mutual trust on synergy*. Ph. D. Dissertation. University of Florida.

Jarillo, J. C. (1989). Entrepreneurship and growth: The strategic use of external resources. *Journal of Business Venturing, 7*,230-246

John, G., & Reve, T. (1982). The reliability and validity of key informant data from dyadic relationships in marketing channels. *Journal of Marketing Research, 19(4),* 517.

Katz, D., & Kahn, R. (1966). *The social psychology of organizations*. New York: Wiley.

Khanna, T. (1997). On technological evolution within and of industry boundaries. *Research on technological innovation, management and policy*.

Klein, D. (1989). Cooperation and the per se debate: Evidence from the United Kingdom. *Antitrust Bulletin, 34,* 517-533.

Kogut, B. (1988). Joint ventures: Theoretical and empirical perspectives. *Strategic Management Journal, 9,* 319-322.

Konrad, A. M., & Linnehan, F. (1995). Formalized HRM structures: Coordinating equal employment opportunity or concealing organizational practices? *Academy of Management Journal, 38,* 787-820.

Kotabe, M., & Swan, K. (1995). The role of strategic alliances in high-technology new product development. *Strategic Management Journal, 16,* 621-640.

Kreps, G. (1991). *Answering organizational questions: A brief for structural codes*, Pp. 143-76 in Studies in Organizational Sociology. Miller, G (eds.). Kreps. Newark: University of Delaware Press.

Kumar, S. (1993). *The design of coordination and control mechanisms in joint ventures.* Unpublished Ph.D. Thesis, University of Houston.

Kumar, S., & Seth, A. (1998). The design of coordination and control mechanisms for managing joint venture-parent relationships. *Strategic Management Journal, 19,* 579-599.

Kumar, S., Stern, L. W., & Anderson, J. C. (1993). Conducting interorganizational research using key informants. *Academy of Management Journal, 36,* 1633-51.

Lado, A. A., Boyd, N. G., & Hanlon, S. C. (1997). Competition. cooperation, and the search for economic rents: A syncretic model. *Academy of Management Review, 22,* 110-141.

Lambe, C. J. (1998). *Alliances and sustainable competitive advantage: An exploratory examination.* Unpublished Ph.D. Thesis. University of Virginia.

Lane, H. W., & Beamish, P. W. (1990). Cross-cultural cooperative behavior in joint ventures in LDCs. *Management International Review, 30,* 87-104.

Larson, A. (1992). Network dyads in entrepreneurial settings: A study of the

governance of exchange relationships. *Administrative Science Quarterly, 37,* 76-104.

Leonard-Barton, D., (1999). *Wellsprings of knowledge*. Boston: Harvard University Press

Lorange, P. & Roos, J. (1990). Formation of cooperative ventures: competence mix of the management. *Management International Review, 30*, 69.

Lorenzoni, G., & Lipparini, A. (1999). The leveraging of interfirm relationships as a distinctive organizational capability: a longitudinal study. *Strategic Management Journal, 20,* 317-338.

Lyles, M. (1988). Learning among joint venture sophisticated firms. *Management International Review, 28,* 85-99.

MacKenzie, ., Podsakoff, ., & Fetter, . (1993). The Impact of organizational citizenship behaviors on evaluations on salesperson performance. *Journal of Marketing, 57*, 70-81

Marquardt, M., & Reynolds, A. (1994). *The global learning organization*. New York: Irwin.

McNeely, B. L., & Meglino, B. M. (1994). The role of dispositional and situational antecedents in pro-social organizational behavior: An examination of the intended beneficiaries of pro-social behavior. *Journal of Applied Psychology, 79,* 836-844.

Miles, R., & Snow, C. (1986). Organizations: New concepts for new forms. *California Management Review, 28,* 62-73.

Millar, J., Demaid, A., & Quintas, P. (1997). Trans-organizational innovation: A framework for research. *Technology Analysis & Strategic Management, 9:4,* 399-418.

Miller, D., & Shamsie, J. (1995). A contingent application of the resource-based view of the firm: The Hollywood film studios from 1936 to 1965. *Academy of Management Journal, 39,* 519-634.

Miyazaki, H. (1993). Employeeism, corporate governance, and the J-firm. *Journal of Comparative Economics, 17,* 443-449.

Moldoveanu, M. C. (1997). *The problem of coordination*. Unpublished Ph.D. thesis. Harvard University.

Moorman, R. H. (1991). Relationship between organizational justice and organizational citizenship behaviors: Do fairness perceptions influence employee citizenship? *Journal or Applied Psychology, 76,* 845-855.

Moss Kanter, R. (1988). *The Change Masters*. London: McMillan

Moss Kanter, R. M. (1988). *When a thousand flowers bloom*, in Staw. B., & Cummings, L. eds. Research in Organization Behavior, Greenwich, CT: JAI Press

Moss Kanter, R. (1994). Collaborative advantage: The art of alliances. *Harvard Business Review, July-Aug,* 96-108.

Mowery, D. C., Oxley, J. E., & Silverman, B. S. (1996). Strategic alliances and interfirm knowledge transfer. *Strategic Management Journal, 17,* winter special issue: 77-92.

Murray, A. I., & Siehl, C. (1989). Joint Ventures and Other Alliances: Creating a Successful Cooperative Linkage. *Financial Executives Research Foundation.*

Nelson, R. (1991). Why do firms differ, and how does it matter?. *Strategic Management Journal, 12,* 61-75.

Nelson. R., & Winter, S. (1982). *An evolutionary theory of economic change*, Cambridge, MA: Harvard University Press.

Niosi, J. (1995). *Flexible innovation: Technological alliances in Canadian industry*. London: McGill-Queens University Press.

Nohria, N., & Eccles, R. (1992). Nonfiction - Beyond the hype: Rediscovering the essence of management. *Publishers Weekly, 239,* 51.

Nonaka, I., & Takeuchi, H. (1995). *The knowledge creating company*. London: Oxford University Press.

Nunnally, J. (1978). *Psychometric theory*. (2nd ed.). New York: McGraw Hill.

Oliver, C. (1997). The antecedents of deinstitutionalization. *Organization Studies, 13,* 563-588.

Organ, D. W. (1988a). *Organizational Citizenship Behavior: The Good Soldier*

Syndrome. Lexington, MA: Lexington Books.

Organ, D. W. (1988b). A restatement of the satisfaction performance hypothesis, *Journal of Management,14,* 547-557.

Organ, D. W. (1990). The motivational basis of organizational citizenship behavior. *Research in Organizational Behavior, 12(4),* 43-72.

Organ, D. W, Farh, J. L., & Podsakoff, P. M.. (1990). Accounting for organizational citizenship behavior: leader fairness and task scope versus satisfaction. *Journal of Management, 16,:* 705-721.

Organ, D. W. & Konovsky, M. A. (1996). Dispositional and contextual determinants of organizational citizenship behavior. *Journal of Organizational Behavior, 7,* 345.

Osborn, R. N. & Hagedoorn, J. (1997). The institutionalization and evolutionary dynamics of interorganizational alliances networks. *Academy of Management Journal, 40,* 261-278.

Parkhe, A. (1991). Interfirm diversity, organizational learning, and longevity in global strategic alliances. *Journal of International Business Studies, fourth quarter,* 579-599.

Pearce, J. L., & Gregersen, H. B. (1991). Task interdependence and extrarole behavior: A test of mediating effects of felt responsibility. *Journal of Applied Psychology, 76,* 838-844.

Pearce, J. A., II, Robbins, D. K., & Robinson, R. B. (1987). The impact of grand strategy and planning formality on financial performance. *Strategic Management Journal, 55,* p123-132.

Pelikan, P. (1989). Evolution, economic competence, and the market for corporate control. *Journal of Economic Behavior and Organization, 12,* 279-304.

Pennings, J., & Harianto, F. (1992). The diffusion of technological innovation in the Commercial Banking Industry. *Strategic Management Journal, 13,* 29-47.

Penrose, E. (1959). *The theory of the growth of the firm.* Oxford, England: Basil Blackwell.

Perlmutter, H., & Heenan, D. (1986). Cooperate to compete globally. *Harvard*

*Business Review, 64,*136-143.

Pettigrew, A. (1977). Strategy formulation as a political process. *International Studies of Management and Organizations, 7,* 78-87.

Pfeffer, J., & Salancik, G. R. (1978). *The external control of organizations: A resource dependence perspective*. New York: Harper & Row.

Phillips, L. W. (1981). Assessing measurement error in key informant reports: A methodological not an organizational analysis in marketing. *Journal of Marketing Research, 18,* 395-415.

Podsakoff, P. M., & Organ, D. W. 1986. Self-reports in organizational research; Problems and prospects. *Journal of Management, 12,* 531-544.

Podsakoff, P. M., MacKenzie, S. B., Moorman, R. H., & Fetter, R. (1990). Transformational leadership behaviors and their effects on followers' trust in leader, satisfaction, and organizational citizenship behaviors. *Leadership Quarterly, 1,* 107-142.

Podsakoff, P. M., MacKenzie, S. B., Paine, J. B. & Bachrach, D.G. 2000. Organizational citizenship behaviors: A critical review of the theoretical and empirical literature and suggestions for future research, *Journal of Management. 26:*513-524

Porter, M. (1980). *Competitive Strategy*. New York: Free Press.

Porter, M. (1985). *Competitive Advantage.* New York: Free Press

Porter, M. (1991) Towards a Dynamic Theory of Strategy, *Strategic Management Journal, 4,* 340-356.

Porter Lynch, R. (1993). *Business Alliances Guide: The hidden competitive weapon*. New York: Wiley.

Powell, W. W. (1990). Neither market for hierarchy: Network forms of organization. *Research in Organizational Behavior, 12,* 295-336.

Powell, W. W., Koput, K. W., & Smith-Doerr, L. (1996). Inter-organizational collaboration and the locus of innovation: Networks of learning in biotechnology. *Administrative Science Quarterly, 41,* 116-145.

Prahalad, C. K., & Hamel, G. (1990). The core competence of the corporation. *Harvard Business Review, 68,* 79-91.

Prahalad, C. K., & Hamel, G. (1991). Corporate imagination and expeditionary marketing. *Harvard Business Review, 69,*(4) 81.

Ring, P. S., & Van De Ven, A. H. (1992). Structuring cooperative relationships between organizations. *Strategic Management Journal, vol,* p.

Ring, P. S., & Van de Ven, A. (1994). Developmental processes of cooperative inter-organizational relationships. *Academy of Management Review, 19,* 90-118.

Roethlisberger, F. J., & Dickson, W. J. (1964). *Management and the worker.* New York: Wiley Science Editions.

Rumelt, R. P. (1984). *Towards a strategic theory of the firm.* In R. B. Lamb (ed.), Competitive Strategic Management. Englewood Cliffs, NJ: Prentice-Hall

Sanchez, R., Heene, A. & Thomas, H. (1996). *Dynamics of competence-based competition: Theory and practice in the new strategic management.* London/Oxford: Pergamon Press.

Schumpeter, J. A. (1934). *The theory of economic development.* Cambridge, MA: Harvard University Press.

Shumpeter, J. (1942). Capitalism, socialism, and democracy. New York: Harper and Row.

Scott, J. (1987). *Organizations.* Englewoods Cliffs, NJ: Simon and Schuster.

Seidler, J. (1974). On using informants: A technique for collective quantitative data and controlling of measurement error in organization analysis. *American Sociological Review, 39,* 816-831.

Selznick, P. (1957). *Leadership in administration.* New York: Harper and Row.

Serapio, M. G. & Cascio, W. F. (1996) End games in international alliances. *The Academy of Management Executive, 10(1),* 62.

Sharfman, M. P. (1991). The context of inter-organizational collaboration in the garment industry: An institutional perspective. *Journal of Applied Behavioral Science, 27,* 181-208.

Sharfman, M. P., Gray, B., & Yan, A. (1991). The context of interorganizational

collaboration in the garment industry: An institutional perspective. *The Journal of Applied Behavioral Science, vol,* p.

Shrivastava, P. (1984). Technological innovation in developing countries. *Journal of World Business, 19,* 23-30.

Simon, H. (1947)| *Administrative Behavior.* New York: MacMillan.

Simonin, B. L. (1991). *Transfer of knowledge in international strategic alliances: A structural approach.* Unpublished Ph.D. thesis. University of Michigan.

Simonin, B. L. (1997). The importance of collaborative know-how: An empirical test of the learning organization. *Academy of Management Journal, 40,* 1150-1174.

Sivadas, E., & Dwyer, R. (2000). An examination of organizational factors influencing new product success in internal and alliance-based processes. *Journal of Marketing, 64,* 31-49.

Slowinski, G., Seelig, G., & Hull, F. (1996). Managing technology-based strategic alliances between large and small firms. *Sam Advanced Management Journal, 3,* 42-47.

Smircich, L. (1983) Concepts of Culture and Organizational Analysis, *Administrative Science Quarterly, 4,* 278-289.

Smith, C. A., Organ, D. W., & Near, J. P. (1983). Organizational citizenship behavior: Its nature and antecedents. *Journal of Applied Psychology, 68,* 653-663.

Smith, K. G., Carrol, S. J., & Ashford, S. J. (1995) Intra-and interorganizational cooperation: Toward a research agenda. *Academy of Management Journal, 38,* 7-23

Spekman, R. E., Forbes, T. M., Isabella, L. A. & MacAvoy, T. C. 1998. Alliance management: A view from the past and a look to the future, The Journal of Management Studies. 35, 6: 747.

Staw, B. (1975). Attribution of the 'causes' of performance - a general alternative interpretation of cross-sectional research on organizations. *Organizational Behavior and Human Performance, 2, 95-103.*

Steensma, H. K. (1996). Acquiring technological competencies through inter-organizational collaboration: an organizational learning perspective. *Journal of Engineering and Technology Management, 12,* 267-286.

Stone-Romero, E. (1997). *Organizational behavior: The state of the science.* Hillsdale, NJ: J. Greenberg.

Teece, D. J. (1986). *Firm boundaries, technological innovation, and strategic management.* In L. G. Thomas, III. (ed.), The Economics of Strategic Planning. Lexington, MA: Irwin 187-199.

Teece, D. J. (1986). Profiting from technological innovation: implications for integration, collaboration, licensing and public policy. *Research Policy, 15,* 285-305.

Teece, D. J. (1992). Competition, cooperation and innovation: Organizational arrangements for regimes of rapid technological progress. *Journal of Economic Behavior and Organization, 18,* 1-25.

Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal, 18(7),* 509-533.

Terpstra, V., & Simonin, B. (1993). Strategic alliances in the triad: An exploratory study. *Journal of International Marketing, 1,* 4-26.

Thompson, J. (1967). *Organizations in acction.* New York: McGraw-Hill.

Tiemssen, I., Lane, H. W., Crossan, M. M., & Inkpen, A. C. (1997). Knowledge management in international joint ventures, cooperative strategies: North American perspectives. Ed. New Lexington Press.

Tyler, B., Steensma, B. & Kevin, H. 1995. Evaluating technological collaborative opportunities: A cognitive modeling perspective, *Strategic Management Journal.* 16: 43.

Van de Ven, A. H. (1986) Central problems in the management of innovation. *Management Science, 32,(5)* 590.

Van Dyne, L. (1993). *In-role and extra-role behaviors: Cross level and longitudinal effects of individual similarity to other group members.* Unpublished doctoral dissertation, University of Minnesota, Minneapolis, MN.

Van Dyne, L., Cummings, L. L., & McLean Parks, J. (1995). Extra-role behaviors: In pursuit of construct and definitional clarity (a bridge over muddied waters). *Research in Organizational Behavior*, 17: 215-285.

Van Scotter, J. R., & Motowidlo, S. J. (1996). Interpersonal facilitation and job dedication as separate facets of contextual performance. *Journal of Applied Psychology, 81(5)* 525.

Varadarajan, P. R. & Cunningham, M. H. (1995). Strategic alliances: A synthesis of conceptual foundations. *Academy of Marketing Science, 23(4)* 28

Von Hippel, E. (1988). *The sources of innovation*. New York: Oxford University Press.

Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal, 5,* 171-180.

Williams, L. J., & Anderson, S. E. (1991). Job satisfaction and organizational commitment as predictors of organizational citizenship behaviors and in-role behaviors. *Journal of Management, 17,* 601-617.

Williamson, O. E. (1985). *The economic institutions of capitalism*. New York: Free Press.

Williamson, O. E. (1991). Comparative economic organization: the analysis of discrete structural alternatives. *Administrative Science Quarterly, 36,* 269-298.

Wolfe Morrison, E. (1994). Role definitions and organizational citizenship behavior: The importance of the employee's perspective. *Academy of Management Journal, 37,* 1543-1567.

Wood, D. J., & Gray, B. (1991). Toward a comprehensive theory of collaboration. *Journal of Applied Behavioral Science, 27,* 139-162.

Zajac, E. J. & Olsen, C. (1993). From transaction cost to transactional value analysis: Implications for the study of inter-organizational strategies. *Journal of Management Studies, 30,* 130-146.

APPENDICES

Appendix A Questionnaires

CUESTIONARIO SOBRE ALIANZAS ESTRATEGICAS

Gracias por participar en este estudio. ***Su participación en esta investigación es voluntaria y anónima.*** ***Tenga usted la seguridad de que toda la informacion generada se tratará con absoluta confidencialidad.***

Sea tan gentil de responder a las siguientes preguntas de acuerdo a su libre y honesta opinión. Los resultados de este estudio serán utilizados por el ITESM para generar recomendaciones a los tomadores de decisiones con el objeto de que mejoren y hagan más productivas sus relaciones con otras organizaciones.

1. ¿Cual es el nombre de su Compañía? (opcional)

_____

2. ¿Cuál de los siguientes puestos se asemeja a la posición que usted ocupa en la Compañía? (marque solo una opción)

(a) Presidente/ Director General
(b) Vicepresidente/ Director de la Alianza
(c) Vicepresidente/ Director de una área funcional
(d) Gerente de la Alianza
(e) Gerente Funcional
(f) Gerente de unidad de negocio o línea de producto (marca, producto)
(g) Otro (por favor especifique) **ANALISTA DE ITINERARIOS**_____

_____

(h) _____

(i) Si es el caso, por favor indique que Area o División dirige usted

_____

_____

3. ¿Cual es el nombre de su SOCIO EN LA ALIANZA ?

(Opcional)

LA ALIANZA INTERNACIONAL ESTÁ CONFORMADA POR 15 SOCIOS: LUFTHANSA, SAS, UNITED, BRITISH MIDLAND, AIRCANADA, AIR NEW ZEALAND, ALL NIPPON AIRWAYS, ANSETT AUSTRALIA, THAI, VARIG, AVIANCA, SERVIVENSA, .

4. ¿Cual es el nombre de la Alianza? (opcional)

STAR'ALLIANCE

5. ¿Cual de las siguientes categorías representa mejor el giro de su compañía ?

Por favor indique solo una letra: a

(a) Aeronáutica o transportación
(b) Banca o Servicios Financieros
(c) Químicos
(d) Electrónica
(e) Metalurgia
(f) Farmacéutica, Biotecnología/ Servicios Médicos
(g) Maquinaria pesada
(h) Textiles, vestido, muebles para el hogar
(i) Vidrio, refractarios, cerámica
(j) Hotelería, servicios de entretenimiento
(k) Automóviles, auto-partes
(l) Construcción
(m) Computadoras, software, servicios en línea
(n) Alimentos, bebidas, tabaco
(o) Ferrocarriles, Ensamble de Camiones
(p) Telecomunicaciones
(q) Distribución de Gas
(r) Medios de comunicación, televisión, películas, entretenimiento
(s) Otro (especifique)_____

6. Utilizando las categorías dadas en la pregunta 5, por favor escriba la letra que mejor represente el giro principal de su socio en la alianza ?

a

---

7. ¿Qué tan bien conoce usted a la Alianza y a su Socio?

Por favor marque en la escala sólo uno de los siete números. En la escala, 1 significa: "No tengo conocimiento alguno" y 7 significa : "Los conozco perfectamente"

No tengo conocimiento alguno ***Los conozco perfectamente***

1	2	3	4	5	6	7
				X		

8. ¿Está usted considerado como el "Gerente" de la Alianza, o como la persona responsable de la administración de la alianza en su organización? Por favor marque SI o NO.

SI _____ NO ___X____

Si su respuesta fué NO por favor especifique su posición o responsabilidad con respecto a la alianza:

TRABAJO EN EL ÁREA DE ITINERARIOS, POR LO QUE TENGO QUE CONSIDERAR SE SE DETERMINÓ ALGÚN AVIÓN ESPECÍFICO PARA ALGUNA RUTA DE LA ALIANZA. TENEMOS UN ITINERARIO SOLO CON VUELOS DE MEXICANA, SIN EMBARGO LOS SOCIOS NOS MANDAN SU PARTE Y VICEVERSA PARA TENER EL ITINERARIO ACTUALIZADO GLOBALMENTE.

9. ¿Cual es la nacionalidad de su Socio?

Por favor marque una opción:

Estadounidense___X___ Canadiense____X_____ Francesa _____ Inglesa ____X_____

Alemana _____X___ Italiana _____ Española _____

Otra (Especificar) _____Japones,Thailandes, Australianos, Escandinavos_

10. ¿En que año se inició la Alianza?

Por favor marque una opción:

Antes de 1990 _____ Entre 1990 y 1995 _____ Entre 1995 y el 2000 ____X____

11. ¿En que año se terminó la Alianza? o ¿En que año se terminará? (si es el caso)

Antes de 1990 _____ Entre 1990 y 1995 _____ Entre 1995 y el 2000 _____

Otro (especificar) Pretende seguir adelante, no hay termino

12. En caso de que la Alianza haya terminado, esta terminación ¿Fué originada por un conflicto entre su Compañía y su Socio?

Por favor marque una opción:

SI _____ NO _____ NO ESTOY SEGURO _____

13. Si la causa de la terminación de la Alianza no fué por un conflicto entre su Compañía y su Socio, por favor mencione la causa por la cual la Alianza terminó.

_____

_____

_____

14. ¿En que medida considera que su Socio puede convertirse en un competidor actual o futuro?

Por favor marque una opción:

Competidor muy fuerte _____ Competidor fuerte _____ Competidor débil_____

No es competencia__x___

15. ¿Cuáles son los principales Productos o Servicios que ofrece la Alianza?

TRANSPORTACIÓN AÉREA A MÁS DE 720 CIUDADES EN 110 PAÍSES CON UN TOTAL DE 1678 AVIONES PARA BRINDAR AL PASAJERO CONEXIONES ENTRE TODAS LAS AEROLÍNEAS DE FORMA TRANSPARENTE PARA ÉL, Y CON UN SOLO CHECK IN.

16 ¿En que países opera la Alianza? (si aplica)

EN 110 PAÍSES OPERA LA ALIANZA; EN LO REFERENTE A LA ADMINISTRACIÓN, ESTÁNDARES Y ACUERDOS, SE TIENE UN COMITÉ INTEGRADO POR UN MIEMBRO DE CADA AEROLÍNEA QUE INTEGRA LA ALIZANZA, LOS CUALES ESTABLECEN FECHAS, PROCEDIMIENTO Y LUGARES DE ENCUENTRO.

17. ¿En qué grado su compañía está involucrada o tiene experiencia en alguna de las siguientes formas estructurales de cooperación entre compañías?:

Por favor marque una opción en cada reglón de los incisos a,b,c,d,e.

La escala de involucramiento o experiencia va del 1 al 7, donde 1 significa "Involucramiento o experiencia nula" y 7 significa "Involucramiento o experiencia amplia".

Formas estructurales					***Nula***		***Moderada***	***Amplia***
a. Cooperación Informal (Sin contratos o capital)	1	2	3	4	5 **X**	6	7	
b. Acuerdos contractuales (sin capital pero con contrato entre las compañías)	1	2	3	4 **X**	5	6	7	
c. Joint ventures (creación de una nueva entidad legal entre las dos compañías)	1 **X**	2	3	4	5	6	7	
d. Compra o intercambio de acciones	1	2	3	4 **X**	5	6	7	
e. Consorcio (contratos o capital involucrando a mas de dos compañías)	1	2	3	4	5	6 X	7	

18. ¿ Cual de las estructuras de cooperación inter-organizacional descritas en la pregunta anterior describe mejor a la Alianza que formaron su compañía y su socio?

Por favor seleccione sólo una opción:

a _____ b __X___ c _____ d _____ e __X___

19. ¿En que medida su compañía está involucrada o tiene experiencia en las siguientes actividades funcionales o tipos de cooperación inter-compañías?

Por favor marque una opción en cada reglón de los incisos que van de la letra a a la letra k.

La escala de involucramiento o experiencia va del 1 al 7, donde 1 significa "Involucramiento o experiencia nula" y 7 significa "Involucramiento o experiencia amplia"

Actividades funcionales o tipo de cooperación Inter- compañías	***Nula***		***Moderada***				***Amplia***
a. Investigación conjunta	1	2	3	4	5	6 X	7
b. Desarrollo conjunto de productos	1	2	3	4	5 X	6	7
c. Producción conjunta X	1	2	3	4	5	6	7
d. Marketing conjunto	1	2	3	4	5	6	7 X
e. Proveer licencias	1	2	3	4	5	6 X	7
f. Acuerdos de manufactura y subcontratación	1 X	2	3	4	5	6	7
g. Distribución y/o distribución conjunta	1 X	2	3	4	5	6	7
h. Servicio post-venta	1	2	3	4	5	6	7 X
i. Franquicias	1	2 X	3	4	5	6	7
j. Transferencia de tecnología	1	2	3	4	5 X	6	7
k. Otro (Especificar) : _____	1	2	3	4	5	6	7

20.- ¿Cual de los tipos de actividades funcionales o de cooperación inter-organizacional mencionados en la pregunta anterior describen mejor la Alianza que formaron su compañía y su socio?

Puede usted marcar varias opciones:

a _____ b _____ c _____ d __X____ e _____

f _____ g _____ h __X____ i _____ j _____ k _____

21. Hasta donde usted sabe, qué tanto influyeron cada uno de los siguientes motivos para que si compañía decidiera formar la Alianza.

Por favor marque una opción en cada reglón de los incisos que van de la letra a a la letra x.

La escala de influencia va del 1 al 7, donde 1 significa "Sin influencia" y 7 significa "Mucha influencia"

	Sin Influencia		***Influencia moderada***			***Mucha influencia***		
a. Acceso a la conocimientos de Mercadotecnia	1	2	3	4 X	5	6	7	
b. Acceso a Distribuidores (ej. mayoristas)	1	2	3	4	5	6	7	X
c. Acceso a tiendas departamentales	1	2	3	4	5	6	7	X
d. Acceso a una fuerza de ventas	1 X	2	3	4	5	6	7	
e. Acceso a reparación y servicio post-venta	1	2	3 X	4	5	6	7	
f. Acceso a investigación de mercados y servicios de pronósticos	1	2	3	4	5	6 X	7	
g. Acceso a nuevos mercados geográficos	1	2	3	4	5	6	7 X	
h. Acceso a nuevos productos	1 X	2	3	4	5	6	7	
i. Acceso a materias primas o componentes	1	2	3	4	5	6	7	X
j. Innovación conjunta de productos o procesos	1	2	3 X	4	5	6	7	
k. Acceso a tecnologías o procesos	1	2	3 X	4	5	6	7	
l. Acceso a instalaciones de manufactura	1 X	2	3	4	5	6	7	
m. Acceso a mano de obra de bajo costo	1 X	2	3	4	5	6	7	
n. Acceso a financiamiento o a capital	1 X	2	3	4	5	6	7	
o. Recolectar nuevas habilidades o competencias	1	2	3	4	5	6	7 X	
p. Aprender nuevas habilidades o competencias	1	2	3	4	5	6	7 X	
q. Compartir riesgo	1	2	3	4 X	5	6	7	

Continuación de la página anterior:

	Sin Influencia		***Influencia moderada***			***Mucha influencia***	
r. Involucrar a la compañía en nuevos negocios	1	2	3	4	5	6	7 X
s. Prevenir la formación de competidores	1	2	3 X	4	5	6	7
t. Ganar una posición estratégica en el mercado de mis competidores	1	2	3	4	5	6	7 X
u. Saltar a barreras proteccionistas o barreras de regulación locales	1 X	2	3	4	5	6	7
v. Lograr economías de escala	1	2	3	4	5	6	7 X
w. Reacción al ritmo de la tecnológica obsoleta	1 X	2	3	4	5	6	7
x. Otro _____	1	2	3	4	5	6	7

22.- Hasta donde usted sabe, qué tanto influyeron cada uno de los siguientes motivos para que su socio decidiera formar la Alianza.

Por favor marque una opción en cada reglón de los incisos que van de la letra a a la letra x.

La escala de influencia va del 1 al 7, donde 1 significa "Sin influencia" y 7 significa "Mucha influencia"

	Sin Influencia		***Influencia moderada***			***Mucha influencia***		
a. Acceso a la conocimientos de Mercadotecnia	1	2	3	4 X	5	6	7	
b. Acceso a Distribuidores (ej. mayoristas)	1	2	3	4	5	6	7	X
c. Acceso a tiendas departamentales	1	2	3	4	5	6	7	X
d. Acceso a una fuerza de ventas	1	2 X	3	4	5	6	7	
e. Acceso a reparación y servicio post-venta	1	2	3	4 X	5	6	7	
f. Acceso a investigación de mercados & servicios de pronósticos	1	2	3	4 X	5	6	7	

Continuación de la página anterior:

	Sin Influencia		***Influencia moderada***			***Mucha influencia***		
g. Acceso a nuevos mercados geográficos	1	2	3	4	5	6	7 X	
h. Acceso a nuevos productos	1 X	2	3	4	5	6	7	
i. Acceso a materias primas o componentes	1	2	3	4	5	6	7	X
j. Innovación conjunta de productos o procesos	1	2	3	4	5	6 X	7	
k. Acceso a tecnologías o procesos	1	2	3	4 X	5	6	7	
l. Acceso a instalaciones de manufactura	1 X	2	3	4	5	6	7	
m. Acceso a mano de obra de bajo costo	1 X	2	3	4	5	6	7	
n. Acceso a financiamiento o a capital	1 X	2	3	4	5	6	7	
o. Recolectar nuevas habilidades o competencias	1	2	3	4	5	6	7 X	
p. Aprender nuevas habilidades o competencias	1	2	3	4	5	6	7 X	
q. Compartir riesgo	1	2 X	3	4	5	6	7	
r. Involucrar a la compañía en nuevos negocios	1	2	3	4	5	6	7 X	
s. Prevenir la formación de competidores	1	2	3	4	5	6	7 X	
t. Ganar una posición estratégica en el mercado de mis competidores	1	2	3	4	5	6	7 X	
u. Saltar a barreras proteccionistas o barreras de regulación locales	1	2	3 X	4	5	6	7	
v. Lograr economías de escala	1	2	3	4	5	6	7 X	
w. Reacción al ritmo de la tecnológica obsoleta	1 X	2	3	4	5	6	7	
x. Otro _____	1	2	3	4	5	6	7	

23. Hasta donde usted sabe, qué tan frecuentemente ha observado o conoce de los siguientes comportamientos en su Compañía en el contexto de la Alianza.

Por favor marque una opción en cada reglón de los incisos que van de la letra a a la letra o.

La escala de conocimiento va del 1 al 7, donde 1 significa "Nunca" y 7 significa "Siempre"

	Nunca			***A veces***			***Siempre***
a. Mi organización consume mucho tiempo quejándose acerca de problemas triviales relacionados con la Alianza con el socio(s)	1 **X**	2	3	4	5	6	7
b. Mi organización se enfoca en los aspectos negativos de la Alianza **más** que en los positivos.	1 **X**	2	3	4	5	6	7
c. Mi organización siempre encuentra errores en lo que la Alianza hace.	1	2 **X**	3	4	5	6	7
d. Personal de mi organización asiste a reuniones que no son obligatorias, pero que son consideradas importantes para la Alianza.	1	2	3 **X**	4	5	6	7
e. Personal de mi organización realiza funciones que no son requeridas, pero que ayudan en la operación de la Alianza.	1	2	3	4 **X**	5	6	7
f. Mi organización se mantiene informada de los cambios en la Alianza.	1	2	3	4	5	6	7 **X**
g. Personal de mi organización lee y se actualiza de los anuncios acerca del desempeño de la Alianza.	1	2	3	4	5	6 **X**	7
h. Mi organización toma medidas para prevenir problemas con los empleados del Socio	1	2 **X**	3	4	5	6	7
i. Los empleados de mi compañía están conscientes de que su comportamiento afecta el trabajo de los empleados del Socio	1	2	3	4 **X**	5	6	7
j. Mi Organización no abusa de los derechos del socio	1	2	3	4	5	6	7
k. Mi organización trata de evitar problemas con los colegas que laboran con el Socio	1	2	3	4	5	6	7 **X**
l. Mi organización considera el impacto de sus acciones en los empleados del Socio	1	2	3	4	5	6 **X**	7
m. Los empleados de mi organización orientan a las nuevas personas involucradas con la Alianza aunque no sea requerido	1	2	3	4 **X**	5	6	7
n. Los empleados de mi organización voluntariamente ayudan a los empleados del Socio que han tenido problemas similares	1	2	3 **X**	4	5	6	7
o. Los empleados de mi organización están siempre listos a ayudar a aquellos empleados del Socio que lo requieren	1	2	3	4 **X**	5	6	7

24 Hasta donde usted sabe, qué tan frecuentemente ha observado o conoce los siguientes comportamientos en su socio en el contexto de la Alianza

Por favor marque una opción en cada reglón de los incisos que van de la letra a a la letra o.

La escala de conocimiento va del 1 al 7, donde 1 significa "Nunca" y 7 significa "Siempre"

	Nunca		***A veces***		***Siempre***		
a. Mi socio consume mucho tiempo quejándose acerca de problemas triviales relacionados con la Alianza con el socio(s)	1 **X**	2	3	4	5	6	7
b. Mi socio se enfoca en los aspectos negativos de la Alianza **más** que en los positivos.	1 **X**	2	3	4	5	6	7
c. Mi socio siempre encuentra errores en lo que la Alianza hace.	1	2 **X**	3	4	5	6	7
d. Personal de mi socio asiste a reuniones que no son obligatorias, pero que son consideradas importantes para la Alianza.	1	2 **X**	3	4	5	6	7
e. Personal de mi socio realiza funciones que no son requeridas, pero que ayudan en la operación de la Alianza.	1	2	3	4 **X**	5	6	7
f. Mi socio se mantiene informado de los cambios en la Alianza.	1	2	3	4	5	6	7 **X**
g. Personal de mi socio lee y se actualiza de los anuncios acerca del desempeño de la Alianza.	1	2	3	4	5	6 **X**	7
h. Mi socio toma medidas para prevenir problemas con los empleados de mi organización.	1	2	3	4 **X**	5	6	7
i. Los empleados de mi socio están conscientes de que su comportamiento afecta el trabajo de los empleados de mi organización.	1	2	3	4	5	6 **X**	7
j. Mi socio no abusa de los derechos de mi organización.	1	2	3	4	5	6	7 **X**
k. Mi socio trata de evitar problemas con sus colegas que laboran en mi organización.	1	2	3	4	5	6	7 **X**
l. Mi socio considera el impacto de sus acciones en los empleados de mi organización	1	2	3	4	5 **X**	6	7
m. Los empleados de mi socio orientan a las nuevas personas involucradas con la Alianza aunque no sea requerido	1	2	3	4	5 **X**	6	7
n. Los empleados de mi socio voluntariamente ayudan a los empleados de mi organización que han tenido problemas similares	1	2	3 **X**	4	5	6	7
o. Los empleados de mi socio están siempre listos a ayudar a aquellos empleados de mi organización que lo requieren	1	2	3 **X**	4	5	6	7

25. A continuación encontrará una lista con algunos de los tipos mas importantes de recursos/habilidades/servicios que cada Socio podría proporcionar a la Alianza. Por favor califique el grado con el que el socio provee cada recurso/habilidad/servicio (favor de marcar un número para cada respuesta).

Recurso/Habilidad/Servicio	**Grado en el cual el recurso/habilidad/servicio es otorgado por el socio.**				
	Nulo	***Bajo***	***Moderado***	***Alto***	***Muy Alto***
a. Instalaciones de manufactura o procesos	1	2	3	4 X	5
b. Experiencia de manufactura o procesamiento	1	2	3 X	4	5
c. Canales de distribución/ventas	1 X	2	3	4	5
d. Materias primas para manufactura o procesamiento	1 X	2	3	4	5
e. Experiencia de Mercadotecnia	1	2	3 X	4	5
f. Capital líquido u otros recursos financieros	1 X	2	3	4	5
g. Experiencia de desarrollo de nuevos productos	1	2	3 X	4	5
h. Experiencia tecnológica o en investigación y desarrollo	1	2	3	4 X	5
i. Marcas registradas o nombres de marcas	1 X	2	3	4	5
j. Experiencia en administración en general	1	2	3	4 X	5
k. Servicios financieros administrativos	1 X	2	3	4	5
l. Servicios legales o de relaciones con gobierno o público	1	2 X	3	4	5
m. Imagen/ Reputación	1	2	3	4 X	5

26. Abajo encontrará listados algunos de los más importantes tipos de Recursos/Habilidades/Servicios que cada Socio podría proporcionar a la Alianza. Indique que tan "Importante" son cada una de los Recursos/habilidades/servicios para las operaciones y el éxito de la Alianza.

	Importancia de recursos/habilidades/servicios proporcionados				
Recurso/Habilidad/Servicio	Ninguna	Poca	Moderada	Importante	Muy importante
a. Instalaciones de manufactura o procesos	1	2	3	4 X	5
b. Experiencia de manufactura o procesamiento	1	2 X	3	4	5
c. Canales de distribución/ventas	1 X	2	3	4	5
d. Materias primas para manufactura o procesamiento	1 X	2	3	4	5
e. Experiencia de Mercadotecnia	1	2	3	4 X	5
f. Capital líquido u otros recursos financieros	1 X	2	3	4	5
g. Experiencia de desarrollo de nuevos productos	1	2 X	3	4	5
h. Experiencia tecnológica o en investigación y desarrollo	1	2	3	4 X	5
i. Marcas registradas o nombres de marcas	1 X	2	3	4	5
j. Experiencia en administración en general	1	2	3	4 X	5
k. Servicios financieros administrativos	1	2 X	3	4	5
l. Servicios legales o de relaciones con gobierno o público	1	2	3 X	4	5
m. Imagen/ Reputación	1	2	3	4 X	5

27. Para asegurar la coordinación entre las decisiones tomadas por los gerentes involucrados en la operación de la alianza, ¿con qué frecuencia se utilizan los siguientes procesos?:

Procesos utilizados	Frecuencia de utilización de procesos				
	Nunca	Casi nunca	A veces	Casi Siempre	Siempre
a. Contacto directo entre gerentes de ambas organizaciones para resolver problemas conjuntamente	1	2	3	4 X	5
b. Personal de enlace con asignación temporal de coordinación de esfuerzos de la alianza para proyectos específicos	1	2	3	4 X	5
c. Grupos de trabajo temporales diseñados para facilitar la colaboración dentro de un proyecto específico entre socios	1	2	3	4	5 X
d. Comités inter-organizacionales permanentes diseñados para facilitar la toma de decisiones de manera rutinaria	1	2	3	4	5 X
e. Reuniones de planeación conjuntas para facilitar la coordinación de actividades y la definición conjunta de objetivos	1	2	3	4	5 X

28.- ¿Cuál es el número de empleados en su compañía?

Por favor elija una opción

Menor a 100 _____ Entre 100 y 300 _____ Entre 300 y 500 Mas de 500 _X_

29.- ¿Cual el es monto aproximado de ventas anuales de su Compañía?

Por favor elija una opción:

Menor a un millón de dólares _____ Entre uno y 10 millones de dólares_____

Entre 11 y 50 millones de dólares _____X_____ Entre 51 y 100 millones de dólares _____

Más de 100 millones de dólares _____

30. Para que su compañía pueda ser exitosa, es necesario contar con habilidades y conocimientos que faciliten la operación de sus alianzas y que enriquezcan las relaciones con sus socios. Por favor califique a su compañía en términos de su conocimiento, experiencia, y habilidad en los siguientes rubros:

CONOCIMIENTOS, HABILIDADES, EXPERIENCIA							
	Nulo			Moderado			Alto
a. Identificación de socios potenciales	1	2	3	4	5	6 X	7
b. Selección de socios	1	2	3	4	5	6 X	7
c. Negociaciones	1	2	3	4	5 X	6	7
d. Aspectos legales	1	2	3	4	5	6 X	7
e. Comprensión de las implicaciones estratégicas para colaborar con otras organizaciones	1	2	3	4	5	6 X	7
f. Evaluación Tecnológica	1	2	3	4	5 X	6	7
g. Estimación del valor de activos y flujos de efectivo futuros	1	2	3	4	5 X	6	7
h. Aspectos fiscales	1	2	3	4	5 X	6	7
i. Cierre de tratos o acuerdos	1	2	3	4	5 X	6	7
j. Gestión de Recursos Humanos (reclutamiento, selección, compensaciones, rotación)	1	2	3	4	5	6 X	7
k. Administración de las relaciones socios-alianza	1	2	3	4	5 X	6	7
l. Generación de confianza con socios	1	2	3	4	5	6 X	7
m. Resolución de conflictos	1	2	3	4	5	6 X	7
n. Renegociación de acuerdos iniciales con el socio	1	2	3	4	5 X	6	7
o. Logística y transferencia de recursos	1	2	3	4	5	6	7

X

Continuación de la página anterior

HABILIDADES, EXPERIENCIA	Nulo			Moderado		Alto	CONOCIMIENTOS,
p. Entrenamiento en asuntos inter-culturales	1	2	3	4 X	5	6	7
q. Adquisición de conocimientos y habilidades	1	2	3	4	5 X	6	7
r. Protección de conocimientos y habilidades	1	2	3	4	5 X	6	7
s. Repatriación de utilidades y capital	1	2	3	4	5 X	6	7
t. Terminación acuerdos de colaboración	1	2	3	4	5 X	6	7

31. En que medida la Alianza que seleccionó contribuyó a su compañía en los siguientes puntos:

Por favor marque una opción por cada renglón

	Nada			Regular			Mucho
a. Aprender acerca de cooperación inter-compañías	1	2	3	4	5	6 X	7
b. Generación de utilidades para su compañía	1	2	3	4	5 X	6	7
c. Crecer en participación de mercado	1	2	3	4	5	6	7 X
d. Mantener alguna ventaja competitiva	1	2	3	4	5	6	7 X
e. Aprender habilidades y competencias especificas del socio	1	2	3	4	5	6 X	7
f. Aprender habilidades y competencia especificas independientemente de las del socio	1	2	3	4	5 X	6	7
g. Aprender a aprender de acuerdos de colaboración inter-organizacional	1	2	3	4	5 X	6	7

Continuación de la página anterior:

	Mucho					Nada	Regular
h. Generar conocimientos acerca de valores y necesidades de los clientes y usuarios	1	2	3	4	5 x	6	7
i. Conectar nuevos y viejos productos con sus correspondientes mercados y tecnologías	1 x	2	3	4	5	6	7
j. Sincronizar a la organización con sus mercados y sus tecnologías relevantes	1	2	3	4	5 X	6	7
k. Conectar su organización con su medio ambiente	1	2	3	4	5 x	6	7
l. Mejorar la colaboración inter-funcional	1	2	3	4	5	6 x	7
m. Inter-conexión entre diferentes disciplinas del conocimiento	1	2	3	4	5	6 x	7
n. Conectar diferentes equipos de personas con productos y mercados especificos	1	2	3	4	5 x	6	7
o. Responsabilidad colectiva de tareas y actividades	1	2	3	4	5 X	6	7
p. Generar un contexto que motiva a la creatividad	1	2	3	4 X	5	6	7
q. Eliminar barreras para el trabajo innovador, tal como políticas interna, rivalidades internas destructivas, o aversión al riesgo	1	2	3	4	5 X	6	7
r. Participación de personal en conversaciones estratégicas	1	2	3	4	5	6	7

32. ¿Su compañía percibe que la Alianza con su socio ha sido exitosa y cumplió sus objetivos?

SI ____X____ NO _____

33. ¿ ¿Su socio percibe que la Alianza con su compañía ha sido exitosa y cumplió sus objetivos?

SI ____X____ NO _____

ITESM

Concordia UNIVERSITY

¡¡¡MUCHAS GRACIAS POR SU COLABORACION!!!

En caso de necesitar cualquier aclaración respecto a este cuestionario y su utilidad, favor de comunicarse con:

Jorge Miguel Carrillo
Director del Departamento de Gestión y Negocios
Tel 5483-2244 **Tel. 5483-2253**
e-mail: jocarril@campus.ccm.itesm.mx

Instrument in English

Section One: General Information about the alliance and partners

In this section, we are trying to learn more about the alliance with which you have been involved. We will begin asking questions about your involvement with the alliance.

1.- How knowledgeable are you about <u>your alliance and your partner firm</u>? (please circle one of the seven numbers)

not at all knowledgeable very knowledgeable

1 2 3 4 5 6 7

2.- Are you considered the "alliance manager", or the person managing this alliance for your firm? (please circle only one number).

1 YES
2 NO (please specify your position or responsibility with respect to the alliance)

_____

3.-Which title best represents your position at your firm? (please circle only one number)

1	CEO/Chairman	5	Functional Manager
2	VP/Director of Alliances	6	Business Unit Manager
3	VP/Director of a functional area	7	Other (please specify position) _____
3	Alliance Manager		

3a. Please indicate what functional are you direct or manage if any

_____

4.- Which category <u>best</u> represents the principal business of your <u>alliance</u>? (please circle only one number)

1	Aerospace and air transport	11	Autos-auto parts
2	Banking and other financial services	12	Building and forest products
3	Chemicals	13	Computers-software-online servers
4	Electronics	14	Food, beverages, tobacco
5	Metals-nonferrous	15	Oil and gas
6	Pharmaceutical-biotech/Healthcare	16	Railroads and trucking
7	Steel and heavy machinery	17	Telecommunications
8	Textiles, apparel, home furnishing	18	Utilities-electric/Gas
9	Glass, Refractories, Ceramics	19	Media/TV/Movies/Entertainment
10	Hospitality/Gaming/Leisure services	20	Other (please specify)_____

5.- Using the categories provided in Question 4, please write in one number that best represents your firm´s principal business _____

6.- Using the categories provided in Question 4, please write in one number that best represent your partner´s principal business _____

7.- Name of your company (optional): _____

8.- Name of your partner (optional): _____

9.- Name of the alliance if any (optional): _____

10.- How long have you been involved in this alliance:_____

11.- Nationality of your partner: _____

12.- Year in which the alliance was formed: _____

13.- Year in which the alliance was or will be terminated (if any): _____

14 a.- In the case that the alliance has already ended, was the termination due to a conflict between your company and your partner ? Yes / No / Not sure

b.- If no, why was it terminated?_____

15.- To what extent do you consider your partner an actual of future competitor? (*please check one*)

[ ]	[ ]	[ ]	[ ]
Very strong competitor	Strong Competitor	Weak competitor	No competitor

16.- What are the principal products or services involved in the alliance?

_____

17.- Country locations of the operating alliance, if any: _____

18.- To what extent is your company involved or experienced with the following <u>structural forms</u> of inter-firm cooperation ? (please circle a number for each structural form).

	Not at all			*Moderately*			*A great deal*
a. Informal cooperation (no contract or equity)	1	2	3	4	5	6	7
b. Contractual agreements (no equity, but a contract between 2 firms)	1	2	3	4	5	6	7
c. Equity joint ventures (creation of a new legal entity between 2 firms)	1	2	3	4	5	6	7
d. Equity purchase and equity swaps	1	2	3	4	5	6	7
e. Consortia (contracts or equity involving more than 2 firms)	1	2	3	4	5	6	7

19.- Which of the above structural forms of inter-firm cooperation best describes the alliance you have selected to answer this survey ?

(please write the corresponding letter a-e) _____

20.- To what extent is your company involved or experienced with the following functional activities or types of inter-firm cooperation? (please circle a number for each).

	Not at all			*Moderately*			*A great Deal*
a. Joint research	1	2	3	4	5	6	7
b. Joint product development	1	2	3	4	5	6	7
c. Joint production	1	2	3	4	5	6	7
d. Joint Marketing	1	2	3	4	5	6	7
e. Licensing and cross-licensing	1	2	3	4	5	6	7
f. Manufacturing arrangements and subcontracting	1	2	3	4	5	6	7
g. Distribution (piggybacking) and cross distribution	1	2	3	4	5	6	7
h. After market servicing	1	2	3	4	5	6	7
i. Franchising	1	2	3	4	5	6	7
j. Barter and countertrade	1	2	3	4	5	6	7
k. Other _____	1	2	3	4	5	6	7

21.- Which of the above types of inter-firm cooperation best describe(s) the alliance you have selected to answer this survey ?

(please use the corresponding letter(s) a-k): _____

22.- To the best of your knowledge, how important were each of the following motives in your company´s and your partner´s decision to form this alliance ?
(please circle a number for each).

FOR YOUR COMPANY								FOR YOUR PARTNER							
Not at All			*Mode rately Deal*			*A Great*		*Not at All*			*Mode rately Deal*			*A Great*	
1	2	3	4	5	6	7	**a.** Access to marketing expertise in general	1	2	3	4	5	6	7
1	2	3	4	5	6	7	**b.** Access to distributors (e.g. wholesalers)	1	2	3	4	5	6	7
1	2	3	4	5	6	7	**c.** Access to retail outlets	1	2	3	4	5	6	7
1	2	3	4	5	6	7	**d.** Access to a sales force	1	2	3	4	5	6	7
1	2	3	4	5	6	7	**e.** Access to a repair and after market service	1	2	3	4	5	6	7
1	2	3	4	5	6	7	**f.** Access to market research & forecasting services	1	2	3	4	5	6	7
1	2	3	4	5	6	7	**g.** Access to new geographical markets	1	2	3	4	5	6	7
1	2	3	4	5	6	7	**h.** Access to new products	1	2	3	4	5	6	7
1	2	3	4	5	6	7	**i.** Access to raw materials or components	1	2	3	4	5	6	7
1	2	3	4	5	6	7	**j.** Joint product or process innovation	1	2	3	4	5	6	7
1	2	3	4	5	6	7	**k.** Access to technologies or processes	1	2	3	4	5	6	7
1	2	3	4	5	6	7	**l.** Access to manufacturing facilities	1	2	3	4	5	6	7
1	2	3	4	5	6	7	**m.** Access to low cost labor	1	2	3	4	5	6	7
1	2	3	4	5	6	7	**n.** Access to financing or capital	1	2	3	4	5	6	7
1	2	3	4	5	6	7	**o.** Collecting new skills or competencies	1	2	3	4	5	6	7
1	2	3	4	5	6	7	**p.** Learning new skills or competencies	1	2	3	4	5	6	7
1	2	3	4	5	6	7	**q.** Sharing risks	1	2	3	4	5	6	7
1	2	3	4	5	6	7	**r.** Involving the company in a new business	1	2	3	4	5	6	7
1	2	3	4	5	6	7	**s.** Preempting competitors	1	2	3	4	5	6	7
1	2	3	4	5	6	7	**t.** Gaining a strategic foothold in competitors´ market	1	2	3	4	5	6	7
1	2	3	4	5	6	7	**u.** Overcoming protectionist/local regulatory barriers	1	2	3	4	5	6	7
1	2	3	4	5	6	7	**v.** Achieving economies of scale	1	2	3	4	5	6	7
1	2	3	4	5	6	7	**w.** Reacting to the pace of tech obsolescence	1	2	3	4	5	6	7
1	2	3	4	5	6	7	**x.** Other _____	1	2	3	4	5	6	7

23. To the best of your knowledge, how often did you observe or knew about the following behaviors in <u>your organization</u> in the context of the alliance ?
(please circle a number for each)

		not at all			*moderately*			*A great deal*
a.	My organization consumes a lot of time complaining about trivial matters regarding the operation of the alliance with the partner(s)	1	2	3	4	5	6	7
b.	My organization always focuses on what´s wrong on the alliance, rather than the positive side.	1	2	3	4	5	6	7
c.	My organization always finds fault with the alliance is doing	1	2	3	4	5	6	7
d.	People from my organization attend meetings that are not mandatory, but are considered important for the alliance	1	2	3	4	5	6	7
e.	People from my organization attend functions that are not required, but help the alliance operation	1	2	3	4	5	6	7
f.	My organization keeps abreast of changes in the alliance	1	2	3	4	5	6	7
g.	People from my organization read and keep up with announcements regarding the alliance performance	1	2	3	4	5	6	7
h.	My organization takes steps to prevent problems with partner´s employees	1	2	3	4	5	6	7
i.	Employees from my organization are mindful of how their behavior affect the job of the partner´s employees	1	2	3	4	5	6	7
j.	My organization does not abuse the rights of the partner	1	2	3	4	5	6	7
k.	My organization tries to avoid creating problems for peers from the partner´s organization	1	2	3	4	5	6	7
l.	My organization considers the impact of its actions on employees from the partner´s organization	1	2	3	4	5	6	7
m.	Employees from my organization orient new people involved in the alliance even though it is not required	1	2	3	4	5	6	7
n.	People from my organization willingly help the partner´s employees who have worked related problems	1	2	3	4	5	6	7
o.	Employees from my organization are always ready to lend a helping hand to those employees from the partner´s organization who have contact with.	1	2	3	4	5	6	7

24. To the best of your knowledge, how often did you observe or knew about the following behaviors in <u>your partner´s organization</u> in the context of the alliance ?
(please circle a number for each)

	not at all		*moderately*				*A great deal*
a. My partner consumes a lot of time complaining about trivial matters regarding the operation of the alliance	1	2	3	4	5	6	7
b. My partner always focuses on what´s wrong on the alliance, rather than the positive side.	1	2	3	4	5	6	7
c. My partner always finds fault with the alliance is doing	1	2	3	4	5	6	7
d. Partner´s employees attend meetings that are not mandatory, but are considered important for the alliance	1	2	3	4	5	6	7
e. Partner´s employees attend functions that are not required, but help the alliance image	1	2	3	4	5	6	7
f. My partner keeps abreast of changes in the alliance	1	2	3	4	5	6	7
g. Partner´s employees read and keep up with announcements regarding the alliance performance	1	2	3	4	5	6	7
h. My partner takes steps to prevent problems with my organization	1	2	3	4	5	6	7
i. Partner´s employees are mindful of how their behavior affect the job of employees from my org.	1	2	3	4	5	6	7
j. My partner does not abuse the rights of my organization	1	2	3	4	5	6	7
k. My parter tries to avoid creating problems for peers from my organization	1	2	3	4	5	6	7
l. My partner considers the impact of its actions on my employees	1	2	3	4	5	6	7
m. Partner´s employees orient new people involved in the alliance even though it is not required	1	2	3	4	5	6	7
n. Partner´s employees willingly help people from my organization who have worked related problems	1	2	3	4	5	6	7
o. Partner´s employees are always ready to lend a helping hand to those employees from my organization who have contact with.	1	2	3	4	5	6	7

25. Listed below are some major types of resources/skills/services that each partner may provide to the alliance. Please rate the extent to which each partner provides each resource/skill/service (please circle a number for each).

Resource/Skill/Service	**Extent** to which resource/skill/services provided by the partner?				
	None 1	Little 2	Moderate 3	Great 4	Very Great 5
a. Manufacturing or processing facilities	1	2	3	4	5
b. Manufacturing or processing expertise	1	2	3	4	5
c. Distribution/Sales channels	1	2	3	4	5
d. Raw materials for manufacturing or processing	1	2	3	4	5
e. Marketing expertise	1	2	3	4	5
f. Capital in terms of cash or other financial resources	1	2	3	4	5
g. New Product Development Expertise	1	2	3	4	5
h. Technology or R&D expertise	1	2	3	4	5
i. Trade-marks or brand names	1	2	3	4	5
j. General management know-how	1	2	3	4	5
k. Financial management services	1	2	3	4	5
l. Legal or public/government relations services	1	2	3	4	5
m. Image / Reputation	1	2	3	4	5

26. Listed below are some major types of resources/skills/services that each partner may provide to the alliance. Please indicate how **important** each each resource/skill/service is to the ongoing operations and success of the alliance (please circle a number for each).

Resource/Skill/Service Importance of resource/skill/services provided	None	Little	Moderate	Great	Very Great
	1	2	3	4	5
a. Manufacturing or processing facilities	1	2	3	4	5
b. Manufacturing or processing expertise	1	2	3	4	5
c. Distribution/Sales channels	1	2	3	4	5
d. Raw materials for manufacturing or processing	1	2	3	4	5
e. Marketing expertise	1	2	3	4	5
f. Capital in terms of cash or other financial resources	1	2	3	4	5
g. New Product Development Expertise	1	2	3	4	5
h. Technology or R&D expertise	1	2	3	4	5
i. Trade-marks or brand names	1	2	3	4	5
j. General management know-how	1	2	3	4	5
k. Financial management services	1	2	3	4	5
l. Legal or public/government relations services	1	2	3	4	5
m. Image / Reputation	1	2	3	4	5

27.To ensure coordination among decisions made by managers involved in the operation of the Alliance, how often are each of the following processes used ?

Process Used	How often are the processes used None 1	Little 2	Moderate 3	Great 4	Very Great 5
a. Direct contact between managers from both organizations to solve a problem jointly	1	2	3	4	5
b. Liaison person with temporary job assignment to coordinate the effort of the alliance for purposes of a specific project	1	2	3	4	5
c. Temporary task forces set up to facilitate collaboration on a specific project between partners	1	2	3	4	5
d. Permanent inter-organizational committees set up to facilitate joint decision making on an ongoing basis	1	2	3	4	5
e. Joint planning meetings to facilitate the coordination of activities and joint definition of objectives	1	2	3	4	5

28.- Number of employees in your company ? _____

29.- Annual sales ? _____

30. In order to be successful in its collaborations, your firm needs collaborative know-how (i.e. experience and expertise in inter-firm cooperation). Please, rate your company´s know-how in the following areas:

	No Know-How		*Moderate Know-how*				*Extensive Know-how*
a. Partner Identification	1	2	3	4	5	6	7
b. Partner Selection	1	2	3	4	5	6	7
c. Negotiations	1	2	3	4	5	6	7
d. Legal Aspects	1	2	3	4	5	6	7
e. Understanding strategic implications of collaborating	1	2	3	4	5	6	7
f. Technological Assessment	1	2	3	4	5	6	7
g. Estimating asset values and future cash flows	1	2	3	4	5	6	7
h. Tax aspects	1	2	3	4	5	6	7
i. Closing the deal	1	2	3	4	5	6	7
j. Stafifng (recruiting, training, rewarding, rotating)	1	2	3	4	5	6	7
k. Managing alliance-partner company relations	1	2	3	4	5	6	7
l. Building trust with the partner	1	2	3	4	5	6	7
m. Conflict Resolution	1	2	3	4	5	6	7
n. Renegotiating initial agreements with partner	1	2	3	4	5	6	7
o. Logistics and resource transfer	1	2	3	4	5	6	7
p. Cross-Cultural Training	1	2	3	4	5	6	7
q. Knowledge/skills acquisition	1	2	3	4	5	6	7
r. Knowledge/skills safeguarding	1	2	3	4	5	6	7
s. Profit or capital repatriation	1	2	3	4	5	6	7
t. Exiting from the alliance	1	2	3	4	5	6	7

31. To what extent has the alliance you have selected contributed to the following for your company? (please circle a number for each).

	not at all			***moderately***			***A great deal***
a. Learning about inter-firm cooperation	1	2	3	4	5	6	7
b. Generating profits for your company	1	2	3	4	5	6	7
c. Improving market share	1	2	3	4	5	6	7
d. Sustaining competitive advantage	1	2	3	4	5	6	7
e. Learning specific skills and competencies held by your partner	1	2	3	4	5	6	7
f. Learning new skills and competencies independently from partner	1	2	3	4	5	6	7
g. Learning how to learn from collaborations	1	2	3	4	5	6	7
h. Create knowledge about user needs and values	1	2	3	4	5	6	7
i. Link new and old products with the market and its technologies	1	2	3	4	5	6	7
j. Synchronize the organization with both market and its technologies	1	2	3	4	5	6	7
k. Connect to the external environment	1	2	3	4	5	6	7
l. Improve multifunctional collaboration	1	2	3	4	5	6	7
m. Networking of different domains of knowledge	1	2	3	4	5	6	7
n. Link different teams of people with specific products and markets	1	2	3	4	5	6	7
o. Collective accountability of tasks and responsibilities	1	2	3	4	5	6	7
p. Generate a context that encourages creativity	1	2	3	4	5	6	7
q. Eliminate impediments to innovative work, such as internal politics, destructive internal competition, or risk avoidance	1	2	3	4	5	6	7
r. Inclusion of people in strategic conversations.	1	2	3	4	5	6	7

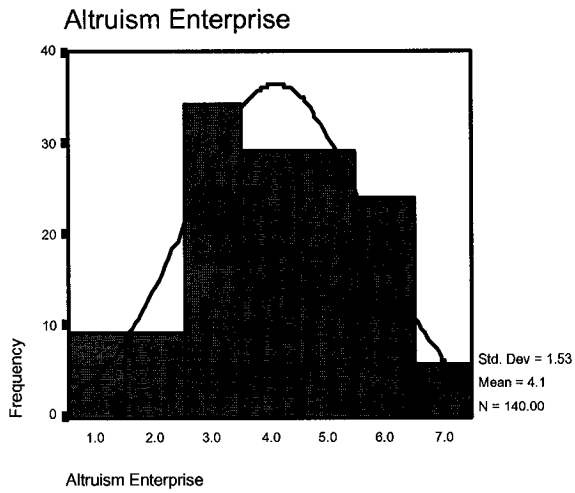
Appendix B *Descriptives and Normality Tests*

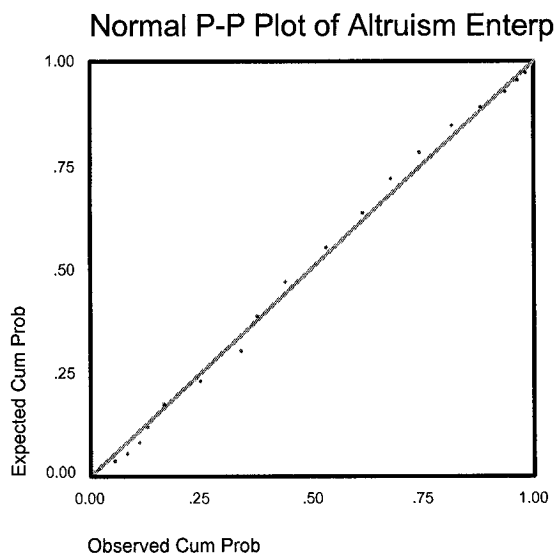
Altruism

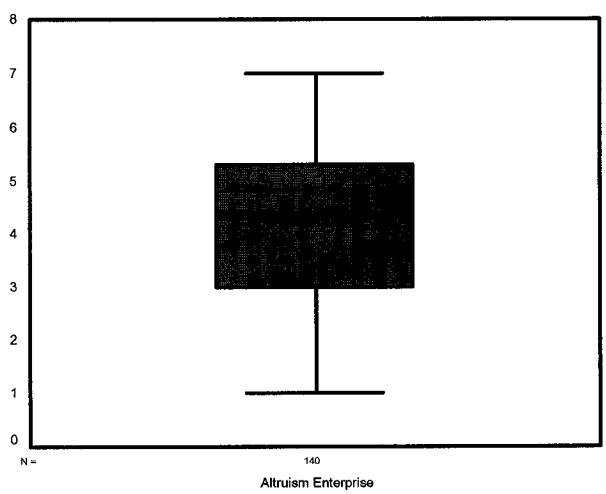
N	Altruism Enterprise	INVERSE	SQUARED ROOT	SQUARED	NATURAL LOG
Valid	140	140	140	140	140
Missing	0	0	0	0	0
Skewness	-0.20	2.42	-0.66	0.49	-1.21
Std. Error of Skewness	0.20	0.20	0.20	0.20	0.20
Kurtosis	-0.68	5.85	-0.09	-0.59	1.19
Std. Error of Kurtosis	0.41	0.41	0.41	0.41	0.41
Zskewness	**-0.96**	11.70	-3.18	2.36	-5.84
Zkurtosis	**-1.65**	14.12	-0.22	-1.43	2.87

Tests of Normality

	Kolmogorov-Smirnov(a)		
	Statistic	**df**	**Sig.**
Altruism Enterprise	**.081**	140	.025
Inverse Altruism Enterprise	.242	140	.000
Squared Root Altruism Enterprise	.124	140	.000
Squared Altruism Enterprise	.118	140	.000
Natural Log Altruism Enterprise	.164	140	.000
a Lilliefors Significance Correction			


Altruism Enterprise
40
30
20
10
0
Frequency
Std. Dev = 1.53
Mean = 4.1
N = 140.00
1.0
2.0
3.0
4.0
5.0
6.0
7.0
Altruism Enterprise

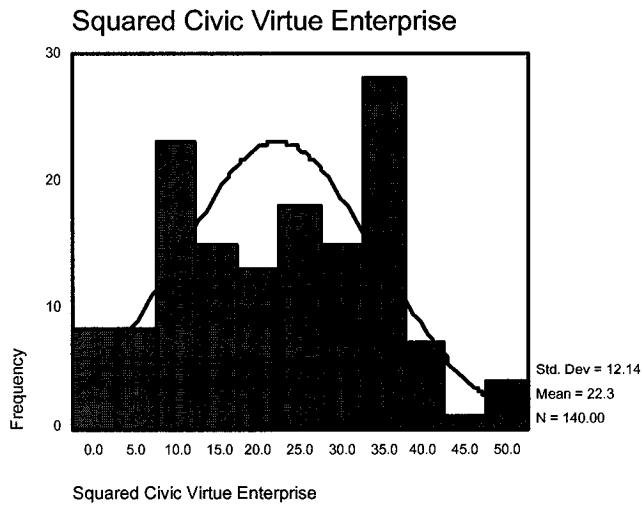

Normal P-P Plot of Altruism Enterprise
1.00
.75
.50
.25
0.00
Expected Cum Prob
0.00
.25
.50
.75
1.00
Observed Cum Prob

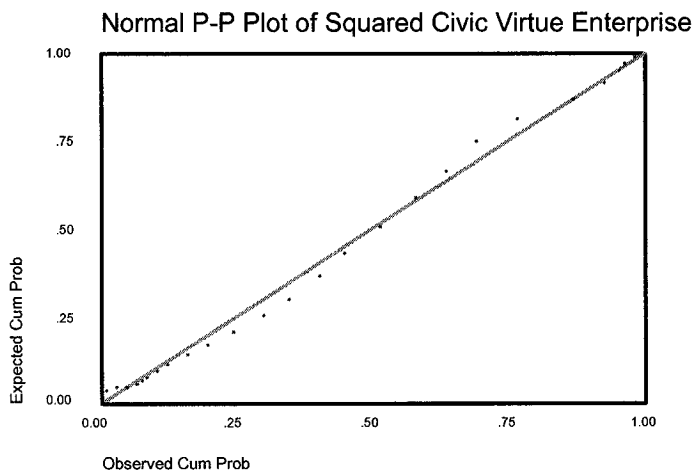

8
7
6
5
4
3
2
1
0
N =
140
Altruism Enterprise

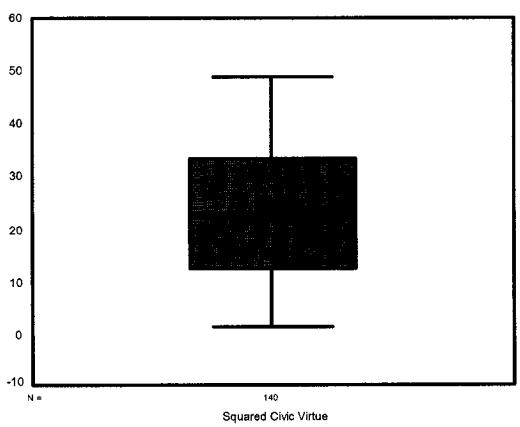
N	Civic Virtue Enterprise	INVERSE	SQUARED ROOT	SQUARED	NATURAL LOG
Valid	140	140	140	140	140
Missing	0	0	0	0	0
Skewness	-0.54	2.94	-0.99	0.12	-1.55
Std. Error of Skewness	0.20	0.20	0.20	0.20	0.20
Kurtosis	-0.36	9.58	0.60	-0.81	2.44
Std. Error of Kurtosis	0.41	0.41	0.41	0.41	0.41
Zskewness	-2.59	14.18	-4.76	**0.56**	-7.47
Zkurtosis	-0.87	23.15	1.46	**-1.96**	5.89

Tests of Normality

	Kolmogorov-Smirnov(a)		
	Statistic	**df**	**Sig.**
Civic Virtue Enterprise	.093	140	.005
Inverse Civic Virtue Enterprise	.242	140	.000
Squared Root Civic Virtue Enterprise	.118	140	.000
Squared Civic Virtue Enterprise	**.098**	140	.002
Natural Log Civic Virtue Enterprise	.146	140	.000
a Lilliefors Significance Correction			


Squared Civic Virtue Enterprise
30
20
10
0
Frequency
Std. Dev = 12.14
Mean = 22.3
N = 140.00
0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0 40.0 45.0 50.0
Squared Civic Virtue Enterprise


Normal P-P Plot of Squared Civic Virtue Enterprise
1.00
.75
.50
.25
0.00
Expected Cum Prob
0.00 .25 .50 .75 1.00
Observed Cum Prob

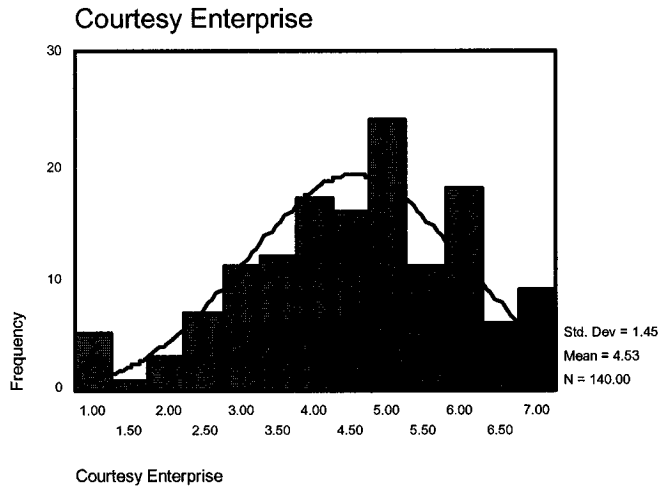

60
50
40
30
20
10
0
-10
N =
140
Squared Civic Virtue

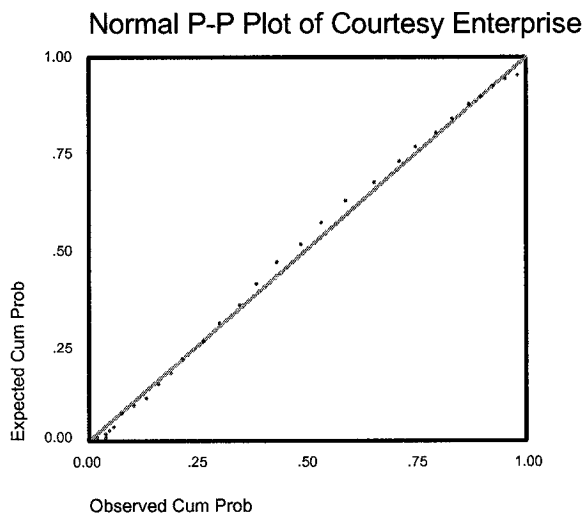
Courtesy Enterprise

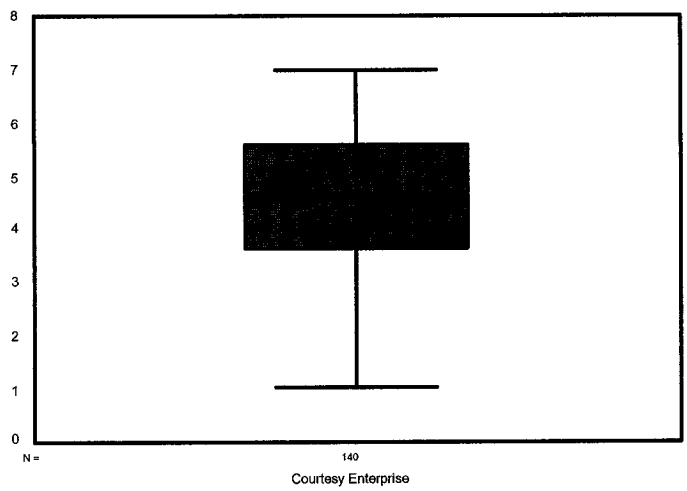
N	Courtesy Enterprise	INVERSE	SQUARED ROOT	SQUARED	NATURAL LOG
Valid	140	140	140	140	140
Missing	0	0	0	0	0
Skewness	-0.41	3.26	-0.93	0.31	-1.60
Std. Error of Skewness	0.20	0.20	0.20	0.20	0.20
Kurtosis	-0.29	11.78	0.80	-0.68	3.11
Std. Error of Kurtosis	0.41	0.41	0.41	0.41	0.41
Zskewness	**-1.96**	15.73	-4.47	1.48	-7.75
Zkurtosis	**-0.71**	28.45	1.94	-1.64	7.51

Tests of Normality

	Kolmogorov-Smirnov(a)		
	Statistic	**df**	**Sig.**
Courtesy Enterprise	**.076**	140	.046
Inverse Courtesy Enterprise	.230	140	.000
Squared Root Courtesy Enterprise	.102	140	.001
Squared Courtesy Enterprise	.072	140	.069
Natural Log Courtesy Enterprise	.138	140	.000
a Lilliefors Significance Correction			


Courtesy Enterprise
Frequency
30
20
10
0
1.00
1.50
2.00
2.50
3.00
3.50
4.00
4.50
5.00
5.50
6.00
6.50
7.00
Std. Dev = 1.45
Mean = 4.53
N = 140.00
Courtesy Enterprise


Normal P-P Plot of Courtesy Enterprise
Expected Cum Prob
1.00
.75
.50
.25
0.00
0.00
.25
.50
.75
1.00
Observed Cum Prob

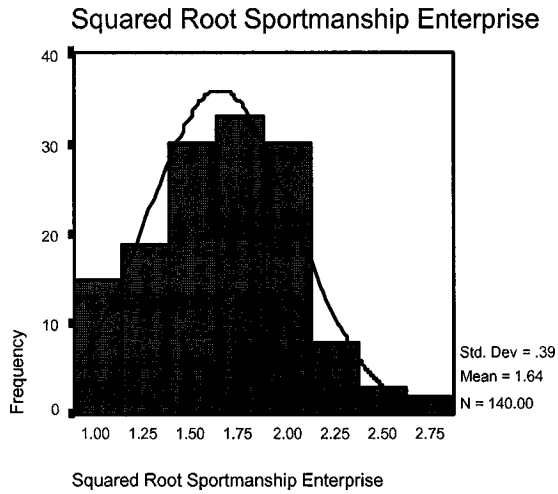

8
7
6
5
4
3
2
1
0
N =
140
Courtesy Enterprise

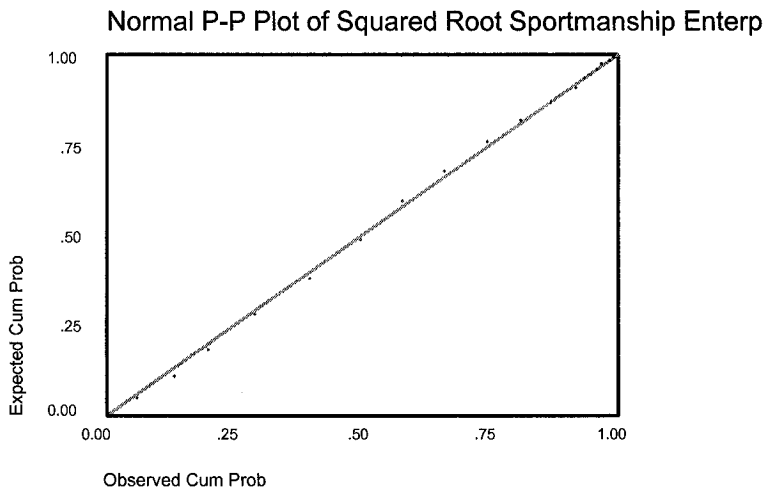
Stats Sportsmanship Enterprise

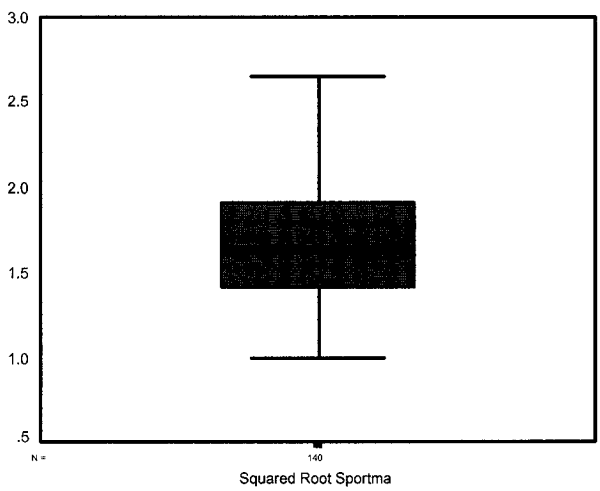
N	Sportsmanship Enterprise	INVERSE	SQUARED ROOT	SQUARED	NATURAL LOG
Valid	140	140	140	140	140
Missing	0	0	0	0	0
Skewness	0.66	1.21	0.13	1.86	-0.37
Std. Error of Skewness	0.20	0.20	0.20	0.20	0.20
Kurtosis	0.30	0.55	-0.49	4.72	-0.57
Std. Error of Kurtosis	0.41	0.41	0.41	0.41	0.41
Zskewness	3.21	5.86	**0.62**	8.99	-1.77
Zkurtosis	0.73	1.33	**-1.18**	11.40	-1.37

Tests of Normality

	Kolmogorov-Smirnov(a)		
	Statistic	**df**	**Sig.**
Sportsmanship Enterprise	.110	140	.000
Inverse Sportsmanship Enterprise	.193	140	.000
Squared Root Sportsmanship Enterprise	**.073**	140	.061
Squared Sportsmanship Enterprise	.165	140	.000
Natural Log Sportsmanship Enterprise	.102	140	.001
a Lilliefors Significance Correction			


Squared Root Sportmanship Enterprise
40
30
20
10
0
Frequency
Std. Dev = .39
Mean = 1.64
N = 140.00
1.00 1.25 1.50 1.75 2.00 2.25 2.50 2.75
Squared Root Sportmanship Enterprise


Normal P-P Plot of Squared Root Sportmanship Enterp
1.00
.75
.50
.25
0.00
Expected Cum Prob
0.00 .25 .50 .75 1.00
Observed Cum Prob


3.0
2.5
2.0
1.5
1.0
.5
N =
140
Squared Root Sportma

Knowledge and Skills Transfer

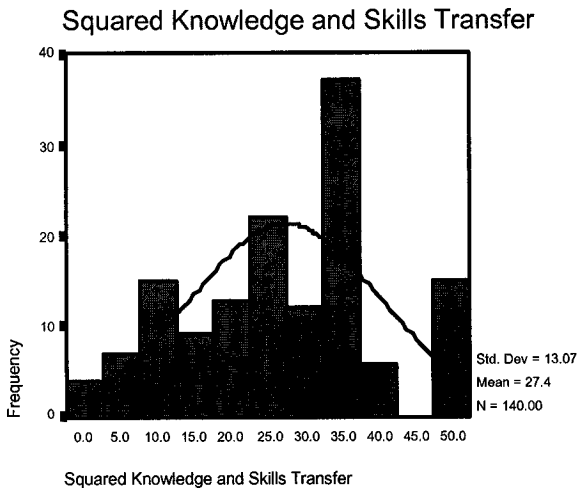
Statistics

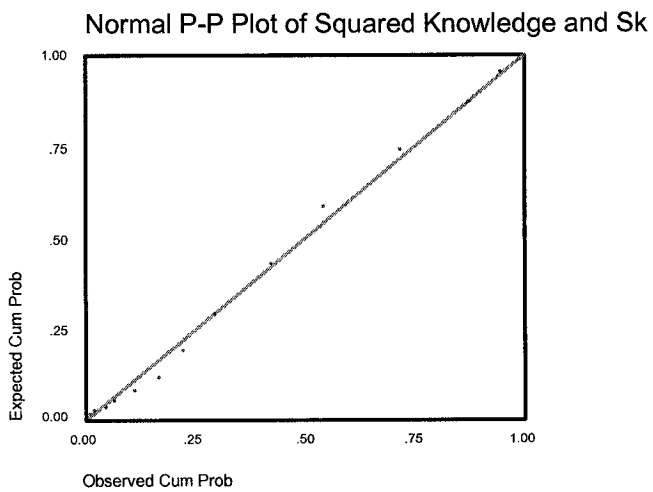
		Knowledge and Skills Transfer	Inverse Knowledge and Skills Transfer	Squared Root Knowledge and Skills Transfer	Squared Knowledge and Skills Transfer	Natural Log Knowledge and Skills Transfer
N	Valid	140	140	140	140	140
	Missing	0	0	0	0	0
Mean		5.0357	.2300	2.2156	27.4036	1.5596
Median		5.2500	.1909	2.2906	27.6250	1.6571
Mode		6.00	.17	2.45	36.00	1.79
Std. Deviation		1.4352	.1317	.3571	13.0665	.3763
Variance		2.0599	1.733E-02	.1275	170.7325	.1416
Skewness		-.798	3.710	-1.252	-.161	-1.865
Std. Error of Skewness		.205	.205	.205	.205	.205
Kurtosis		.102	16.994	1.429	-.781	4.095
Std. Error of Kurtosis		.407	.407	.407	.407	.407
Minimum		1.00	.14	1.00	1.00	.00
Maximum		7.00	1.00	2.65	49.00	1.95

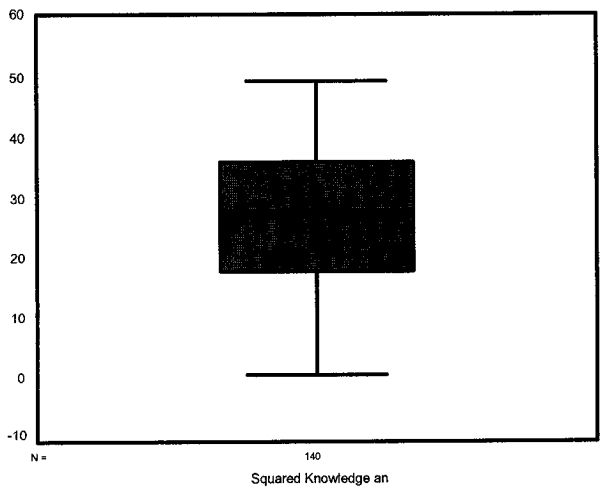
N	Knowledge and Skills Transfer	INVERSE	SQUARED ROOT	SQUARED	NATURAL LOG
Valid	140	140	140	140	140
Missing	0	0	0	0	0
Skewness	-0.80	3.71	-1.25	-0.16	-1.86
Std. Error of Skewness	0.20	0.20	0.20	0.20	0.20
Kurtosis	0.10	16.99	1.43	-0.78	4.10
Std. Error of Kurtosis	0.41	0.41	0.41	0.41	0.41
Zskewness	-3.86	17.92	-6.05	**-0.78**	-9.01
Zkurtosis	0.25	41.04	3.45	**-1.89**	9.89

Tests of Normality

	Kolmogorov-Smirnov(a)		
	Statistic	**df**	**Sig.**
Knowledge and Skills Transfer	.163	140	.000
Inverse Knowledge and Skills Transfer	.274	140	.000
Squared Root Knowledge and Skills Transfer	.180	140	.000
Squared Knowledge and Skills Transfer	.159	140	.000
Natural Log Knowledge and Skills Transfer	.210	140	.000
a Lilliefors Significance Correction			


Squared Knowledge and Skills Transfer
Frequency
Std. Dev = 13.07
Mean = 27.4
N = 140.00
Squared Knowledge and Skills Transfer

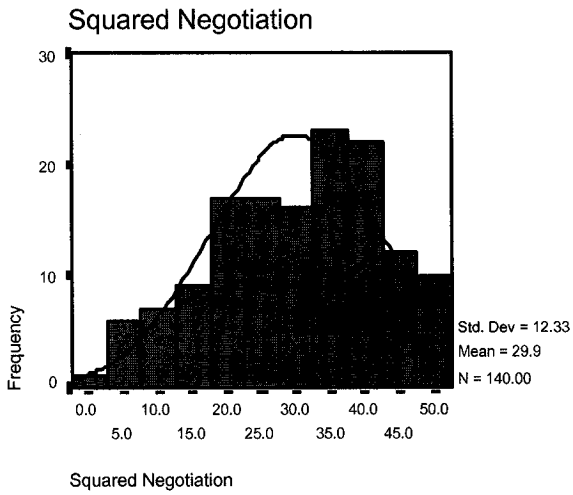

Normal P-P Plot of Squared Knowledge and Sk
Expected Cum Prob
Observed Cum Prob

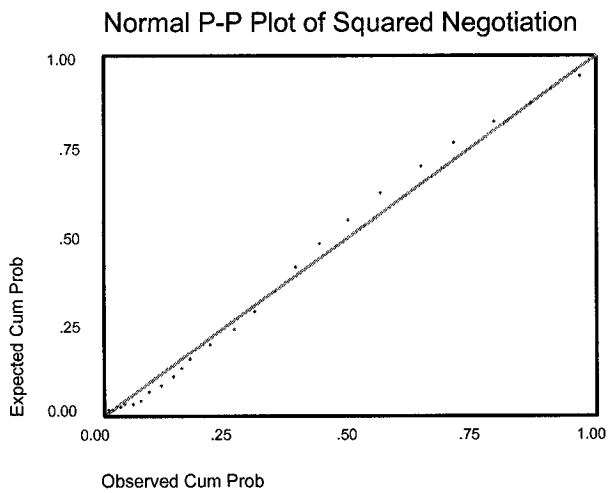

N =
140
Squared Knowledge an

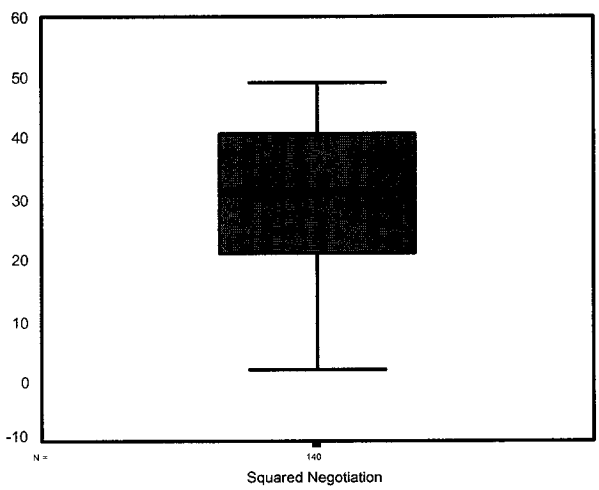
Negotiation

N	Negotiation	INVERSE	SQUARED ROOT	SQUARED	NATURAL LOG
Valid	140	140	140	140	140
Missing	0	0	0	0	0
Skewness	-0.90	3.22	-1.28	-0.35	-1.78
Std. Error of Skewness	0.20	0.20	0.20	0.20	0.20
Kurtosis	0.33	13.39	1.57	-0.74	3.76
Std. Error of Kurtosis	0.41	0.41	0.41	0.41	0.41
Zskewness	-4.36	15.58	-6.21	**-1.70**	-8.60
Zkurtosis	0.79	32.33	3.79	**-1.78**	9.07

	Kolmogorov-Smirnov(a)		
	Statistic	**df**	**Sig.**
Negotiation	.127	140	.000
Inverse Negotiation	.227	140	.000
Squared Root Negotiation	.144	140	.000
Squared Negotiation	.099	140	.002
Natural Log Negotiation	.165	140	.000
a Lilliefors Significance Correction			


Squared Negotiation
30
20
10
0
Frequency
Std. Dev = 12.33
Mean = 29.9
N = 140.00
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
Squared Negotiation


Normal P-P Plot of Squared Negotiation
1.00
.75
.50
.25
0.00
Expected Cum Prob
0.00
.25
.50
.75
1.00
Observed Cum Prob


60
50
40
30
20
10
0
-10
N =
140
Squared Negotiation

Partner Searching

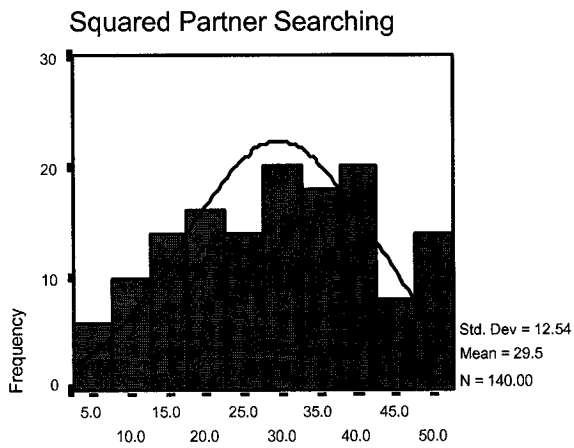
Statistics

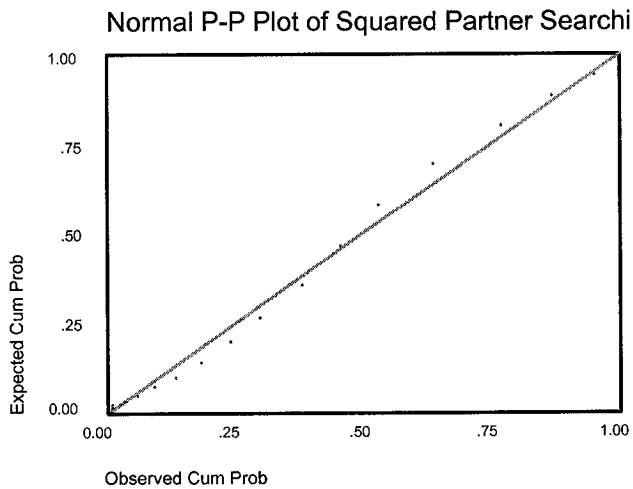
		Partner Searching	Inverse Partner Searching	Squared Root Partner Searching	Squared Partner Searching	Natural Log Partner Searching
N	Valid	140	140	140	140	140
	Missing	0	0	0	0	0
Mean		5.2833	.2051	2.2796	29.5183	1.6293
Median		5.6667	.1765	2.3805	32.1111	1.7346
Mode		6.33	.16	2.52	40.11	1.85
Std. Deviation		1.2713	7.193E-02	.2958	12.5360	.2830
Variance		1.6162	5.173E-03	8.747E-02	157.1501	8.007E-02
Skewness		-.645	2.466	-.948	-.193	-1.333
Std. Error of Skewness		.205	.205	.205	.205	.205
Kurtosis		-.314	8.291	.482	-.974	1.888
Std. Error of Kurtosis		.407	.407	.407	.407	.407
Minimum		1.67	.14	1.29	2.78	.51
Maximum		7.00	.60	2.65	49.00	1.95

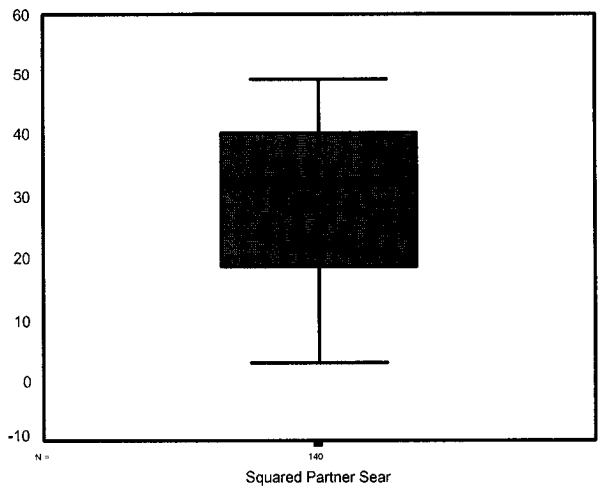
N	Partner Searching	INVERSE	SQUARED ROOT	SQUARED	NATURAL LOG
Valid	140	140	140	140	140
Missing	0	0	0	0	0
Skewness	-0.64	2.47	-0.95	-0.19	-1.33
Std. Error of Skewness	0.20	0.20	0.20	0.20	0.20
Kurtosis	-0.31	8.29	0.48	-0.97	1.89
Std. Error of Kurtosis	0.41	0.41	0.41	0.41	0.41
Zskewness	-3.11	11.91	-4.58	**-0.93**	-6.44
Zkurtosis	-0.76	20.02	1.17	**-2.35**	4.56

Tests of Normality

	Kolmogorov-Smirnov(a)		
	Statistic	**df**	**Sig.**
Partner Searching	.142	140	.000
Inverse Partner Searching	.200	140	.000
Squared Root Partner Searching	.148	140	.000
Squared Partner Searching	.126	140	.000
Natural Log Partner Searching	.159	140	.000
a Lilliefors Significance Correction			






60
50
40
30
20
10
0
-10
N =
140
Squared Partner Sear

Market Technology Linking

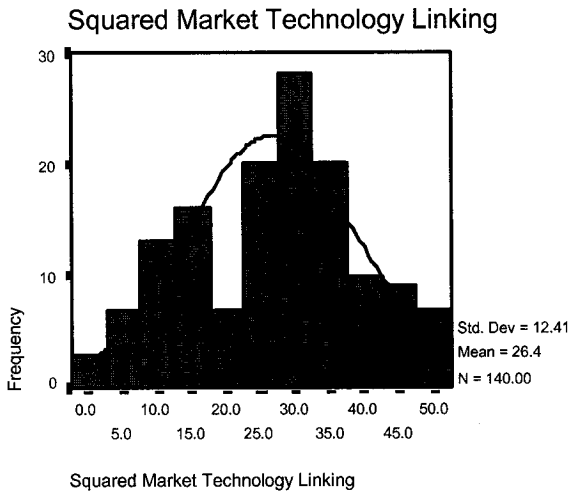
Statistics

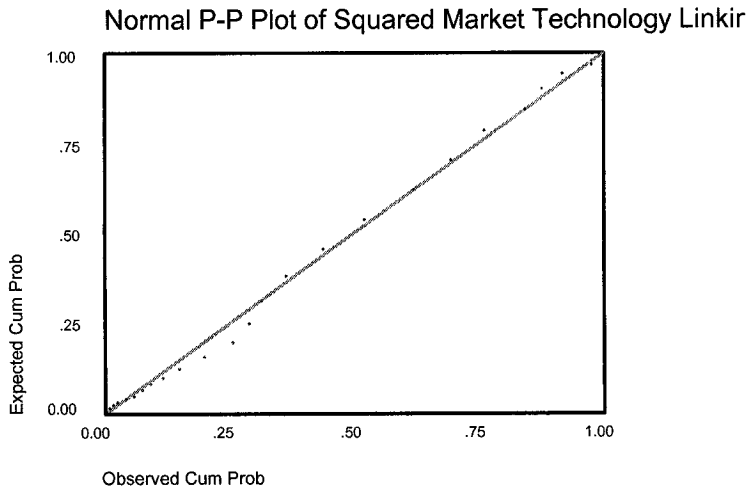
		Market Technology Linking	Inverse Market Technology Linking	Squared Root Market Technology Linking	Squared Market Technology Linking	Natural Log Market Technology Linking
N	Valid	140	140	140	140	140
	Missing	0	0	0	0	0
Mean		4.9554	.2288	2.2010	26.3737	1.5506
Median		5.2500	.1905	2.2913	27.5625	1.6582
Mode		5.50	.18	2.35	30.25	1.70
Std. Deviation		1.3532	.1186	.3340	12.4074	.3482
Variance		1.8312	1.406E-02	.1116	153.9440	.1212
Skewness		-.673	3.880	-1.151	-.033	-1.823
Std. Error of Skewness		.205	.205	.205	.205	.205
Kurtosis		.051	19.091	1.464	-.771	4.468
Std. Error of Kurtosis		.407	.407	.407	.407	.407
Minimum		1.00	.14	1.00	1.00	.00
Maximum		7.00	1.00	2.65	49.00	1.95

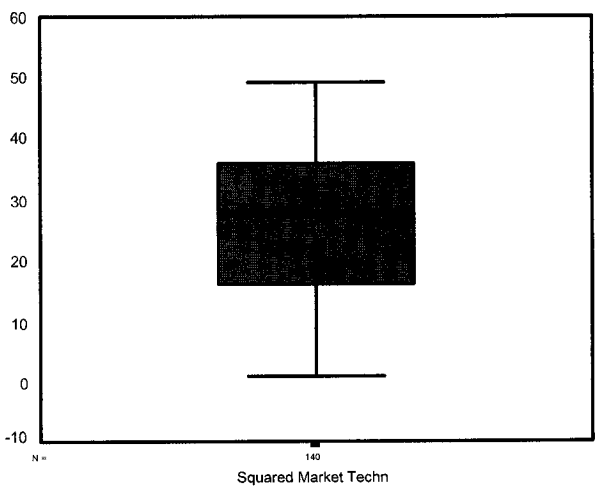
N	Market Technology Linking	INVERSE	SQUARED ROOT	SQUARED	NATURAL LOG
Valid	140	140	140	140	140
Missing	0	0	0	0	0
Skewness	-0.67	3.88	-1.15	-0.03	-1.82
Std. Error of Skewness	0.20	0.20	0.20	0.20	0.20
Kurtosis	0.05	19.09	1.46	-0.77	4.47
Std. Error of Kurtosis	0.41	0.41	0.41	0.41	0.41
Zskewness	**-3.25**	18.74	-5.56	**-0.16**	-8.81
Zkurtosis	**0.12**	46.11	3.54	**-1.86**	10.79

Tests of Normality

	Kolmogorov-Smirnov(a)		
	Statistic	**df**	**Sig.**
Market Technology Linking	.115	140	.000
Inverse Market Technology Linking	.234	140	.000
Squared Root Market Technology Linking	.146	140	.000
Squared Market Technology Linking	.077	140	.041
Natural Log Market Technology Linking	.180	140	.000
a Lilliefors Significance Correction			


Squared Market Technology Linking
30
20
10
0
Frequency
Std. Dev = 12.41
Mean = 26.4
N = 140.00
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
Squared Market Technology Linking


Normal P-P Plot of Squared Market Technology Linkir
1.00
.75
.50
.25
0.00
Expected Cum Prob
0.00
.25
.50
.75
1.00
Observed Cum Prob


60
50
40
30
20
10
0
-10
N =
140
Squared Market Techn

People Project Linking

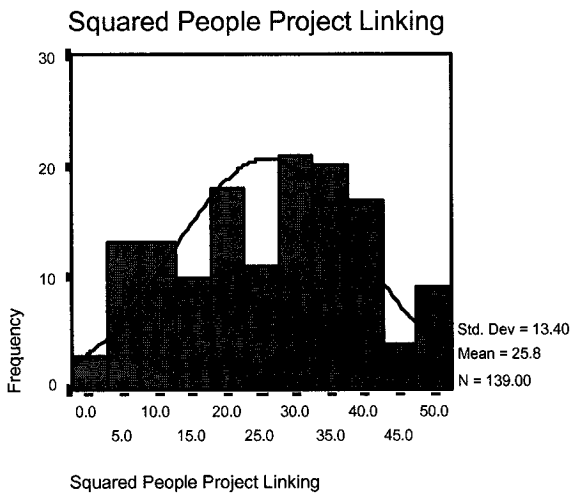
Statistics

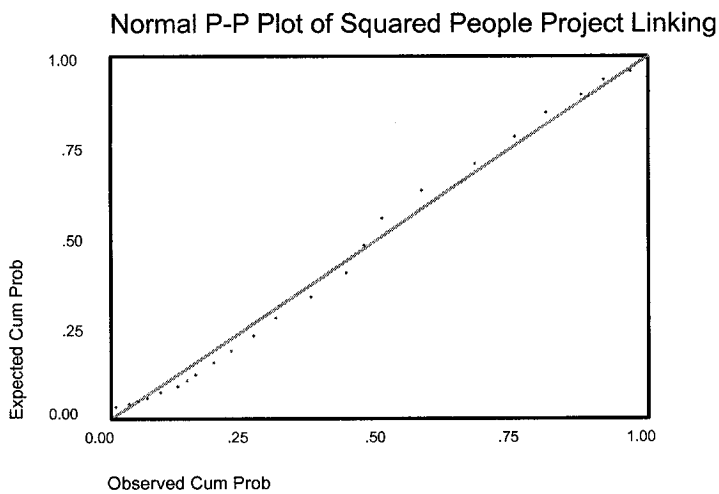
		People Project Linking	Inverse People Project Linking	Squared Root People Project Linking	Squared People Project Linking	Natural Log People Project Linking
N	Valid	139	139	139	139	139
	Missing	1	1	1	1	1
Mean		4.8525	.2436	2.1705	25.7824	1.5137
Median		5.2500	.1905	2.2913	27.5625	1.6582
Mode		5.50	.18	2.35	30.25	1.70
Std. Deviation		1.5005	.1455	.3775	13.3952	.4027
Variance		2.2516	2.117E-02	.1425	179.4303	.1622
Skewness		-.633	3.434	-1.059	-.043	-1.645
Std. Error of Skewness		.206	.206	.206	.206	.206
Kurtosis		-.330	14.365	.758	-.981	3.061
Std. Error of Kurtosis		.408	.408	.408	.408	.408
Minimum		1.00	.14	1.00	1.00	.00
Maximum		7.00	1.00	2.65	49.00	1.95

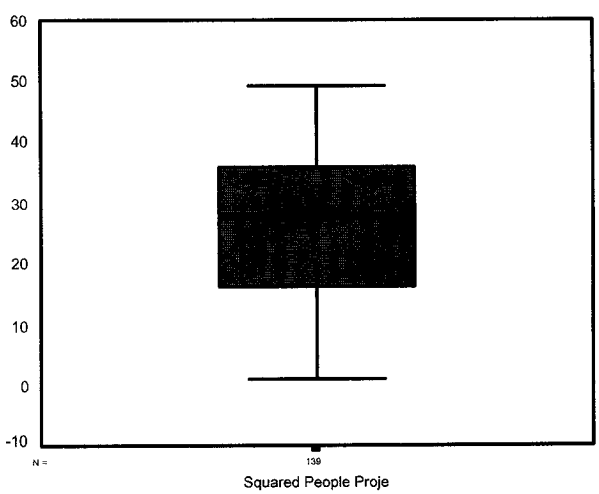
N	People Project Linking	INVERSE	SQUARED ROOT	SQUARED	NATURAL LOG
Valid	139	139	139	139	139
Missing	1	1	1	1	1
Skewness	-0.63	3.43	-1.06	-0.04	-1.65
Std. Error of Skewness	0.21	0.21	0.21	0.21	0.21
Kurtosis	-0.33	14.36	0.76	-0.98	3.06
Std. Error of Kurtosis	0.41	0.41	0.41	0.41	0.41
Zskewness	-3.05	16.53	-5.10	**-0.21**	-7.92
Zkurtosis	-0.79	34.57	**1.82**	**-2.36**	7.37

Tests of Normality

	Kolmogorov-Smirnov(a)		
	Statistic	**df**	**Sig.**
People Project Linking	.142	139	.000
Inverse People Project Linking	.244	139	.000
Squared Root People Project Linking	.153	139	.000
Squared People Project Linking	.105	139	.001
Natural Log People Project Linking	.157	139	.000
a Lilliefors Significance Correction			


Squared People Project Linking
30
20
10
0
Frequency
Std. Dev = 13.40
Mean = 25.8
N = 139.00
0.0
10.0
20.0
30.0
40.0
50.0
5.0
15.0
25.0
35.0
45.0
Squared People Project Linking


Normal P-P Plot of Squared People Project Linking
1.00
.75
.50
.25
0.00
Expected Cum Prob
0.00
.25
.50
.75
1.00
Observed Cum Prob


60
50
40
30
20
10
0
-10
N =
139
Squared People Proje

Task to Task Linking

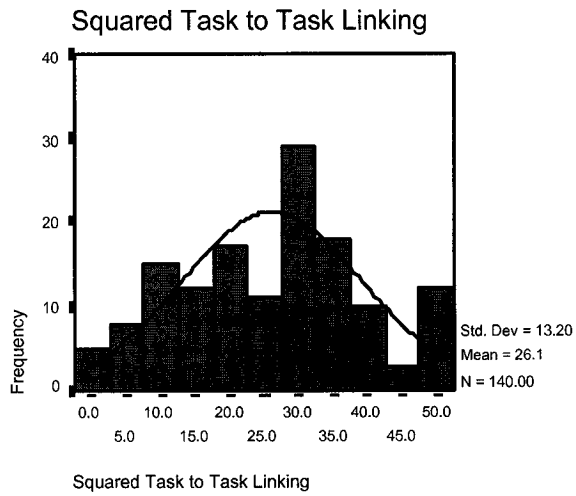
Statistics

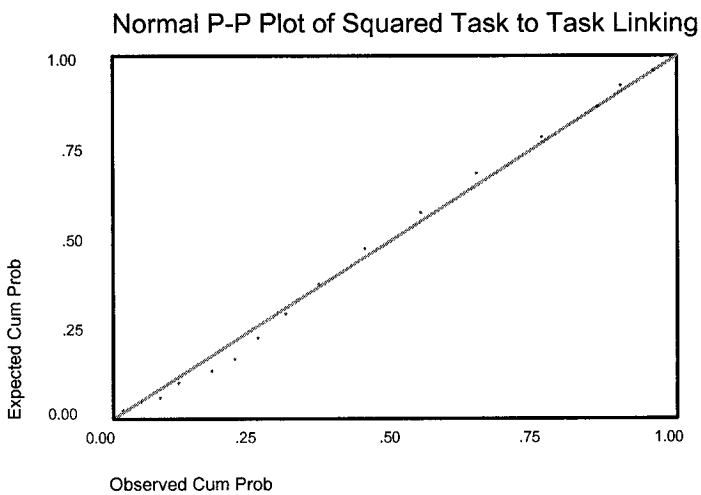
		Task to Task Linking	Inverse Task to Task Linking	Squared Root Task to Task Linking	Squared Task to Task Linking	Natural Log Task to Task Linking
N	Valid	140	140	140	140	140
	Missing	0	0	0	0	0
Mean		4.8833	.2464	2.1767	26.0690	1.5170
Median		5.3333	.1875	2.3094	28.4444	1.6740
Mode		6.00	.17	2.45	36.00	1.79
Std. Deviation		1.4960	.1656	.3828	13.1958	.4203
Variance		2.2381	2.744E-02	.1465	174.1303	.1767
Skewness		-.765	3.522	-1.269	-.082	-1.933
Std. Error of Skewness		.205	.205	.205	.205	.205
Kurtosis		.053	13.269	1.481	-.815	4.193
Std. Error of Kurtosis		.407	.407	.407	.407	.407
Minimum		1.00	.14	1.00	1.00	.00
Maximum		7.00	1.00	2.65	49.00	1.95

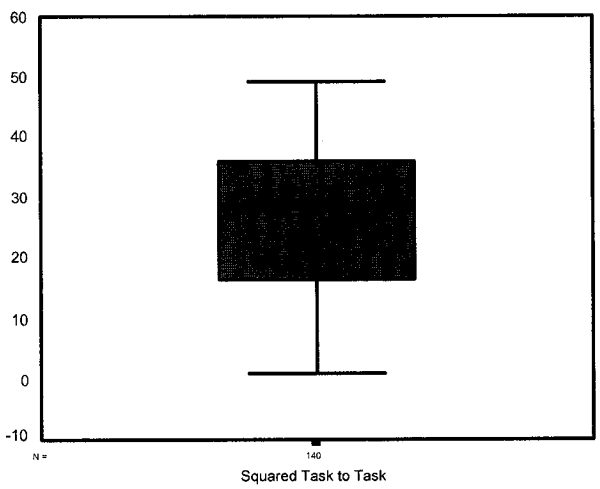
N	Task to Task Linking	INVERSE	SQUARED ROOT	SQUARED	NATURAL LOG
Valid	140	140	140	140	140
Missing	0	0	0	0	0
Skewness	-0.77	3.52	-1.27	-0.08	-1.93
Std. Error of Skewness	0.20	0.20	0.20	0.20	0.20
Kurtosis	0.05	13.27	1.48	-0.81	4.19
Std. Error of Kurtosis	0.41	0.41	0.41	0.41	0.41
Zskewness	-3.70	17.01	-6.13	**-0.40**	-9.34
Zkurtosis	0.13	32.05	3.58	**-1.97**	10.13

Tests of Normality

	Kolmogorov-Smirnov(a)		
	Statistic	**df**	**Sig.**
Task to Task Linking	.133	140	.000
Inverse Task to Task Linking	.266	140	.000
Squared Root Task to Task Linking	.161	140	.000
Squared Task to Task Linking	.086	140	.014
Natural Log Task to Task Linking	.201	140	.000
a Lilliefors Significance Correction			


Squared Task to Task Linking
Frequency
Std. Dev = 13.20
Mean = 26.1
N = 140.00
Squared Task to Task Linking


Normal P-P Plot of Squared Task to Task Linking
Expected Cum Prob
Observed Cum Prob


Squared Task to Task

Annual Sales

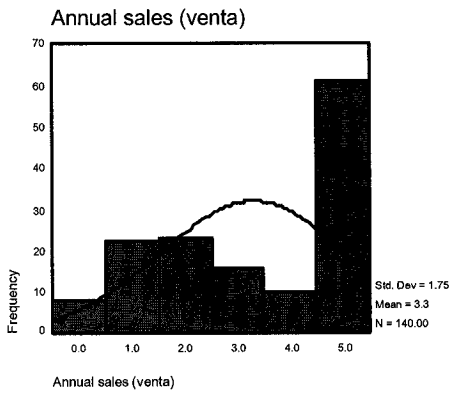
Statistics Annual sales (venta)		
N	**Valid**	140
	Missing	0
Mean		3.29
Median		4.00
Mode		5
Std. Deviation		1.75
Variance		3.06
Skewness		-.401
Std. Error of Skewness		.205
Kurtosis		-1.351
Std. Error of Kurtosis		.407

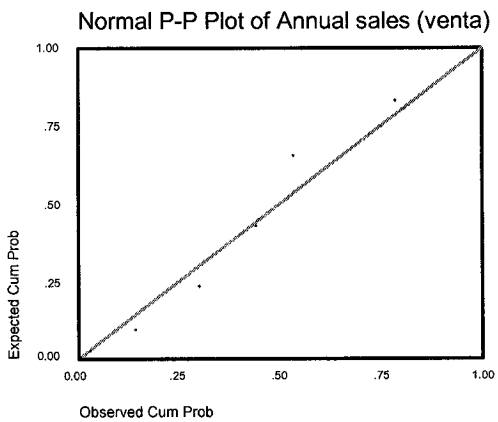
	ANNUAL SALES
N	
Valid	140
Missing	0
Skewness	-0.40
Std. Error of Skewness	0.20
Kurtosis	-1.35
Std. Error of Kurtosis	0.41
Zskewness	**-1.94**
Zkurtosis	-3.26

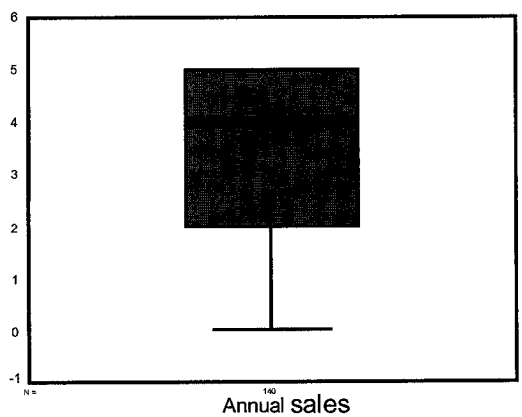
Tests of Normality

	Kolmogorov-Smirnov(a)		
	Statistic	**df**	**Sig.**
Annual sales (venta)	.271	140	.000

a Lilliefors Significance Correction


Annual sales (venta)
Frequency
70
60
50
40
30
20
10
0
0.0
1.0
2.0
3.0
4.0
5.0
Std. Dev = 1.75
Mean = 3.3
N = 140.00
Annual sales (venta)


Normal P-P Plot of Annual sales (venta)
Expected Cum Prob
1.00
.75
.50
.25
0.00
0.00
.25
.50
.75
1.00
Observed Cum Prob


6
5
4
3
2
1
0
-1
N =
140
Annual sales

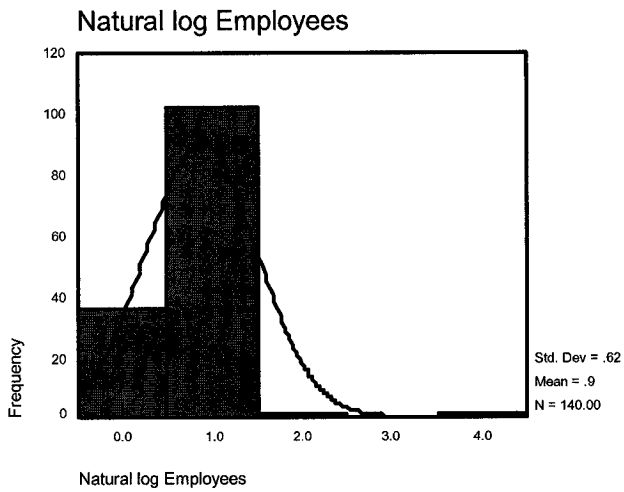
Statistics

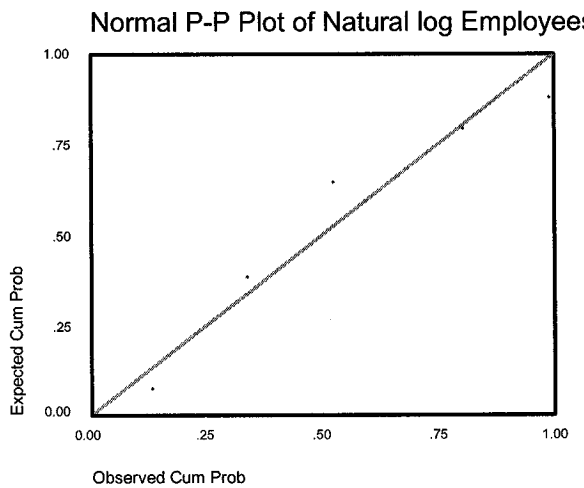
		Employees	Inverse Employees	Squared Root Employees	Squared Employees	Natural log Employees
N	Valid	140	140	140	140	140
	Missing	0	0	0	0	0
Mean		3.06	.4992	1.6310	29.5000	.8765
Median		3.00	.3333	1.7321	9.0000	1.0986
Mode		4	.25	2.00	16.00	1.39
Std. Deviation		4.51	.3088	.6323	245.7904	.6180
Variance		20.30	9.534E-02	.3998	60412.9424	.3819
Skewness		10.527	.862	5.208	11.820	.405
Std. Error of Skewness		.205	.205	.205	.205	.205
Kurtosis		119.726	-.966	47.469	139.810	3.057
Std. Error of Kurtosis		.407	.407	.407	.407	.407

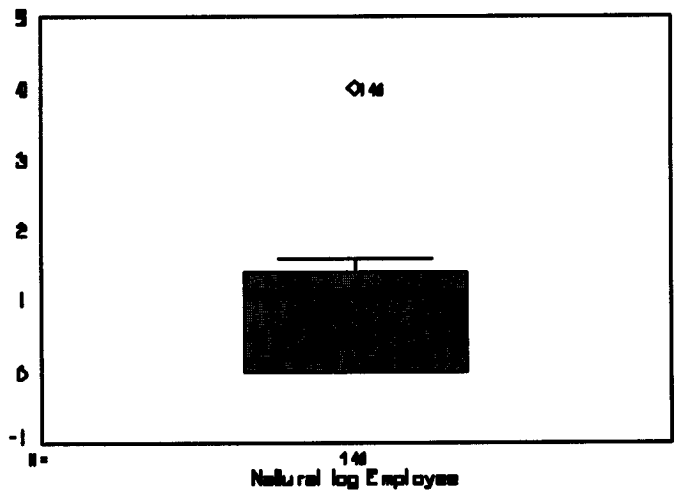
N	EMPLOYEES	INVERSE	SQUARED ROOT	SQUARED	NATURAL LOG
Valid	140	140	140	140	140
Missing	0	0	0	0	0
Skewness	10.53	0.86	5.21	11.82	0.41
Std. Error of Skewness	0.20	0.20	0.20	0.20	0.20
Kurtosis	119.73	-0.97	47.47	139.81	3.06
Std. Error of Kurtosis	0.41	0.41	0.41	0.41	0.41
Zskewness	50.85	**4.17**	25.16	57.10	1.96
Zkurtosis	289.17	**-2.33**	114.65	337.67	7.38

Tests of Normality

	Kolmogorov-Smirnov(a)		
	Statistic	**df**	**Sig.**
Number of employees in your company? (emplea)	.403	140	.000
Inverse Employees	**.283**	140	.000
Squared Root Employees	.265	140	.000
Squared Employees	.508	140	.000
Natural log Employees	.219	140	.000
a Lilliefors Significance Correction			


Natural log Employees
120
100
80
60
40
20
0
Frequency
0.0
1.0
2.0
3.0
4.0
Std. Dev = .62
Mean = .9
N = 140.00
Natural log Employees


Normal P-P Plot of Natural log Employees
1.00
.75
.50
.25
0.00
Expected Cum Prob
0.00
.25
.50
.75
1.00
Observed Cum Prob


5
4
3
2
1
0
-1
N =
140
Natural log Employees

Experience Collaborative Structures

Statistics

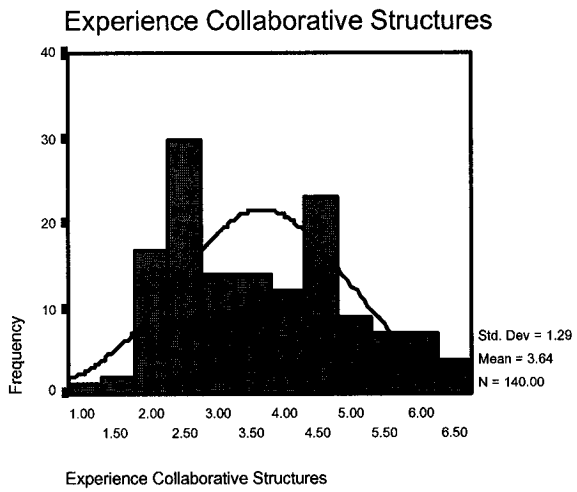
Experience Collaborative Structures

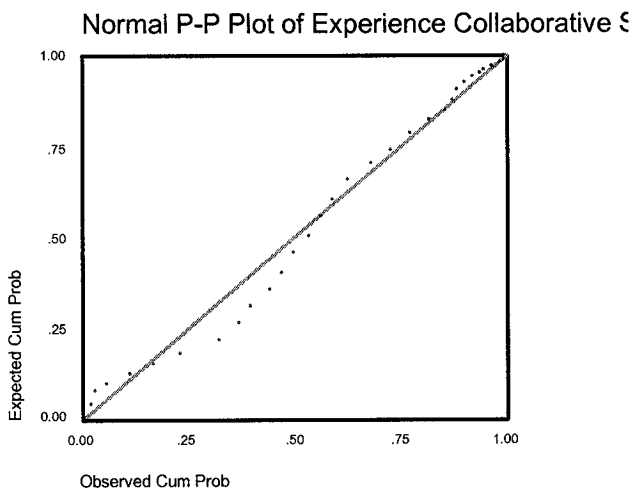
N	**Valid**	140
	Missing	0
Mean		3.6440
Median		3.5000
Mode		2.50
Std. Deviation		1.2865
Variance		1.6552
Skewness		.392
Std. Error of Skewness		.205
Kurtosis		-.786
Std. Error of Kurtosis		.407

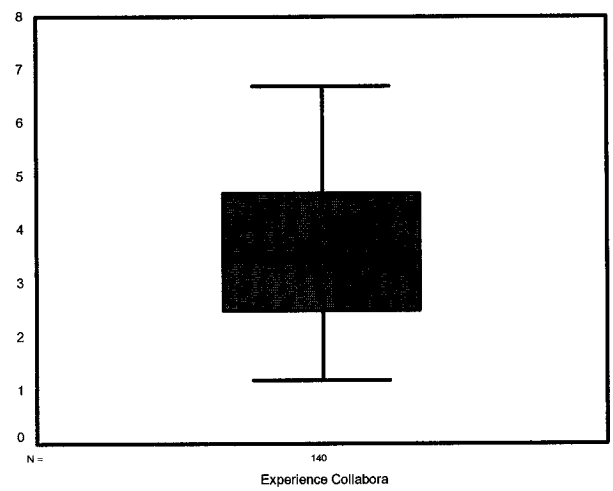
	Experience Collaborative Structures
N	
Valid	140
Missing	0
Skewness	0.39
Std. Error of Skewness	0.20
Kurtosis	-0.79
Std. Error of Kurtosis	0.41
Zskewness	**1.89**
Zkurtosis	**-1.90**

Tests of Normality

	Kolmogorov-Smirnov(a)		
	Statistic	**df**	**Sig.**
Experience Collaborative Structures	.133	140	.000
a Lilliefors Significance Correction			


Experience Collaborative Structures
Frequency
40
30
20
10
0
1.00
1.50
2.00
2.50
3.00
3.50
4.00
4.50
5.00
5.50
6.00
6.50
Std. Dev = 1.29
Mean = 3.64
N = 140.00
Experience Collaborative Structures


Normal P-P Plot of Experience Collaborative S
Expected Cum Prob
1.00
.75
.50
.25
0.00
0.00
.25
.50
.75
1.00
Observed Cum Prob


8
7
6
5
4
3
2
1
0
N =
140
Experience Collabora

Experience Functional Collaboration

Statistics

Experience Functional Collaboration

N	**Valid**	139
	Missing	1
Mean		4.2283
Median		4.2727
Mode		2.36
Std. Deviation		1.3592
Variance		1.8475
Skewness		.194
Std. Error of Skewness		.206
Kurtosis		-.678
Std. Error of Kurtosis		.408

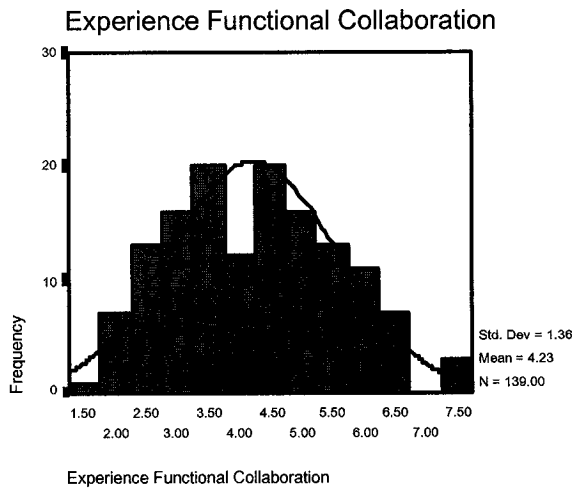
	Experience Functional Collaboration
N	
Valid	139
Missing	1
Skewness	0.19
Std. Error of Skewness	0.21
Kurtosis	-0.68
Std. Error of Kurtosis	0.41
Zskewness	**0.93**
Zkurtosis	**-1.63**

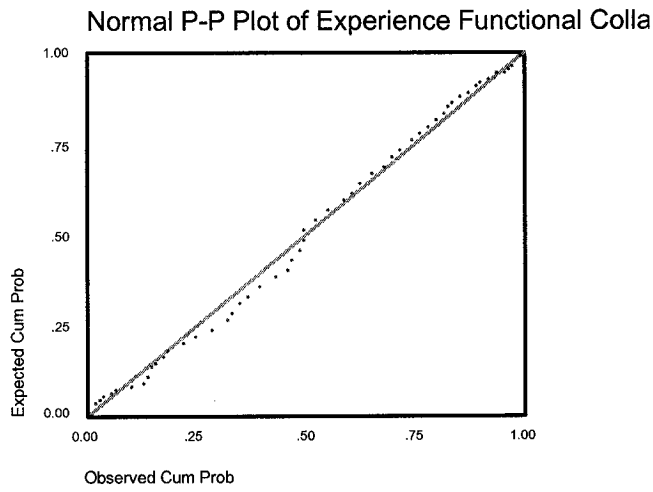
Tests of Normality

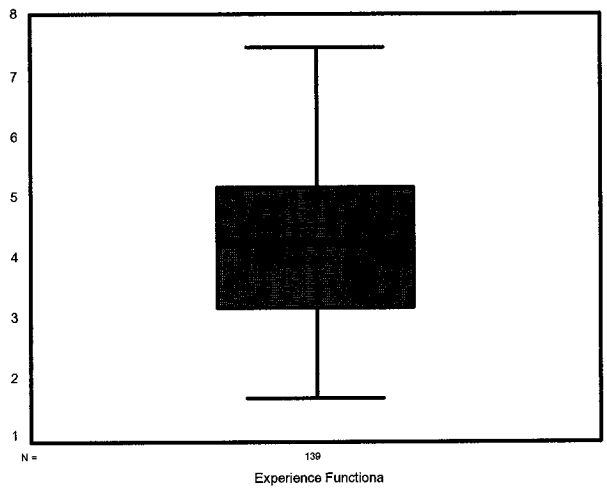
	Kolmogorov-Smirnov(a)		
	Statistic	**df**	**Sig.**
Experience Functional Collaboration	.068	139	.200(*)

* This is a lower bound of the true significance.

a Lilliefors Significance Correction


Experience Functional Collaboration
30
20
10
0
Frequency
Std. Dev = 1.36
Mean = 4.23
N = 139.00
1.50
2.00
2.50
3.00
3.50
4.00
4.50
5.00
5.50
6.00
6.50
7.00
7.50
Experience Functional Collaboration


Normal P-P Plot of Experience Functional Colla
1.00
.75
.50
.25
0.00
Expected Cum Prob
0.00
.25
.50
.75
1.00
Observed Cum Prob


8
7
6
5
4
3
2
1
N =
139
Experience Functiona

Exiting

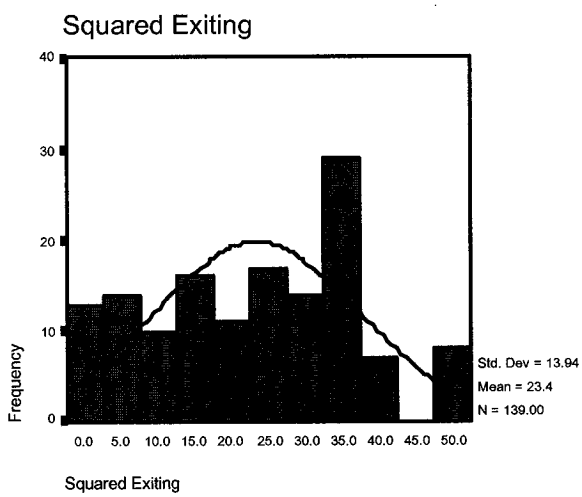
Statistics

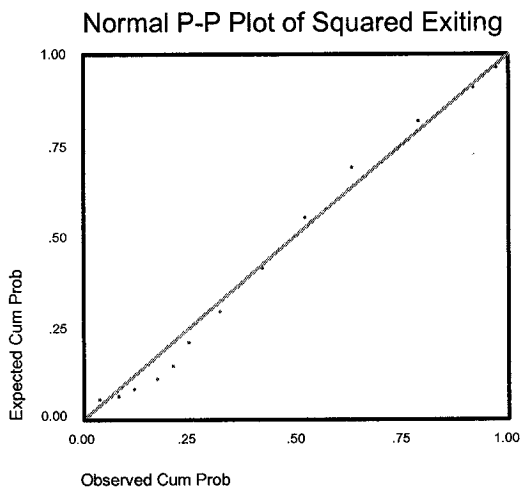
		Exiting	Inverse Exiting	Squared Root Exiting	Squared Exiting	Natural Log Exiting
N	Valid	139	139	139	139	139
	Missing	1	1	1	1	1
Mean		4.5252	.2945	2.0771	23.3921	1.4000
Median		5.0000	.2000	2.2361	25.0000	1.6094
Mode		6.00	.17	2.45	36.00	1.79
Std. Deviation		1.7135	.2256	.4608	13.9392	.5322
Variance		2.9360	5.087E-02	.2123	194.3008	.2833
Skewness		-.646	2.303	-1.024	-.038	-1.448
Std. Error of Skewness		.206	.206	.206	.206	.206
Kurtosis		-.597	4.444	.099	-1.023	1.236
Std. Error of Kurtosis		.408	.408	.408	.408	.408
Minimum		1.00	.14	1.00	1.00	.00
Maximum		7.00	1.00	2.65	49.00	1.95

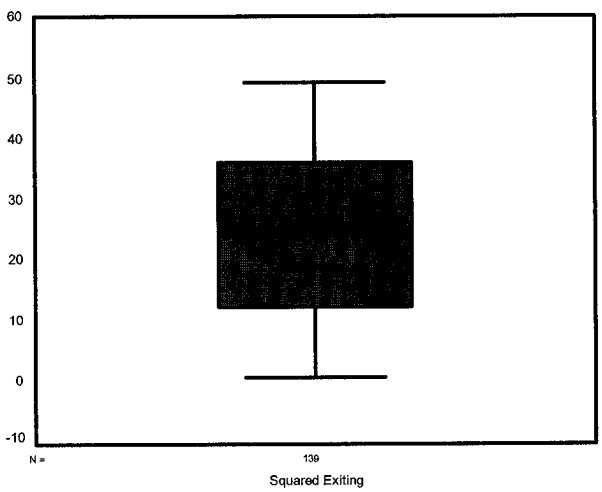
	Exiting Average	INVERSE	SQUARED ROOT	SQUARED	NATURAL LOG
N					
Valid	139	139	139	139	139
Missing	1	1	1	1	1
Skewness	-0.65	2.30	-1.02	-0.04	-1.45
Std. Error of Skewness	0.21	0.21	0.21	0.21	0.21
Kurtosis	-0.60	4.44	0.10	-1.02	1.24
Std. Error of Kurtosis	0.41	0.41	0.41	0.41	0.41
Zskewness	-3.11	11.09	-4.93	**-0.18**	-6.97
Zkurtosis	-1.44	10.70	0.24	**-2.46**	2.97

Tests of Normality

	Kolmogorov-Smirnov(a)		
	Statistic	**df**	**Sig.**
Exiting	.149	139	.000
Inverse Exiting	.312	139	.000
Squared Root Exiting	.175	139	.000
Squared Exiting	**.134**	139	.000
Natural Log Exiting	.224	139	.000
a Lilliefors Significance Correction			


Squared Exiting
Frequency
40
30
20
10
0
0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0 40.0 45.0 50.0
Squared Exiting
Std. Dev = 13.94
Mean = 23.4
N = 139.00


Normal P-P Plot of Squared Exiting
Expected Cum Prob
1.00
.75
.50
.25
0.00
0.00 .25 .50 .75 1.00
Observed Cum Prob


60
50
40
30
20
10
0
-10
N =
139
Squared Exiting

Operation Management Skills

Descriptives

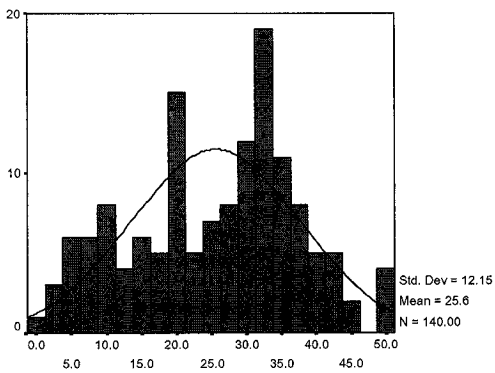
		Statistic	Std. Error
sqopmgs	Mean	25.5697	1.0267
	Skewness	-.172	.205
	Kurtosis	-.805	.407

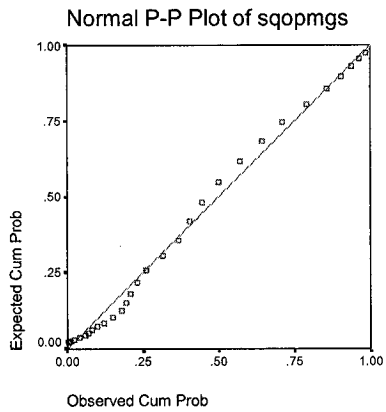
Tests of Normality

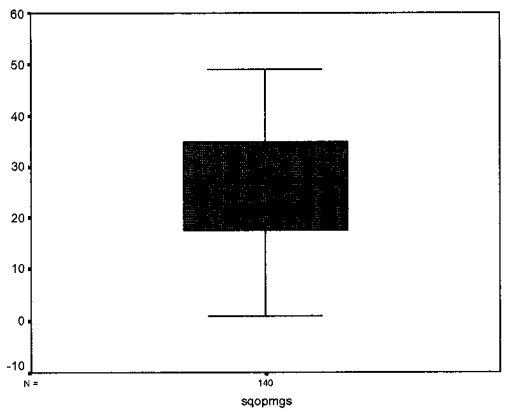
	Kolmogorov-Smirnov[a]		
	Statistic	df	Sig.
sqopmgs	.088	140	.010

a. Lilliefors Significance Correction

	Untransformeted	**Transformeted Squared**
Valid	140	140
Skewness	- 0.752	-0.172
Kurtosis	- 0.102	-0.805
Z Skewness	-3.632	**-0.830**
Z Kurtosis	-0.246	**-1.944**




Normal P-P Plot of sqopmgs
Expected Cum Prob
Observed Cum Prob
0.00
.25
.50
.75
1.00


60
50
40
30
20
10
0
-10
N =
140
sqopmgs

Relationship Management Skills & Squared Relationship Management Skills

Descriptives

		Statistic	Std. Error
sqrelmg	Mean	29.0757	1.0211
	Skewness	-.274	.205
	Kurtosis	-.466	.407

Tests of Normality

	Kolmogorov-Smirnov[a]		
	Statistic	df	Sig.
relmgbar	.119	140	.000

a. Lilliefors Significance Correction

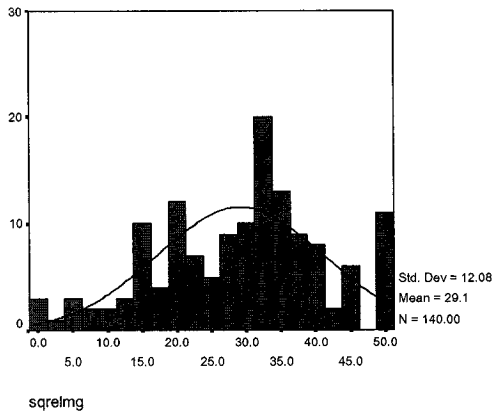
Tests of Normality

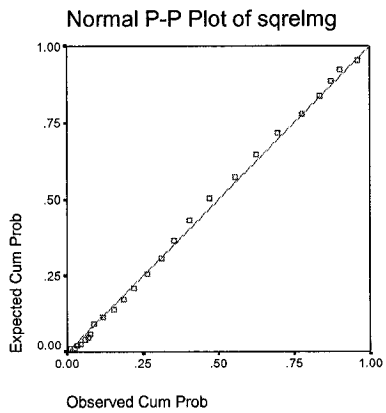
	Kolmogorov-Smirnov[a]		
	Statistic	df	Sig.
sqrelmg	.068	140	.200*

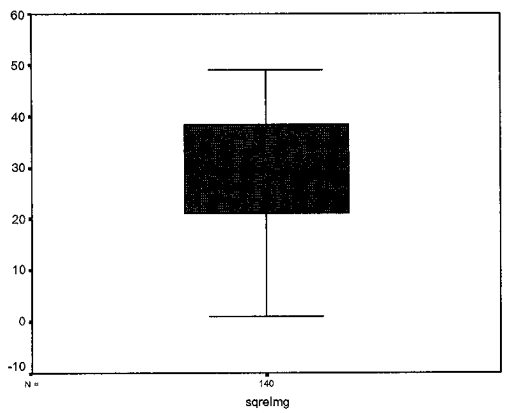
*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

	Untransformeted	**Transformeted Squared**
Valid	140	140
Skewness	- 1.098	-0.274
Kurtosis	1.444	-0.466
Z Skewness	-5.304	**-1.323**
Z Kurtosis	3.487	**-1.125**


30
20
10
0
0.0
10.0
20.0
30.0
40.0
50.0
5.0
15.0
25.0
35.0
45.0
Std. Dev = 12.08
Mean = 29.1
N = 140.00
sqrelmg


Normal P-P Plot of sqrelmg
1.00
.75
.50
.25
0.00
Expected Cum Prob
0.00
.25
.50
.75
1.00
Observed Cum Prob


60
50
40
30
20
10
0
-10
N =
140
sqrelmg

Appendix C FACTOR ANALYSIS

Appendix C

Factor Analysis

Factor Analysis IOCB

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.781
Bartlett's Test of Sphericity	Approx. Chi-Square	852.746
	df	105
	Sig.	.000

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Componer	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.932	32.878	32.878	4.932	32.878	32.878	3.280	21.868	21.868
2	2.179	14.526	47.404	2.179	14.526	47.404	2.316	15.440	37.308
3	1.436	9.571	56.975	1.436	9.571	56.975	2.139	14.262	51.570
4	1.202	8.015	64.989	1.202	8.015	64.989	2.013	13.419	64.989
5	.862	5.747	70.736						
6	.802	5.345	76.080						
7	.637	4.243	80.324						
8	.576	3.837	84.161						
9	.536	3.573	87.735						
10	.478	3.187	90.922						
11	.354	2.358	93.280						
12	.309	2.061	95.341						
13	.249	1.658	96.999						
14	.233	1.554	98.553						
15	.217	1.447	100.000						

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component			
	1	2	3	4
Employees from my organization orient new people involved in the alliance even though it is not	.709	9.016E-02	-.389	.220
People from my organization willingly help the partner´s employees who have worked related pr	.573	1.158E-02	-.395	.558
Employees from my organization are always ready to lend a helping hand to those employees fr organization who have contact with (altr3)	.620	7.421E-02	-.433	.313
My organization consumes a lot of time complaining about trivial matters regarding the operation with the partner (sport1)	-.102	.749	4.114E-02	-9.411E-02
My organization always focuses on what´s wrong on the alliance, rather than the positive side (s	-8.429E-02	.850	.168	.146
My organization always finds fault with the alliance is doing (spor3)	-2.777E-02	.791	.238	.151
People from my organization attend meetings that are not mandatory , but are considered impor alliance (civi1)	.507	-.107	.612	.388
People from my organization attend functions that are not required, but help the alliance operati	.471	-.231	.592	.259
My organization keeps abreast of changes in the alliance (civi3)	.729	-.141	.200	2.949E-02
People from my organization read and keep up with announcements regarding the alliance perfo	.734	-.112	.249	-.140
My organization takes steps to prevent problems with partner´s employees (cour1)	.692	.162	-7.182E-02	-.178
Employees from my organization are mindful of how their behavior affect the job of the partner´s (cour2)	.593	.352	-6.649E-02	-.144
My organization does not abuse the rights of the partner (cour3)	.472	8.291E-02	6.668E-02	-.422
My organization tries to avoid creating problems for peers from the partner´s organization (cour4	.710	2.597E-02	3.004E-02	-.318
My organization considers the impact of its actions on employees from the partner´s organizatio	.770	2.960E-02	-.111	-.347

Extraction Method: Principal Component Analysis.

a. 4 components extracted.

Rotated Component Matrix[a]

	Component			
	1	2	3	4
Employees from my organization orient new people involved in the alliance even though it is no	.391	.743	-8.335E-03	6.890E-02
People from my organization willingly help the partner´s employees who have worked related p	5.760E-02	.873	-3.666E-02	.172
Employees from my organization are always ready to lend a helping hand to those employees f organization who have contact with (altr3)	.261	.778	-1.677E-02	4.184E-02
My organization consumes a lot of time complaining about trivial matters regarding the operatio with the partner (sport1)	7.963E-02	-7.065E-02	.728	-.202
My organization always focuses on what´s wrong on the alliance, rather than the positive side (	5.165E-02	1.639E-02	.881	-1.210E-02
My organization always finds fault with the alliance is doing (spor3)	1.928E-02	1.580E-03	.836	7.951E-02
People from my organization attend meetings that are not mandatory , but are considered impo alliance (civi1)	.114	.125	4.545E-02	.874
People from my organization attend functions that are not required, but help the alliance operati	.156	2.993E-02	-9.225E-02	.811
My organization keeps abreast of changes in the alliance (civi3)	.507	.268	-.131	.496
People from my organization read and keep up with announcements regarding the alliance perf	.626	.142	-.114	.456
My organization takes steps to prevent problems with partner´s employees (cour1)	.651	.312	8.089E-02	.118
Employees from my organization are mindful of how their behavior affect the job of the partner´ (cour2)	.579	.294	.276	5.883E-02
My organization does not abuse the rights of the partner (cour3)	.639	-3.945E-02	1.619E-02	4.451E-02
My organization tries to avoid creating problems for peers from the partner´s organization (cour	.740	.165	-4.731E-02	.171
My organization considers the impact of its actions on employees from the partner´s organizatio	.804	.263	-8.081E-02	7.289E-02

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

Component Transformation Matrix

Component	1	2	3	4
1	.744	.524	-.056	.411
2	.125	.085	.968	-.202
3	.008	-.597	.213	.774
4	-.657	.602	.123	.437

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Component Score Coefficient Matrix

	Component			
	1	2	3	4
Employees from my organization orient new people involved in the allianc (altr1)	-.010	.350	-.003	-.079
People from my organization willingly help the partner´s employees who h (altr2)	-.220	.505	-.003	.037
Employees from my organization are always ready to lend a helping hand partner´s organization who have contact with (altr3)	-.076	.406	-.006	-.075
My organization consumes a lot of time complaining about trivial matters r alliance with the partner (sport1)	.079	-.046	.330	-.090
My organization always focuses on what´s wrong on the alliance, rather th	-.043	.028	.418	.058
My organization always finds fault with the alliance is doing (spor3)	-.040	.005	.402	.108
People from my organization attend meetings that are not mandatory , but alliance (civi1)	-.138	-.010	.077	.523
People from my organization attend functions that are not required, but he	-.080	-.075	.006	.474
My organization keeps abreast of changes in the alliance (civi3)	.087	.003	-.038	.193
People from my organization read and keep up with announcements rega (civi4)	.182	-.100	-.036	.155
My organization takes steps to prevent problems with partner´s employee	.211	.020	.035	-.061
Employees from my organization are mindful of how their behavior affect t (cour2)	.188	.033	.125	-.071
My organization does not abuse the rights of the partner (cour3)	.307	-.186	-.002	-.086
My organization tries to avoid creating problems for peers from the partne	.282	-.095	-.025	-.043
My organization considers the impact of its actions on employees from the	.307	-.045	-.048	-.125

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
Component Scores.

Component Score Covariance Matrix

Component	1	2	3	4
1	1.000	1.098E-16	.000	.000
2	1.098E-16	1.000	.000	1.430E-16
3	.000	.000	1.000	.000
4	.000	1.430E-16	.000	1.000

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
Component Scores.

Factor Analysis
Inter-organizational Collaborative Capabilities

Factor Analysis I-OCC

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.897
Bartlett's Test of Sphericity	Approx. Chi-Square	1987.999
	df	190
	Sig.	.000

Total Variance Explained

	Initial Eigenvalues			xtraction Sums of Squared Loading			Rotation Sums of Squared Loadings		
Componer	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.853	49.265	49.265	9.853	49.265	49.265	3.944	19.720	19.720
2	1.706	8.528	57.793	1.706	8.528	57.793	3.144	15.720	35.441
3	1.301	6.504	64.297	1.301	6.504	64.297	2.932	14.658	50.098
4	1.156	5.781	70.078	1.156	5.781	70.078	2.820	14.101	64.199
5	.912	4.562	74.640	.912	4.562	74.640	2.088	10.441	74.640
6	.681	3.404	78.044						
7	.596	2.978	81.022						
8	.547	2.735	83.757						
9	.514	2.571	86.327						
10	.425	2.126	88.453						
11	.357	1.784	90.237						
12	.327	1.635	91.873						
13	.309	1.545	93.418						
14	.275	1.375	94.793						
15	.242	1.210	96.003						
16	.214	1.068	97.071						
17	.212	1.059	98.131						
18	.155	.774	98.904						
19	.133	.666	99.570						
20	602E-02	.430	100.000						

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component				
	1	2	3	4	5
Technological assessment (know1)	.570	9.88E-02	.207E-02	.508	.900E-02
Staffing (recruiting, training, rewarding, rotating) (know2)	.656	2.30E-02	2.83E-03	3.20E-02	-.534
Managing alliance-partner company relations (know3)	.810	-.228	-.172	-.219	-.153
Building trust with the partner (know4)	.743	-.351	-.338	-.211	9.65E-02
Conflict resolution (know5)	.775	-.137	-.339	-.302	.409E-02
Renegotiating initial agreements with partner (know6)	.755	.870E-03	-.220	-.277	.177
Logistics and resource transfer (know7)	.745	.291	.750E-02	-.262	.172
Cross-cultural training (know8)	.722	.372	-.118	.193	-.279
Negotiations (nego1)	.652	-.494	.199	.333E-03	.316
Legal aspects (nego2)	.682	.128	.510	.360E-02	.786E-02
Estimating asset values and future cash flows (nego3)	.673	.476E-02	.468	-.149	-.220
Tax aspects (nego4)	.733	.275	.409	-.172	-.175
Closing the deal (nego5)	.795	-.255	.101	-.110	2.05E-02
Partner identification (part1)	.607	-.388	.184	.444	3.57E-02
Partner selection (part2)	.720	-.444	.775E-02	.198	1.28E-02
Understanding strategic implications of collaborating (part3)	.727	2.89E-02	5.94E-02	1.11E-02	.316
Knowledge/skills acquisition (skill1)	.649	.213	-.375	.383	-.220
Knowledge/skills safeguarding (skill2)	.650	.252	-.287	.248	.135
Profit or capital repatriation (exit1)	.604	.459	.056E-02	3.50E-02	.216
Exiting from the alliance (exit2)	.712	.454	3.99E-02	.100	.206

Extraction Method: Principal Component Analysis.

a. 5 components extracted.

Rotated Component Matrix[a]

	Component				
	1	2	3	4	5
Technological assessment (know1)	673E-02	.262	.642	957E-02	.340
Staffing (recruiting, training, rewarding, rotating) (know2)	.451	6.25E-02	.114	.531	.471
Managing alliance-partner company relations (know3)	.753	.155	.258	.306	.241
Building trust with the partner (know4)	.836	589E-02	.272	.107	.224
Conflict resolution (know5)	.805	.332	.145	.126	.180
Renegotiating initial agreements with partner (know6)	.658	.486	.137	.166	.103
Logistics and resource transfer (know7)	.392	.634	905E-02	.423	769E-02
Cross-cultural training (know8)	.208	.383	.118	.370	.669
Negotiations (nego1)	.455	.201	.693	.185	-.218
Legal aspects (nego2)	877E-02	.422	.421	.629	913E-02
Estimating asset values and future cash flows (nego3)	.225	.185	.236	.774	153E-02
Tax aspects (nego4)	.207	.373	.125	.786	.160
Closing the deal (nego5)	.563	.200	.440	.402	481E-02
Partner identification (part1)	.172	108E-02	.788	.212	.232
Partner selection (part2)	.446	457E-02	.694	.223	.165
Understanding strategic implications of collaborating (part3)	.429	.530	.383	.130	771E-02
Knowledge/skills acquisition (skill1)	.244	.304	.236	683E-02	.770
Knowledge/skills safeguarding (skill2)	.241	.555	.243	.03E-03	.472
Profit or capital repatriation (exit1)	.115	.693	390E-02	.317	.176
Exiting from the alliance (exit2)	.176	.741	.139	.216	.356

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 20 iterations.

Component Transformation Matrix

Component	1	2	3	4	5
1	.553	.466	.430	.431	.326
2	-.421	.600	-.560	.199	.332
3	-.459	-.057	.273	.716	-.446
4	-.550	-.013	.606	-.268	.508
5	-.060	.648	.245	-.436	-.571

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Component Score Coefficient Matrix

	Component				
	1	2	3	4	5
Technological assessment (know1)	-.203	.055	.357	-.134	.150
Staffing (recruiting, training, rewarding, rotating) (know2)	.118	-.355	-.151	.299	.317
Managing alliance-partner company relations (know3)	.277	-.140	-.082	.038	.041
Building trust with the partner (know4)	.354	-.139	-.060	-.099	.040
Conflict resolution (know5)	.337	.038	-.139	-.120	-.045
Renegotiating initial agreements with partner (know6)	.239	.176	-.113	-.108	-.132
Logistics and resource transfer (know7)	.059	.260	-.140	.082	-.165
Cross-cultural training (know8)	-.083	-.030	-.089	.098	.396
Negotiations (nego1)	.064	.073	.321	-.072	-.338
Legal aspects (nego2)	-.209	.116	.152	.269	-.155
Estimating asset values and future cash flows (nego3)	-.058	-.121	-.031	.434	-.054
Tax aspects (nego4)	-.077	-.009	-.110	.413	-.029
Closing the deal (nego5)	.126	-.070	.076	.096	-.094
Partner identification (part1)	-.144	-.146	.415	-.003	.099
Partner selection (part2)	.033	-.136	.292	-.023	.009
Understanding strategic implications of collaborating (part3)	.053	.251	.108	-.153	-.164
Knowledge/skills acquisition (skill1)	-.052	-.038	.022	-.137	.498
Knowledge/skills safeguarding (skill2)	-.051	.225	.052	-.222	.193
Profit or capital repatriation (exit1)	-.102	.340	-.070	.024	-.065
Exiting from the alliance (exit2)	-.102	.342	-.029	-.087	.058

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
Component Scores.

Factor Analysis
Innovation Capabilities

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.875
Bartlett's Test of Sphericity	Approx. Chi-Square	996.974
	df	55
	Sig.	.000

Total Variance Explained

	Initial Eigenvalues			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.183	56.211	56.211	3.017	27.429	27.429
2	1.176	10.688	66.900	2.727	24.793	52.222
3	.777	7.064	73.963	2.392	21.741	73.963
4	.684	6.219	80.182			
5	.572	5.200	85.383			
6	.385	3.501	88.884			
7	.363	3.301	92.185			
8	.301	2.739	94.925			
9	.230	2.089	97.014			
10	.182	1.650	98.664			
11	.147	1.336	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

a. 3 components extracted.

Rotated Component Matrix, Innovation Capabilities [a]

	Component		
	1	2	3
Create knowledge about user needs and values (link1)	.409		.518
Link new and old products with the market and its technologies (link2)			.884
Synchronize the organization with both market and its technologies (link3)			.827
Connect to the external environment (link4)	.591		.545
Improve multifunctional collaboration (task1)	.743	.401	
Networking of different domains of knowlwdge (task2)	.748		
Link different teams of people with specific products and markets (task3)	.776		
Collective accountability of tasks and responsabilities (peop1)	.536	.593	
Generate a context that encourages creativity (peop2)	.519	.651	
Eliminate impediments to innovative work, such as internal politics, destructive internal competition, or risk avoidance (peop3)		.826	
Inclusion of people in strategic conversations (peop4)		.871	

a. Rotation converged in 7 iterations.

Component Transformation Matrix

Component	1	2	3
1	.644	.575	.505
2	-.028	-.642	.766
3	-.765	.507	.397

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Extraction Method: Principal Component Analysis.

Appendix D CODIFICATION OF QUALITATIVE RESULTS

IOCBs

Computers/e-business

- Automated operations avoid the blooming of these behaviors
- Truly win-win situations do not exist, these behaviors might help to balance the equation
- Generosity, avoid defensive or offensive position
- Be generous with the information
- Generate positive collaborative experiences
- Natural unfolding step by step process of incremental intimacy
- Moral capacity to respond to each other
- Responsiveness to adversity
- Honorable (accounts receivables)
- Desire to look after the common well being beyond the private benefits
- Be sensitive to identify what good for me and bad for the partner
- Good personal relationship between CEOs/Chairmen is critical

Manufacturing

- Diplomat more than a teacher
- Avoid conflicts by giving up
- Excessive controls jeopardize the health of the relationship
- These behaviors help to develop a sense of partnership and avoid antagonism in the relationship (i.e. competitive behaviors)
- Fraternity
- Generosity: GIMSA training WALMART for doing tortilla in WalMart premises
- Help to deal with the small, everyday disagreements
- Generous, sharing attitude, core for sustaining a long term healthy relationship
- Help in an non-intrusive way
- Tolerance, respect
- See alliances as a natural phenomenon

Pharmaceutical

- Establish a code of conduct
- Tolerant
- Look after to common well being
- Lack of integration of common interests and generosity

- Avoid partner interests more important than alliance objective
- Overcome psychological difficulties
- Have the intent to do good business together
- Avoid selfishness
- Good will behavior
- Harmony
- Considerate
- Not invasive
- Good chemistry between heads

Collaborative Relationship Management Skills

Computers/e-business

- Procrastination
- Delay decisions
- Availability
- Responsibility
- Communication (inter-organizational & intra-organizational)
- Speed in agreements, in execution
- Overall there is a reduced interaction
- Low maintenance: alliance – outsourcing
- The role of technology in the management of the relation
    1. Long distance interaction
    2. Enhance/impede/communication
- Avoid protagonism
- Trust is build with performance and goal attainment
- Humbleness
- Learn to handle the clash of equals (avoid conflicts between employees that have similar responsibilities and functions)
- Role definition and assignment/id. of responsibles
    1. Who decides when a project is over
    2. Scope
    3. Methodology
- Facilitate the merger of two organizational cultures
- Avoid asymmetry in the understanding of the alliance rationale, strategic and operational implications at both top and middle management levels
    1. It prevents disagreements at the operational level
    2. Enables a collaborative environment, rather that a competitive one
- Promote and enhance the moral capacity to respond to each other under uncertainty
- Capacity to change, talk over, and re-state the conditions of the partnership
- Documentation
- Identify when an issue is due to externalities or is the partner´s fault.
- Ability to id. the difference between a momentary problem and a permanent one.

Finance

- Communication, clear and open, is fundamental
  1. Sharing offices
  2. Closeness
- Equal understanding of the alliance across hierarchies
- Blending of objectives and/or joint definition of common objectives
- No partner will agree that is obtaining the most benefits of the alliance, IOCBs might help to mitigate this perception.

Manufacturing

- Respect the collaborative space, which must be a function of competencies and control position
- Avoid a transactional relationship
- Relationships are context driven
  1. Replacement automotive parts
  2. Chemical
  3. Food
  4. Volatility of environment might lead to a volatile relationship
- Transparency
- Honesty
- Interaction might be discreet, sporadic, or permanent, continuous (implications??')
- Create the culture of the relationship
  1. Value sharing
  2. Integrity
- Accountability
- Achieve a balance of power
- Collaborative knowledge is not natural
  1. Control
  2. Expectations
  3. Avoid ambiguity
  4. Avoid the "executive conflict"
- There are deterioration stages
- Lack of responsiveness to the partner's requirements
- Loyalty
- Clarity of rules but with the freedom to operate...leeway
- Learn to give away...identify and accept trade-offs
- Size: The larger the firm the more and structured are the phases
- Cushion, Buffer to antagonistic postures
  1. Flexibility to react to market requirements vs. Rigidity of procedures and systems

2. Change in market conditions (% of margins)
3. Nature of business (continuous vs discreet flow, built to order, built to stock, job order as function of a defined project or market forecasts)
4. Identify and predict what exogenous events will jeopardize the conditions of the agreement
5. Communication
    a. Have a clear idea of the information requirements of both partners
    b. Create channels and open layers of communication, control systems, info systems, etc
    c. Lack of comm. is lack of trust
6. Avoid confusion and identification of institutional policies vs. personal behaviors
7. Mediate between mgmt styles....pragmatism vs systematization

Pharmaceutical

- Avoid liberal behaviors without a code of conduct
- Blending of compatible objectives
    1. Alliances are structures that support the effort to reach a common goal or different goals
    2. Access to technology vs. access to markets
    3. Common goal vs. compatible goals
    4. Same coin, different sides
- Individualism vs. protagonist
- Communication: Internal diffusion of the alliance developments
    1. Refresh directives
    2. Reinforce intentions
    3. Defines lines of conduct and policies
    4. Task of top management
    5. Facilitate the development of business relationships
- Turnover...retention of links, prevent disagreements
- Clarity of objectives and roles
- Right start, in the right direction
- Trust...ups and downs....challenge keep it in the right level
- Champion/coordinator of the alliance is very desirable
    a. Structure the relationship with partners

Collaborative Operations Management Skills

Computers/e-business

- Long distance interaction skills
- Low added value, temporal
- Operations is about the ability to execute, to implement plans and achieve goals
- The more uncertain the environment, the more control mechanisms are demanded
- Sometimes is more important to deliver up-front that to get along in the first place (portal and virtual communities)
  1. speed!
- Documentation of issues, mistakes, procedures, knowledge
- Prevent alliances to go out of gas
- Integrate solutions to be responsive to clients demands
- Temporal interaction
- The management of the operation depends on the expectations and long term objectives of the partners....merger, project base, development of competitive advantage
- Interaction with peers with similar responsibilities (interaction with similar hierarchical levels even in asymmetric alliances)
  1. staff
  2. business unit managers
  3. functional manager
  4. different degree of commitment and interest
- Keep bringing value to the alliance

Manufacturing

- Size matters
  1. bureaucracy
  2. stop the production line for authorizations
  3. the role of headquarters
  4. different information requirements
  5. Avoid excessive control costs
- Control carries accountability
- Performance pushes the alliance to the convergence of the objectives
- Definitions of roles
- Pre-nuptial agreements
- Dynamic control schemes
- The level of consolidation of the firm (size) depend the longevity of the alliances

Pharmaceutical

- Clear communication with the tactical level of the alliance
- Establish a clear methodology of operations
    1. Know-how, why, who, etc.
- Integration of the tactical decision-makers with the strategic decision-makers: Alliance formulators should be in close contact with alliance implementators
- Have a clear action and business plan
- Task of middle managers
- Assurance of common benefits
- Avoid betrayals
- Avoid turnover
- Operations profile depend on the rational behind the alliance formation
- Coordination mechanisms
    1. Implementation meetings
    2. Planning
    3. Top mgmt meeting
    4. Routine and exceptional meetings
    5. Documentation
    6. Budgeting
    7. Forecasting

Collaborative Learning Skills

Computers/e-business

- Accepting and adjust to different cultures (BOM)
  1. Letters of intention have different meaning in different cultures as well as contracts
- A champion to facilitate learning (BOM)
- Learn how to handle an important volume of vertical alliances
- Alliances by project
- Segmentation of competencies
- Understand market segmentation
- Change propensity
- Self consciousness of strengths and weaknesses

Manufacturing

- Adjust and prevent potential management style clashes
  1. Cash flow short term orientation vs. ROI long term
  2. Commodities vs. Specialties
  3. In vertical alliances, links are important (marketing and product engineering
- Incremental adjustment of partners´ positions and needs (cash, markets, product portfolio)
- Structure of "teaching-diffusion" of knowledge

Pharmaceutical

- Alliances stretch into different forms
  1. co-mkting to research boutiques
  2. joint venture capital
  3. inventing-creating new opportunities for collaboration
  4. R & D complement each part (cost efficient)
  5. keep creating options
- Same product with 2 brands help to expand the market
  1. Faster penetration

Negotiation Skills

Computers/e-business

- Contracts lead to joint planning (BOM)
- Prevent and adjust to changes in control (BOM)
- Leverage positions and resources (BOM)
- Speed is an issue in this industry
- Less elaborate contracts
- Documentation is still important
- Leverage negotiation with tangible results/outcomes
- Must be conducted between peers in asymmetric alliances
    1. Avoid the perception of a wolf against the sheep
    2. Don't bluff
    3. Employee vs. Owner perspective
    4. Different levels of commitment
    5. Arrogant vs. Humble

Manufacturing

- Clarify all the governance, operative, control, and performance aspects
- Rigidity of business plan, forecasts
- Conciliate different environmental and context perspectives
- Agree of the methodology, frequency, content of the information required

Pharmaceutical

- Finding effective levers to claim or re-negotiate
- List of terms prior of contract
- Confidentiality agreement

Partner Searching Skills

Computers/e-business

- Cultural fit
- In this industry, this part is the toughest
- Mental structure to form alliances (experience)
- Find common and complementary objectives
- Speed
- Integration potential (an strategic link of the value chain)
- Market/customer/project oriented search
- Temporality, alliance life is a function of the project life
- Investment in certain business schemes (technologies, market niche). The type of partner reflects the strategy of the firm
- There must be a technological assessment, but a strategic assessment as well.
  1. Comp. Advantage development
  2. Potential acquisition
- Match strategic and market needs with the partners profile
- Ability to get to know people
- Look for a partner that can be a good mirror, a feedback provider

Manufacturing

- Common understanding of trends, context, environment
- Social capital assessment (commitment to the community)
- Clarity of intents
- Define the game and the rules you want to play
- Less important is your core competencies are extremely valuable, from partner searching to partner selection
- Share fundamental business values

Pharmaceutical

- Identify the difference between what they describe as strengths and the reality
- Complex process
- Maybe the most important learning experience

Innovation Capabilities

Computers/e-business

- Alliances represent an important innovation factor
- Understanding of segmentation of markets
- Process of task/product integration
    1. Speed
    2. Responsiveness
    3. Accountability
    4. Control
- Vertical collaboration is more innovation prone than horizontal
- Agility in merchandising
    1. Star alliance on line ticket bidding
- Diversification of products/services by integrating through outsourcing a bundle of firms
- Allows further specialization

Manufacturing

- Innovation has important industry effects
    1. permeate value chain
    2. suppliers and customers
    3. service firms and manufacturing firms
    4. Globalization: the link of local markets to global markets
- Change the logic of market/distribution segmentation
    1. Bimbo in Colombia, from a geographic zone to a customer type rationale.
    2. New distribution skill
- Mainly diversify the diffusion channels

Pharmaceutical

- More context dependent
- R&D form or co-marketing
- The type of industry defines the type of alliances
- Diffusion, the most important innovation process
    1. Have a faster and more definitive market presence
- Clinic research phase III
- There are some aspects of innovation performed in subsidiaries
    1. Idea generation in terms of new products
    2. New process design as an incremental innovation
- Re-innovation
    1. Extend the life of a product with a declining life cycle
- A mechanism to reduce the "costs tunnel" by optimizing the innovation process (alliances with a cost efficiency logic)
- Gate-keeping abilities are better in larger firms (size)
- People-project : more that low cost labor, low cost engineering

Appendix E DATA ANALYSIS USING STRUCTURAL EQUATIONS MODELING

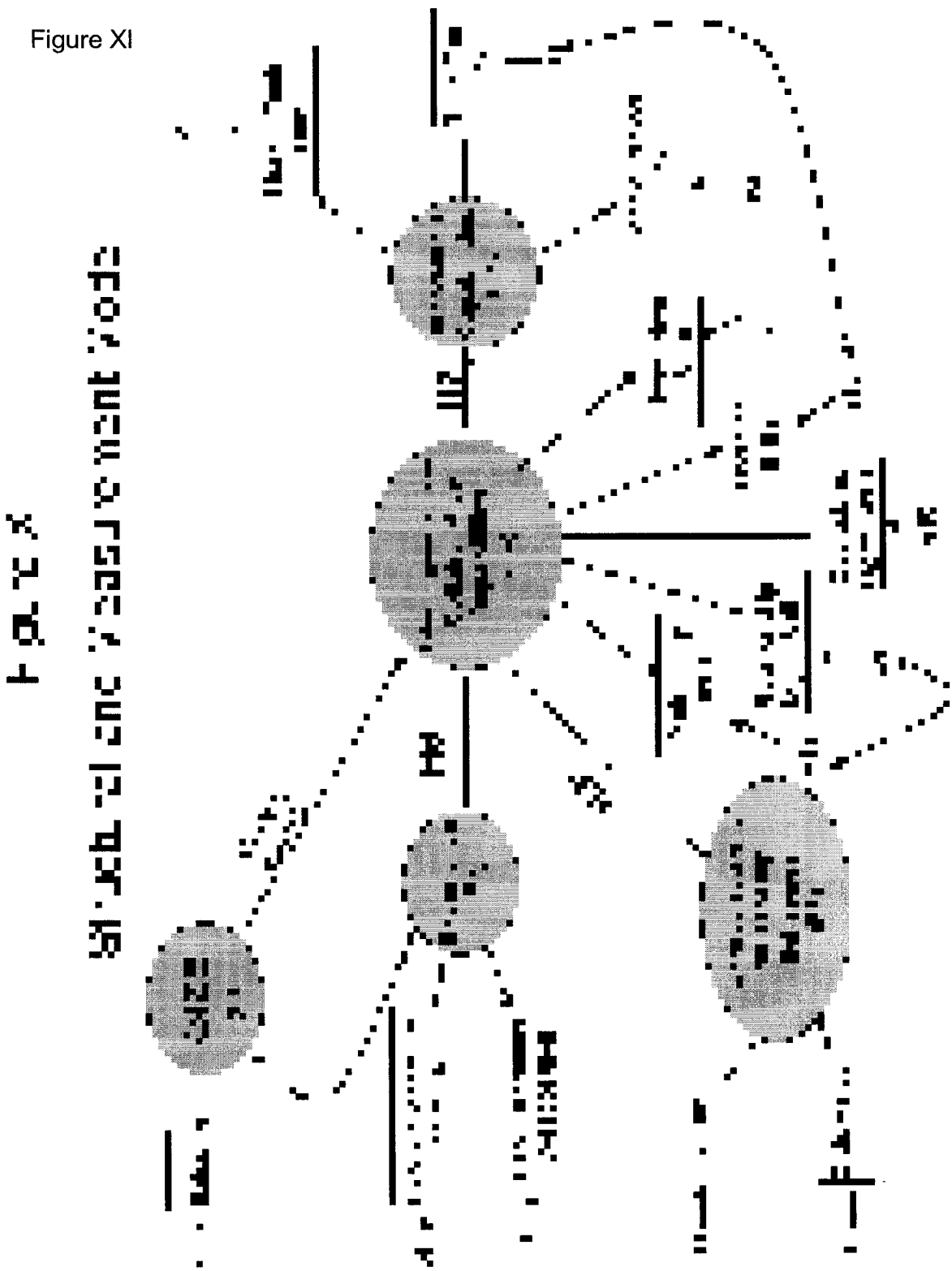
As part of an effort to apply to this study a complementary research methodology, and as a way to verify the statistical findings, a measurement and structural model was designed to test some of the hypothesis. Multivariate regression presented in Chapter VI allowed me to conduct a detailed analysis of the direct effects of a set of independent variables over a dependent one. However, an advantage of Structural Equation Modeling over multivariate regression is that the latter assumes a directional association between two or more variable variables, usually between one dependent and many independent variables. In the other hand, SEM incorporates indirect effects. Indirect effect is the effect of an independent variable on a dependent variable through one or more intervening, or mediating, variables (Baron & Kenny, 1986). In this case, SEM allowed the study to explore the effects of IOCB, experience, and size over innovation capabilities considering IOCC as an intervening construct. In other words, SEM has the ability to compute the total effects of a defined set of variables or constructs, direct and indirect, over a set of latent variables or constructs.

The model has two endogenous constructs (inter-organizational collaborative capabilities and innovation capabilities) and three exogenous constructs (Size, inter-organizational citizenship behaviors, and IOCC´s). In the case of inter-organizational collaborative capabilities, this construct is both exogenous and endogenous since

acts as predictor and outcome in the overall model.

Figure X shows both the measurement and structural model using confirmatory factor analysis. Basically, the intention of a confirmatory factor analysis is to test or confirm that a pre-specified relationship testing for the significance and non-significance of the different predictors, based on assessment of fit of a single model. In the case of this model, confirmatory factor analysis will be very useful to validate the factor loadings found in the exploratory factor analysis and the theoretical meaning of the construct inter-organizational collaborative capabilities, since there were some modifications of the original construct proposed by Simonin (1997).

Figure XI



In addition to the Cronbach alpha, reliability measures performed at a single variable level, composite reliability was computed on table IX for every construct separately from the EQS software package, finding that all but two constructs exceed 0.5, which roughly corresponds to a standardized loading of 0.7 (Bollen, 1989). In the case of the constructs experience and IOCBs the loading was just below 0.5.

Table IX

Reliabity Computation Confirmatory Factor Analysis

		F1 Size	F2 Experience	F3 IOCBs	F4 IOCCs	F5 Innov
Sales	v48	0.827				
Employees	v136	0.73				
Experience Functional	v67		0.574			
Experience Structure	v68		0.616			
Atruism	v59			0.682		
Civic Virtue	v119			0.527		
Learning	v178				0.783	
Relationship Management	v179				0.773	
Operations Management	v180				0.837	
Partnership	v181				0.683	
Negotiation	v182				0.822	
Market to Technology	v95					0.816
Task to Task	v99					0.897
People to Project	v103					0.787
Sum of Standardized Loadings:		1.557	1.19	1.209	3.898	2.5
		F1 Size	**F2** Experience	**F3** IOCBs	**F4** IOCCs	**F5** Innov
Sales	e48	0.562				
Employees	e136	0.683				
Experience Functional	e67		0.819			
Experience Structure	e68		0.788			
Atruism	e59			0.731		
Civic Virtue	e119			0.85		
Learning	e178				0.622	
Relationship Management	e179				0.634	
Operations Management	e180				0.548	
Partnership	e181				0.731	
Negotiation	e182				0.569	
Market to Technology	e95					0.578
Task to Task	e99					0.441
People to Project	e103					0.616
Sum of Measurement Error:		1.245	1.607	1.581	3.104	1.635
Reliability Computation:		**0.660694**	**0.468426**	**0.480392**	**0.830368**	**0.792644**

A process of model re-specification was conducted in order improve the model fit. In this process, the two criteria employed were a) examination of residuals of the predicted covariance matrix and b) examination of expected change parameters that EQS provides by computing the Lagrange multiplier test for adding parameters. As a result of these procedures, the added parameters were co-variances found

between size and experience, the covariance of the error terms of learning skills and task to task linking, as well as the covariance of the error terms of partnership skills and relationship management skills. However, in order to make the model converge, two items in the IOCB construct, sportsmanship and courtesy were dropped. This is an important limitation of the model, since these variables capture 18% of the total variance of the construct. However, empirically, courtesy and sportsmanship had the lowest correlation between all the variables that compose the construct inter-organizational collaborative capabilities.

Table X presents the CFA results of the standardized parameter estimates for the structural model (t values in parenthesis).

Table X

Structural Equation Coefficients (t values in parentheses)

	Endogenous Constructs	Exogenous Constructs		
	Inter-organizational Collaborative Capabilities	Size	Inter-organizational Citizenship Behavic	Experience
Endogenous Constructs				
Inter-organizational Collaborative Capabilities		0.138 (-.222)	0.13 (4.248) ** **H8*** **	0.378 (2.813) * **H6**
Innovation Capabilities	0.805 (6.337) ** **H7**			

* p < .01
** p < .001
*** New hypothesis

As shown in Table X, hypothesis 6 and 7 converge as in prior results of the multivariate regression model. H6 and H/ are not rejected both at p < .001 and p <0.01 respectively. However, a new hypothesis number eight needed to be

proposed, in order to account for the direct effect of the construct inter-organizational citizenship behavior on the construct inter-organizational collaborative capabilities at a construct level:

Hypothesis VIII: ***Firms with high levels of inter-organizational citizenship behaviors will achieve higher levels of inter-organizational collaborative capabilities.***

H8 is not rejected at $p < 0.001$. The above results converge and are consistent with the multivariate regression analysis approach. Overall, the ability of firms to collaborate is strongly related to the ability of firm to relate to each other through IOCB. This result was expected since at a single variable level (see hypotheses I through V on chapter 5) IOCC were positively and significantly related to IOCB.

In order to assess not only the appropriateness of the estimated values of the individual standardized coefficients, Table XI shows a goodness of fit procedure performed to assess the model fit as a whole.

Table XI

Goodness of Fit for Structural Model

Parameter	Value
Chi-square	94.38
degrees of freedom	71
probability	0.0333
n	140
Normed Fit Index	0.899
Non-normed Fit Index	0.965
Comparative Fit Index	0.972
Lisrel Goodness of Fit Index	0.909
Lisrel Adjusted Goodness of Fit	0.865
# of iterations	11

The overall Chi-square relative to the null model is 94.38, with 71 df, and a p <0.034, showing enough significance, as expected with this statistic's sensitivity to sample size (Bagozzi & Yi, 1988). All the other fit indexes are within satisfactory ranges and suggest an adequate fit of the model. Although the normed fit index (NFI) has been the practical criterion of choice, evidence has showed a tendency to underestimate fit in small samples. (Bentler, 1990a) revised the NFI to take sample size into account and proposed the comparative fit index (CFI), which is the index of choice (Bentler, 1990b). A value greater that 0.90 indicates an acceptable fit to the data. This fit indicates, without having competing models, is that indeed we can assume that IOCB are antecedents of IOCC, and innovation capabilities are outcomes of the counting with of IOCC.