Chapter II

Literature Review

The liberalization of trade and new international trading rules and practices have coerced Thai firms to strengthen their capability in order to compete with foreign competitors. The Government of Thailand, thus, has established measures in the Eighth National Economic and Social Development Plan (1997-2001) to strengthen the production base of industries in Thailand. Those measures include upgrading capability in industrial technology by increasing efficiency in the adoption and adaptation of production technology, stimulating transfer of technology, stimulating domestic technological innovation, developing product standards and quality, and promoting technological cooperation with foreign countries. Hence, the understanding of organizational learning and international strategic alliances will be fruitful to Thai business. Simultaneously, the linkage of these two perspectives will also extend the knowledge of scholars in the field of international business.

This chapter begins with reviewing the literature of organizational learning incorporated with the perspective of innovation to provide understanding of how learning takes place at the firm level. Illustrations of concepts in each stream of thought are provided. Next, the literature of international strategic alliances is reviewed to demonstrate why organizational learning is relevant to the alliance. Lastly, factors that enhance learning of partner firms in international alliances are explained within the perspectives of organizational learning and strategic alliances.

Organizational Learning

Learning within firms has been a feature of the theory of the firm at least since Cyert and March published their book on '*A behavioral theory of the firms*' in 1963. They see organizational learning as entailed in organizational adaptation that uses individual members of the organization as instruments in a way that constitutes adaptation at the aggregate level of the organization. Organizational learning is understood to occur when an organization selects decision rules that lead the

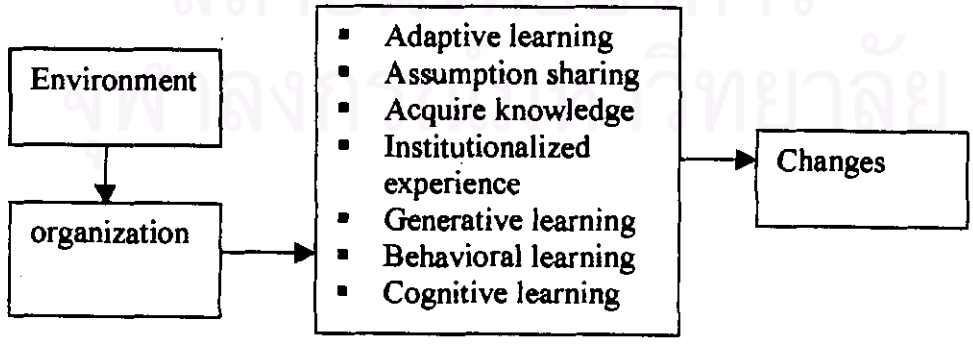
organization to a preferred state in response to an external source of disturbance or shock. To date, the literature on organizational learning is rather eclectic. Little convergence or consensus on the meaning of the term or the basic nature of the phenomenon has achieved (Huber, 1991; Kim, 1993).

Among the extant literature, three streams of thought on organizational learning that have been widely conceptualized in the works of researchers in this area can be found. In the first stream, organizational learning is conceptualized as changes in an organization either in action or in knowledge. In the second stream, organizational learning is considered as an information oriented process. In the third stream, organizational learning is considered as an experience oriented process.

1.1 Learning involves Changes

Researchers in this stream view an organizational learning as the development of new knowledge or insights that have the potential to influence behavior. Organizational learning is a response of an organization to its environment. Learning has been stated as an adaptation, improvement, innovation, or new understanding. Researchers who provide insight in this stream include Shrivastava (1983), Fiol and Lyles (1985), Simon (1991), Senge, (1990), Arrow (1962), and Stata (1989). Figure 2.1 illustrates the concepts in this stream.

Figure 2.1 Learning involves Changes



Shrivastava (1983) states that organizational learning occurs through the medium of individual members and involves the development of better interpersonal skills. He proposes four approaches of organizational learning, i.e., adaptive learning,

assumption sharing, development of knowledge, and institutionalized experience. Adaptive learning means organizations adapt to problems, opportunities, and changes in the environment by adjusting goals, decisions, and behaviors. Assumption sharing means organizations develop organizational theories-in-use which results from shared assumptions and values. Development of knowledge is the process of acquiring knowledge of the relationship between organizational actions and environmental outcomes. Institutionalized experience is an accumulation of efficiencies through experience and tradition.

Fiol and Lyles (1985) define organizational learning as the process of improving actions through better knowledge and understanding. Two aspects of learning, i.e., behavioral and cognitive are suggested. Behavioral learning relates to new responses, action, or structures. Cognitive learning relates to new shared understanding and conceptual schemes of organization members. At the cognitive level, Simon (1991) states that all learning takes place inside individual human heads. An organization learns only either by the learning of its member or by ingesting new members who have knowledge the organization did not previously have.

Senge (1990) suggests two kinds of learning, i.e., adaptive learning and generative learning. A learning organization will enhance its capacity to create its future by joining adaptive learning with generative learning. The adaptive learning is the most basic form of learning which occurs within a set of recognized and unrecognized constraints that reflect the organization's assumptions about its environment and itself. The resulting learning boundary constrains organizational learning to the adaptive variety, which usually is sequential, incremental, and focused on issues or opportunities that are within the traditional scope of the organization's activities. The generative learning takes place when the organization is willing to question long-held assumptions about its mission, customers, capabilities, or strategy. It requires the development of a new way of looking at the world based on an understanding of the systems and relationships that link key issues and events. The systems' thinking disciplines the organization to focus on interrelationships and dynamic processes of change rather than on linear cause-effect chains.

Dodgson, (1993a) has integrated and synthesized some extant studies on organizational learning. He maintains that learning is seen as a purposive quest to

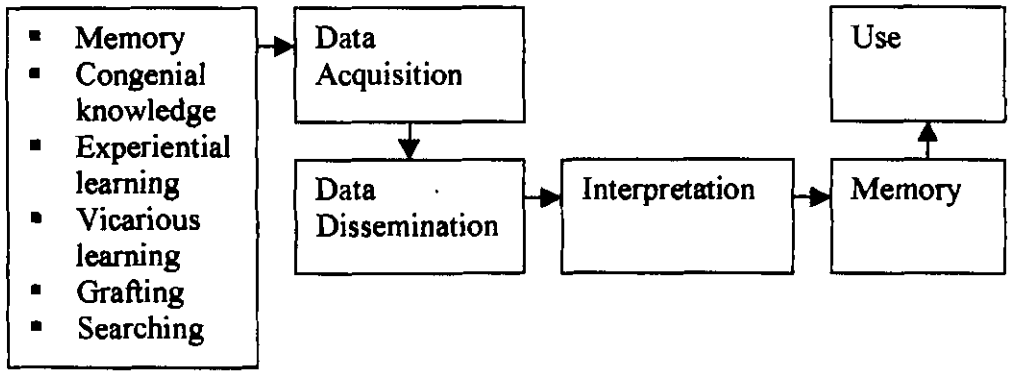
retain and improve competitiveness, productivity (Arrow, 1962), innovation, (Loveridge and Pitt, 1990; Dodgson, 1991), and new product introduction (Maidique and Zirger, 1985). Learning relates to firms and can be described as the ways firms build, supplement and organize knowledge and routines around their activities and within their cultures, and adapt and develop organizational efficiency by improving the use of the broad skills of their workforces. Learning, essentially, can be seen to have occurred when organizations perform in changed and better ways. The goals of learning are useful outcomes. Common explanations of the need to learn is the requirement for adaptation and improved efficiency in times of change.

Stata (1989) argues that organizational learning entails new insights and modified behavior. Organizational learning occurs through shared insights, knowledge, and mental models. The values and culture of an organization have a significant impact on the learning process and on how effectively a company can adapt and change.

1.2 Learning as an Information Oriented Process

Researchers in this stream emphasize on the roles of information towards organizational learning. Organizational learning is explained as a process of knowledge or message acquisition, dissemination, interpretation, storage, and utilization. Organizational learning is a continually evolving process that results in the expansion and improvement of knowledge. Researchers in this stream include Daft and Huber (1987), Huber (1991), and Sinkula (1994). Figure 2.2 illustrates the learning process which is based on works in this stream.

Figure 2.2 Learning as an Information Oriented Process



Daft and Huber (1987) suggest two basic perspectives of organizational learning, i.e., the systems-structural perspective and the interpretive perspective. The systems-structural perspective views the organization as a system for transmitting data. Organizations learn by acquiring and disseminating data. The amount, frequency, direction, and physical characteristics of messages are viewed as instrumental in learning. Organizations merely need to obtain the facts in order to take action. In contrast, the interpretive perspective focuses on the underlying purpose and meaning of information. Data mean nothing until organization participants use them. Organizations learn when the equivocality of the message is reduced by discussion and shared interpretation of events, changing assumptions, and trial and error. Action leads to understanding.

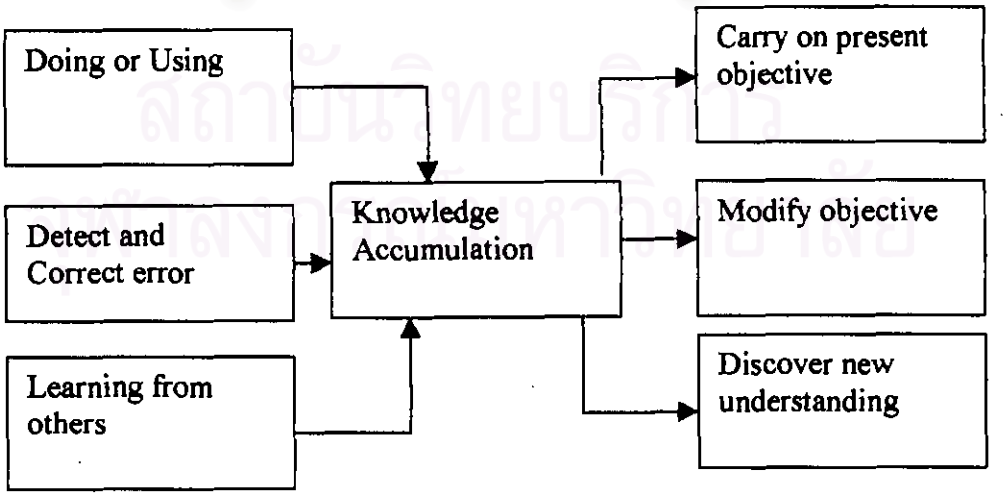
Huber (1991) elaborates four constructs integrally linked to organizational learning. These constructs are knowledge acquisition, information distribution, information interpretation, and organizational memory. Knowledge acquisition refers to five processes by which knowledge leading to learning is obtained. Five distinct processes are congenital knowledge, experiential learning, vicarious learning, grafting, and searching. Congenital knowledge is the knowledge inherited at the conception of the organization. Experiential learning occurs as the result of experience. Vicarious learning occurs as the result of imitating other organization. Grafting is the acquisition of new members or of a whole organization possessing the knowledge in default. Searching is the acquisition of information through scanning of the external environment or performance monitoring. Information distribution is the process by which information from different sources is shared and thereby leads to new information or understanding. Information interpretation is the process by which distributed information is given one or more commonly understood interpretations. Organizational memory is the means by which knowledge is stored for future use. Organizational learning occurs as the members acquire chunks of knowledge and recognize it as potentially useful for organizational purposes. The development of knowledge by individual members of an organization is designated as the existence of organizational learning and the spread of this knowledge throughout the organization is designated as its breadth.

Sinkula (1994) suggests three-stage process of organizational learning. This process includes information acquisition, information dissemination, and shared interpretation. Information acquisition is from direct experience, the experiences of others, or organizational memory. Information dissemination or information sharing distinguishes organizational learning from personal learning. Effective dissemination increases information value when all organizational players can see each piece of information in its broader context. These players are able to feed back questions, amplifications or modifications that provide new insights to the sender (Glazer, 1991; Quinn, 1992). Shared interpretation implies a consensus on the meaning of the information and its implications for the business, consequently, brings about organizational learning (Slater and Narver, 1995).

1.3 Learning as an Experience Oriented Process

Researchers have suggested that learning is embedded in cultural norms, work routines, and shared practices rather than in individuals mind. Beliefs and skill set are explained that they reside in the interactive practices and understandings of organizational subgroups. Figure 2.3 illustrates the concept of learning in this stream.

Figure 2.3 Learning as an Experience Oriented Process



Arrow (1962) characterized the learning that comes from developing increasing skill from using new process technologies in manufacturing as learning by

doing. Learning by doing results in lower labor costs. The manufacturers' productivity improves for several years after adopting a new technology as they learn to use the technology to best effect.

Argyris and Schon (1978) address that learning is the accumulation of information in the form of knowledge. Organizational learning involves the detection and correction of error. They develop a three-fold typology of learning, i.e., single-loop, double-loop, and deutero-learning. Single-loop learning is the process that the error detected and corrected permits the organization to carry on its present policies or achieve its present objectives. Double-loop learning occurs when error is detected and corrected in ways that involve the modification of an organization's underlying norms, policies and objectives. Deutero-learning is the process that members in the organization discover what they did that facilitated or inhibited learning from previous contexts for learning. Borys and Jemison (1989) refer the single-loop learning as the acquisition of knowledge through normal operations and the double-loop learning as the learning of how to learn. Argyris (1990) further explains that, in comparison, individuals design their intentions and actions whereas organizations design strategies and their implementation. In the case of inter-firm cooperation, individuals are control agents as well as learning agents. By seeking, recording, interpreting, retrieving, and sharing information, individuals involved in day-to-day operations actively contribute to the development of organizational myths and realities about the partner firm.

Rosenberg (1982: 124-126) distinguishes between learning that is internal and external to the production process. Internal learning results from experience with manufacturing the product, "learning by doing"; external learning is the result of what happens when users have the opportunity to use the product for extended periods of time, "learning by using". Under such circumstances, two types of useful knowledge may be derived by the developing organization. One kind of learning (embodied) results in design modifications that improve performance, usability, or reliability, a second kind of learning (disembodied) results in improved operation of the original or the subsequently modified product.

Levitt and March (1988), draw on behavioral studies of organizations, suggest that organizations are seen as learning by encoding inferences from history into

routines that guide behavior. The term 'routine' includes the forms, rules, procedures, conventions, strategies, and technologies around which organizations are constructed and through which they operate, as well as the structure of beliefs, frameworks, paradigms, codes, cultures, and knowledge that buttress, elaborate, and contradict the formal routines. Routines are transmitted through socialization, education, imitation, professionalization, personnel movement, mergers, and acquisitions. Imitating the behavior of others and accepting their behavior repertoires is an important source of organizational learning (Hedberg, 1981). Routines and beliefs change depend on the evaluation of outcomes in terms of targets through two mechanisms, i.e., trial-and-error experimentation and organizational search. Through trial-and error approach, organizations are described as gradually adopting those routines, procedures, or strategies that lead to favorable outcomes. Routines are transformed at the same time as the organization learns. Through organizational search, organizations capture the experience of other organizations through the transfer of encoded experience in the form of technologies, codes, procedures, or similar routines. The possibilities for learning from the experience of others can be illustrated by looking at the diffusion of innovations among organizations.

1.3.1 Innovation

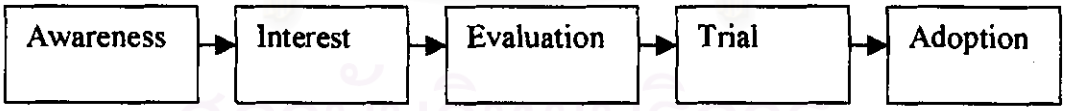
Diffusion is a process of communication and influence whereby potential users become informed about the availability of new technology and are persuaded to adopt, through communication with prior users (Rogers, 1983). In the economic sense, the higher the cost, the slower diffusion will occur. The higher the perceived profit from an innovation, the faster adoption will occur (Mansfield, 1968). It is found that those firms for whom an innovation is most profitable become early adopters (Davies, 1979; von Hippel, 1988).

Eveland and Tornatzky (1990) views diffusion and adoption as occurring within contexts that constrain and mold choices. They enumerate five elements of context, i.e., nature of the technology, user characteristics, the characteristics of deployers, boundaries within and between deployers and users, and characteristics of communication and transaction mechanisms. They have observed that diffusing a

technology is more difficulty if (1) its scientific base is abstract or complex, (2) the technology is fragile, in other words, it does not work consistently, (3) it requires hand-holding aid and advice to adopters after initial sale, (4) it is lumpy, meaning, affects huge swaths of the user organization, and (5) it is not easily productized , meaning, made into a standard commodity or a complete package.

Schumpeter (1934) initially introduces the concept of innovation by proposing the concepts of five categories of innovation. These categories of innovation are the introduction of a new good, the introduction of a new method of production, the opening of a new market, the conquest of a new source of supply, and the carrying out of the new organization. Several researchers suggest that the innovation-decision process comprises five stages, i.e., awareness, interest/ information, evaluation, trial, and adoption (Rogers and Shoemaker, 1971). The diffusion of innovations is the process by which an innovation is communicated through certain channels over time among the members of a social system. Diffusion is defined as the process by which alteration occurs in the structure and function of a social system. Social change occurs when certain consequences are led by the adoption or rejection of new ideas' invention and diffusion (Rogers, 1983).

Figure 2.4 Diffusion of Innovation



Individuals perceive that the technological innovation has the characteristics of relative advantage, compatibility, complexity, trialability, and observability (Rogers, 1983). These characteristics cause the variation in the diffusion rate.

1. Relative advantage is the degree to which an innovation is perceived as better than the idea it supersedes. The greater the perceived relative advantage of an innovation, the more rapid its rate of adoption is going to be.

2. Compatibility is the degree to which an innovation is perceived as being consistent with the existing values, past experiences, and needs of potential adopters.

An idea that is not compatible with the prevalent values and norms of a social system will not be adopted as rapidly as an innovation that is compatible.

3. Complexity is the degree to which an innovation is perceived as difficult to understand and use. New ideas that are simpler to understand will be adopted more rapidly than innovations that require the adopter to develop new skills and understandings.

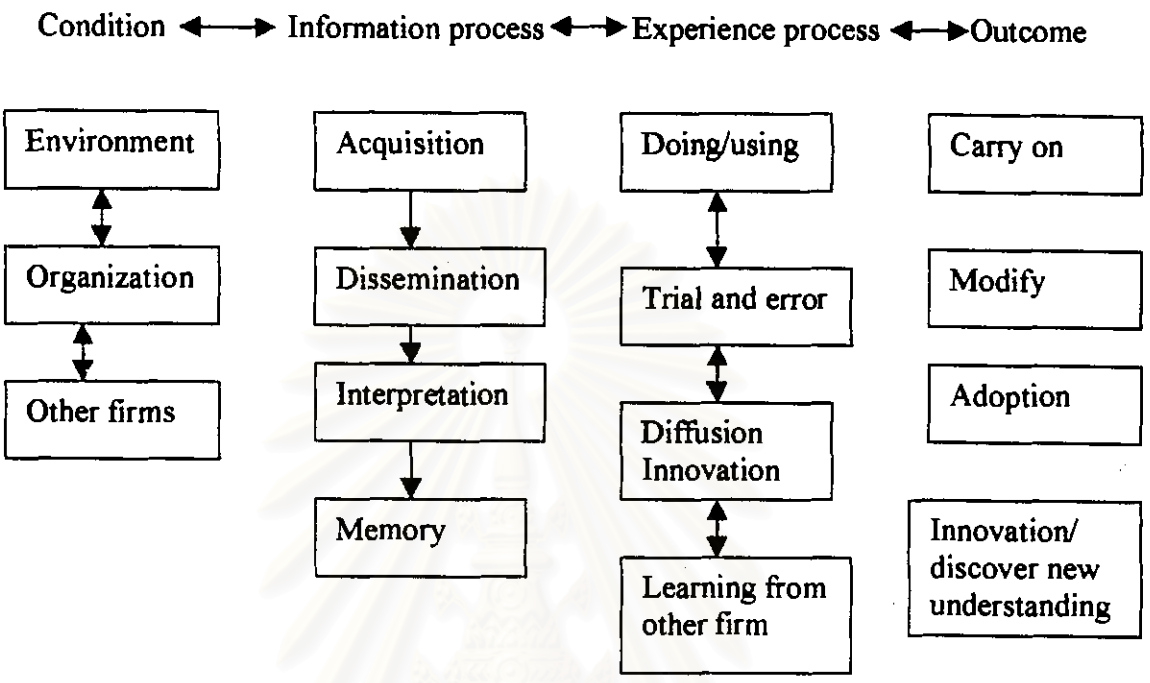
4. Trialability is the degree to which an innovation may be experimented with on a limited basis. An innovation that is trialable represents less uncertainty to the individual who is considering it for adoption, as it is possible to learn by doing.

5. Observability is the degree to which the results of an innovation are visible to others. The easier it is for individuals to see the results of an innovation, the more likely they are to adopt.

Integrated Concept on Organizational Learning

Based on the works of researchers in the areas of organizational learning, I illustrate the integrated concept of organizational learning as shown in Figure 2.5. The pattern is not sequential. Factors that influence learning include the firm's environment, the firm itself, and other firms. A firm learns through the information and experience processes. Learning takes place in four forms. The firm may carry on its present knowledge, change or improve understanding, adopt new idea, or discover new idea.

Figure 2.5 Integrated Concept of Organizational Learning



2. International Alliances in the Field of International Business

International Business discipline is driven by the theory of Foreign Direct Investment (FDI) which Hymer (1960, 1968) is the first contributor and the product cycle model of Vernon (1966). The Vernon's (1966) product cycle model explains a process of international trade and foreign production. In the meantime, the Hymer's (1960, 1968) theory of FDI suggests that FDI involves not only the finance capital but also the transfer of a package of resources such as technology, management skills, and entrepreneurship. The gaining control of enterprise will ensure the safety of international investment and will enable the investor to exploit the foreign market in which he is investing because of some type of advantage. Firms pursue direct foreign investment because they possess some advantage over local firms. For instance, they have product differentiation, special market skills, as well as of the existence of patented or unavailable technology. Consequently, they are hesitant to share that special knowledge (Kindleberger, 1969).

From the perspective of market imperfections, Buckley and Casson (1976) extend the FDI theory to include 'internalization' emphasizing on four groups of

factors i.e., firm specific, industry-specific, region-specific, and nation-specific factors. Firm-specific factors include management and technical knowledge. Industry-specific factors include product and structure factors. Nation-specific factors include political aspects. Region-specific factors include cultural aspects. Rugman (1986) concluded that the internalization theory is at the core of the theory of the MNE.

Focusing on the important intermediate-products markets, a reason for internalization is the avoidance of uncertainties in the transfer of knowledge between parties. Magee (1977) combined the neoclassical theories of creation and appropriability with the theory of industrial organization to explain the MNC's ability to appropriate to itself the returns on its investment in research and development. Magee (1977) coined the concept of the industry technology cycle that built upon the Vernon hypothesis that the competitive advantages of firms were likely to change over the life of the product. Firms were unlikely to sell their rights to new and idiosyncratic technology for two reasons. First, the fear that as a result of information inadequacy, the buying firm was unlikely to pay the selling firm a price that would yield at least as much economic rent as it could earn by using the technology itself. Second, the fear that the licensee might use the technology to the disadvantage of the licensor, and even become a competitor to it. As the technology matured and lost some of its uniqueness, the need to internalize its use evaporated and the firm would consider switching its modality of transfer from FDI to licensing.

Over the 1980s the trend in MNE operations has been toward greater use of cooperative arrangements and alliances e.g., joint ventures, licensing/ equity agreements, management contracts, franchising, and counter-trade (Contractor and Lorange, 1988). Multinational enterprises have begun to recognize that local firms can make a significant contribution to a venture through their intimate knowledge of a local business environment (Hall, 1984). In addition, the bargaining power of multinational enterprises, in terms of technological know-how, currently is eroded because of the investment regulations of many host governments (Datta, 1991).

Scholars in the field of International Business view strategic alliances as a temporary mechanism for the expansion of multinational enterprises (Beamish, 1988; Contractor and Lorange, 1988; Osborn and Hagedoorn, 1997). However, studies in the topic of strategic alliances still lack consensus in the usage of the term "strategic

alliance" (Simonin, 1991). Alliances vary by defined purpose (Hergert and Morris, 1988), time frame, and type. Various terms are used to describe strategic alliances, for instance, cooperative ventures (Buckley and Casson, 1988), cooperative arrangements (Contractor and Lorange, 1988), international cooperative arrangements (Root, 1988), cooperative agreement (Barney, 1997), cooperative interorganizational relationships (Ring and Van de Ven, 1994, Hall, 1996), strategic alliances (Pate, 1969; Berg, Duncan, and Friedman, 1982; Killing, 1983; Czinkota, Ronkainen, and Moffett, 1994; Hill, 1994; Lei, 1997), global strategic alliances (Burgers, Hill, and Kim, 1993; Oh, 1996), international strategic alliance (Burton and Saelens, 1989), cross-border strategic alliance (Dunning 1993), competitive alliances (Revesz and Cauley, 1986), coalitions (Porter and Fuller, 1986), international corporate linkages (Auster, 1987), international collaborative venture (Sarkar, Cavusgil, Evirgen, 1997), and partnerships (Root, 1988).

Dunning (1988) argues that the motive for international alliances is to assist firms to globalize their value chain. Porter's value chain framework (1985) and his concept of five competitive forces (1980) help to isolate alliances by type. In the value chain, namely the support activities (firm infrastructure, HRM, technology, development, procurement) and the primary activities (inbound logistics, operations, outbound logistics, marketing and sales, service), the great majority of alliances are confined to technology, operations (production agreements) and marketing activities (Burton and Saelens, 1989).

Contractor and Lorange (1988) hypothesize a classification of cooperative arrangements based on inter-organizational dependence. Ranking from a lower to a higher level of dependence, cooperative arrangements include technical training/ start-up assistance agreements; production/assembly/buyback agreement; patent licensing; franchising; know-how licensing; management/ marketing service agreements; non-equity cooperative agreements in exploration, research partnership, development/ co-production; and equity joint ventures. Pucik (1992) suggests that strategic alliances can take either a form of technical exchange and cross licensing, co-production and Original Equipment Manufacturing (OEM) agreements, sale and distribution ties, joint product development programs, or creation of joint venture firms with equity distributed among the partners. An alliance, in particular a joint venture, it is

considered to be an international if at least one parent is headquartered outside the venture's country of operation or if the JV has a significant level of operation in more than one country (Geringer and Hebert, 1989).

Strategic alliances do not include mergers, because by definition alliances cannot involve acquisition of another firm's assets or controlling interest in another firm's stock. Cases in which one business purchased another business is acquisition rather than collaboration (Singh and Mitchell, 1996). Mergers and acquisitions lead to loss of autonomy by at least one partner (Dussauge and Garrette, 1997). Dunning (1997) also differentiates alliances from mergers and acquisition that:

> Cooperative arrangements differ from M&As in three respects. First, the formers usually involve in a part and sometimes a minor part of the collaborating firms' activities. Second, they may entail no change in the ownership structure of the participating firms. And third, whereas the hierarchical solution implies an 'exiting' by firms from the dictates of the marketplace, the alliance solution implies a 'voice' strategy of working within these dictates to maximize the benefits of the joint internalization of interrelated activities.

Strategic alliances can also be classified as equity alliances or non-equity alliances. For instance, Inkpen (1998) maintains that:

> Strategic alliances can have a variety of organizational arrangements, such as joint ventures, licensing agreements, distribution and supply agreements, research and development partnerships, and technical exchanges. Broadly, the governance structures of the various forms can be differentiated as either equity alliances or non-equity alliances. Equity alliances involve the transfer or creation of equity ownership either through direct investment or the creation of an equity joint venture. Non-equity alliances do not involve any transfer of equity nor do they usually entail the creation of a new organization.

Florin (1997) defines non-equity interfirm cooperative arrangements as those that either have no equity investment in the partner's business or such investment is small and irrelevant to the issues of control and decision making in the partnership. Licensing has tended to be the most common form of nonequity or contractual collaboration (Madhok, 1997).

Researchers also have non-cumulatively focused on different dimensions and employed different perspectives to analyze international alliances. Traits or characteristics of partners, relationship and knowledge have been addressed as important determinants of success of alliances. For instance, Tomlinson and Thompson (1977) examined Canadian firms' IJV experiences in Mexico, using data

from interviews with forty Mexican and Canadian parent company executives, other business people, and government representatives. Traits that Canadian firms should seek in local partners for IJVs in Mexico were listed, namely, financial status, business compatibility, common goals, ability to negotiate with the government and compatible ethics. Traits that Mexican firms sought in foreign partners included financial resources, technology and experience in its application, international visibility and reputation, commitment to the Mexican IJV, international experience, management depth and the ability to communicate with Mexicans.

In the same vein, Olson and Singsuwan (1997) investigate the perceptions of Thai executives and American executives of the importance of partnership attributes, communication techniques, and conflict resolution behaviors for the success of strategic alliances. Differences in perceptions between the two groups are found.

Attempting to explain a means to an end, researchers employ perspectives such as transaction cost (e.g., Hennart, 1991), organization theory (Habib, 1987), resource dependence (Pfeffer and Nowak, 1976), game theory (e.g., Parkhe, 1993), strategic behavior (Kogut and Singh, 1988), networks (Walker, 1988), internalization theory (Buckley and Casson, 1997), and organizational learning (e.g., Inkpen, 1997; Tiemessen, Lane, Crossan, and Inkpen, 1997).

3. Organizational Learning and International Alliances

Drucker (1995) has suggested that the greatest change in the way business is being conducted is the accelerating growth of relationship based not on ownership but on partnership. The argument on an explanatory factor for this trend is that alliances provide a platform for organizational learning, giving partner firms access to the knowledge of their partners (Kogut, 1988; Westney, 1988; Hamel, 1991; Inkpen and Beamish, 1997). Kogut (1988) is the first to explicitly argue that joint ventures could be motivated by an organizational learning imperative.

There is a growing body of theoretical (Kogut, 1988; Westney, 1988; Parkhe, 1991; Pucik, 1991) and empirical studies (Hamel, 1991; Dodgson, 1993b; Simonin and Helleloid, 1993; Inkpen, 1995; Inkpen and Crossan, 1995) addressing alliances as mechanisms for gaining access to partners' knowledge and skills (Inkpen and

Beamish, 1997) or an opportunity to learn from partners (Ciborra, 1991; Dodgson, 1993b). The organizational learning is appearing more frequently in the international business literature, in particular to analyze strategic alliances. It is because the overall nature of the alliance provides the context for interorganizational learning (Levinson and Asahi, 1995). Many firms enter into alliances with specific learning objectives (Hamel, Doz, and Prahalad, 1989). Although learning through alliances can occur successfully, it is a difficult and frustrating process.

A view on the relevance of organizational learning to alliances concerns performances. Performances have been a central construct of study in research on alliances in the domains of international business and strategic management (Venkatraman and Ramanujam, 1986). Instead of measuring performances in strategic alliances in terms of their financial profitability or the longevity of the alliances, Kaplan and Norton (1992) suggest that a learning perspective should be included. In the same vein, Lorange and Roos (1992) argue that the performance of the strategic alliance is not only a question of producing tangible benefits such as profits. Often the short-term goal of an alliance may not be only to increase profits per se. Rather, the main purpose of a strategic alliance might be to learn from the other partner how to get a complex task done (Hergert and Morris, 1988). Poor financial performance may be quite acceptable if a joint venture is rather a source of learning that will synergistically contribute toward parent companies' overall competitiveness (Parkhe, 1996).

Gomes-Casseres (1987) has also noted that termination of a cooperation might signal success in that a short-term corporate objective has been achieved. Therefore, to analyze the achievement of a strategic alliance based on life-length is not always correct. A short-lived strategic alliance may indeed be successful, once its purpose is achieved. The alliance's survival and duration may be associated not with alliance success, but with high exit barriers (Parkhe, 1996).

Researchers define alliances as coalignments between two or more firms in which the partners hope to learn and acquire from each other the technologies, products, skills, and knowledge that are not otherwise available to their competitors (Lei and Slocum, 1992) as well as to share knowledge or resources, which could be beneficial to all parties involved (Vyas, Shelburn, and Rogers,1995). Collaborations

and partnerships can be vehicles for new organizational learning (Teece and Pisano, 1994). Learning through the experience of others and through strategic actions is usually faster and more complete than learning through own experience (Romme and Dillen, 1997). The firm that is able to learn the most from its alliance partners while the alliance is in the progress is the one that benefits the most in the long run (Hamel, Doz, and Prahalad, 1989).

Previous studies have strongly conceptualized the involvement of factors that influence partner firm's learning such as cultural similarity (Chan and Heide, 1993), receptivity (Hamel, 1991), trust (Inkpen, 1997), ownership structure (Tiemessen et al., 1997), complementarity (Dymsza, 1988), prior tie (Parkhe, 1993), and type of knowledge (Inkpen, 1998). However, very few number of empirical studies have been conducted. This study, thus, concentrates on these seven characteristics.

Geringer (1991) helps researchers simplify the analyses of partner selection by distinguish partner selection criteria into task-related criteria and partner-related criteria. Likewise, based on the strategic alliances and organizational learning literatures, I argue that local firm's learning is influenced by partner attributes, relationship attributes, and knowledge attributes. Concepts about these attributes as suggested in the literatures of organizational learning and strategic alliances are reviewed and described in the following part.

3.1 Partner Attributes

Cultural similarity, receptivity, and trust are three characteristics that are focused here.

Cultural similarity

Culture is the collective programming of the mind which distinguishes the members of one human group from another (Hofstede, 1980). Partners must be cultural compatible to prosper the relationship. Common or compatible methods of approaching problems must be sought or the project could be jeopardized with perpetual disagreement (Chan and Heide, 1993). Many of the problems and

misunderstandings in alliances have their roots in the cultural differences that exist at both the national and the organizational levels (Datta, 1991). Recent research in cooperation partnerships has shown that sharing a common national culture is less important than the ability to share tacit knowledge in a common corporate culture (Sohn, 1994). Therefore, this study emphasizes only on the corporate culture.

Organizations with moderately similar professional skills represent a common culture of shared meanings (Van de Ven and Walker, 1984). Price (1996) notes that the organizations who possess dissimilar technological skills and resources are likely to encounter information transmission difficulties because what is a competitive advantage for one may simply be building block technology for another. The collaborators may have sharply different views on the widespread sharing of technology. Researchers suggest that firms with similar capabilities are more likely to belong to a common technological community (Powell, Koput, and Smith-Doerr, 1996). Compatible philosophies between partners facilitated reduced conflict and the positive resolution of any remaining conflict (Sarkar, Cavusgil, and Evirgen, 1997).

Receptivity

Hamel (1990) defines receptivity as the capacity of organizations to learn from their partners. Likewise, Cohen and Levinthal (1990) define absorptive capacity as the ability of a firm to recognize the value of new, external information, assimilate it, and apply it to commercial ends . Some organizations have a greater capacity to absorb, circulate, and utilize information than others. Learning is dependent upon a firm's ability to acquire knowledge from external sources as well as its ability to internalize and utilize this knowledge (Tidd, 1995). Spinello (1998) proposes a concept of internal awareness and external awareness. External awareness is the ability of a firm to absorb information beyond its boundaries and transform it into usable knowledge. The external awareness is the firm's perceptions about its environment. Internal awareness refers to a firm's ability to preserve and disseminate the knowledge that has been internally developed or imported from outside sources.

To be a collaborator, a firm's internal assets are involved (Powell, Koput, and Smith-Doerr, 1996). Lyles and Salk (1997) empirically found that absorptive capacity

influences the degree of knowledge acquisition. Yamaguchi (1994) surveys 4 joint ventures in Thailand and 8 joint ventures in Taiwan to study cross cultural technology transfer. The results suggest that the lack of recipient's capacity to receive technology was the dominant reason for low receiving capacity.

Daft and Huber (1987) describe that organizations purposefully disseminate information in order to learn what to do and what needs to be done differently. Organizations are forced to seek efficiencies in their internal communication systems. Providing data will reduce ignorance for coordination and integration. Moreover, capacity to increase the volume of data processed by the organization and capacity to reduce equivocality will help the organization to process information sufficiently, receive information, be involved in trial and error, and interpret the environment.

The decision to acquire or develop necessary capabilities of a firm is often made as a function of its internal resources and investment requirements (Shan and Song, 1997). In addition, a flexible organizational structure and approach to management is thought to be associated with higher capacities for knowledge acquisition (Dodgson, 1993a). Organizational flexibility promotes the knowledge transfer process by encouraging greater receptivity of organization members to new stimuli from the outside, by promoting collaboration and exchanges of information within the organization and by granting members greater latitude in altering activity patterns and ways of doing things to adapt to perceived changing needs and conditions (Fiol and Lyles, 1985; Brown and Duguid, 1991; March, 1991; Hedlund, 1994). A lack of adequate procedures, resources, or appropriate implementation at the stages of information acquisition, distribution, interpretation, and memory certainly undermines the level of learning (Simonin, 1991).

Trust

Trust provides material incentives for cooperation (Hill, 1990). Just as trust can exist between individuals, with expectations of behavior on both sides, it can also exist between organizations because individuals manage interorganizational relationships (Hosmer, 1995). Trust between alliance partners has been identified as an important element in collaborative relationships (Badaracco, 1991; Gulati, 1995a;

Madhok, 1995). The signals of trust include, for example, meeting obligations and expectations, performing relevant tasks competently and reliably, sharing information, and generally nurturing the relationship (Johnson, Cullen, Sakano, and Takenouchi, 1997).

Geringer (1991) suggests that the firm must be sure that its partner is the earnest and ethical people who are not trying to undermine it. He views that usually a firm will have access to its partner's trade secrets, attempt to complete a few projects, learn what its partner does, then exclude its partner from a future deal.

Trust in interfirm relationships include a set of expectations between partners about the behavior of each and about the anticipation that each will fulfill its perceived obligations (Thorelli, 1986; Madhok, 1995; Inkpen, 1997). Trust is mostly conceptualized on two dimensions, i.e., a cognitive component and a behavioral component (Johnson et al., 1997). A cognitive component derived from confidence in the reliability of a partner. A behavioral component derived from confidence in the intentions, or benevolence of a partner (Moorman, Deshpande, and Zaltman, 1993).

Johnson et al. (1997) conceptualize trust on the dimensions of credibility and benevolence. Credibility connotes the extent to which a firm believes that its partner has the required expertise and resources to meet expectations in the alliance, and is willing to use them appropriately in the alliance relationship. Benevolence is the extent to which a firm believes that its partner has intentions of goodwill and will behave in a fashion beneficial to both the alliance and the partner. Trust between firms refers to the confidence that a partner will not exploit the vulnerabilities of the other (Barney and Hansen, 1994). Trust not only enables greater exchange of information, it also promotes ease of interaction and a flexible orientation on the part of each partner (Gulati, 1998).

3.2 Relationship Attributes

Relationship attributes include ownership structure, complementarity, and prior tie between partners.

Ownership Structure

Research has indicated that the forms of governance chosen for alliances is an important element in determining their success and ability to meet the objectives of the participating firms (Rugman, 1981; Harrigan, 1988b). Ownership is the legal possession of assets. The difference in the alliance ownership structure affects at least some aspects of knowledge acquisition (Lyles and Salk, 1997). Child, Yan and Lu, (1997) argue that ownership refers to the right to possess an asset or its financial value, the right to information about the status of what is owned (Pierce, Rubenfeld, and Morgan, 1991), and the right to transfer assets and receive an income or return from them. Assets include equity, which is the provision of a capital resource to a joint venture by its partner companies (Yan and Gray, 1994), and non capital resources, which include technology, management expertise, local knowledge, raw material procurement channels, product distribution and marketing channels, and global service support (Yan and Gray, 1996). Equity joint ventures are the best vehicles for investigating learning because they offer greatest access to new knowledge (Madhok, 1995).

Complementarity

Partner complementarity has been focused as the most salient for alliance success (Beamish, 1988; Lane and Beamish, 1990; Blodgett, 1991; Geringer, 1991). The choice of alliance partner will determine what resources are available to be contributed and how well the two partners work together (Tomlinson, 1970; Killing, 1983; Harrigan, 1985; Killing in foreword to Geringer 1988a). Medcof (1997) suggests that poor selection of alliance partners is among the most important reasons for alliance failures. A poorly chosen partner can make co-operation very difficult. The specific partner chosen can influence the overall mix of available skills and resources, the operating policies and procedures, and the short- and long-term viability of an alliance (Geringer, 1991). A well-selected partner, with distinctly different resources in terms of knowledge base, assets and skills, will have valuable contributions to bring to an alliance (Tyler and Steensma, 1995).

Although there is little consensus on what constitutes effective partner complementarity (Geringer, 1991), it is reported as an important determinant of collaborative venture success in many studies (e.g., Franko, 1971; Killing, 1983; Jain, 1987; Bleeke and Ernst, 1991) as it influences the mix of skills and resources that an alliance needs to achieve its strategic objectives (Geringer, 1991; Tomlinson, 1970). A joint venture with a partner who has unique attributes represents an opportunity to gain access to a dissimilar set of skills or resources (Olk, 1997).

Hladik (1988) argues that the benefit of joint R&D are based on the pooling of complementary resources provided by the different partners. While one partner may contribute certain critical resources, such as technological skills and assets, another partner may be helpful in providing financing, complementary technical know-how, or access to the large domestic or international markets for the product of the joint R&D effort. The contributions of each partner are determined by both the assets at its disposal and its comparative advantage in different inputs. Likewise, Perlmutter and Heenan (1986) maintain that the health of strategic partnerships depends on the learning and sharing by the partners. Partners are not only contributing resources such as land, equipment, or money, to the venture, but also competencies such as organizational skills, market or technology expertise. Morgan and Hunt (1994) argue in their model of relationship marketing that firms are more committed to developing relationships with partners that are highly valued because these partners delivered superior benefits.

Complementarity in an alliance suggests that each firm contributes unique strengths and resources valued by the partners (Dymsza, 1988). Complementarity also refers to the interdependence between partners (Harrigan, 1985). Beamish (1987) categorized partner contributions or needs into five groups: items, such as capital and technology, which are capitalized; human resources, including top managers and low-cost labor; market access; government and political influence; and knowledge. Several authors have suggested that partners should be complementary in the products, geographic presence, or functional skills that they bring to the venture (Harrigan, 1985 ; Lynch, 1989; Bleeke and Ernst, 1993).

It has been argued that a lack or erosion of complementarity is the most important factor undermining effectiveness of the IJV process (Chowdhury, 1989).

Tyler and Steensma (1995) suggest that a well-selected partner, with distinctly different resources in terms of knowledge base, assets, and skills, will have valuable contributions to bring to an alliance. Yan and Gray (1994) quoted a US manager in a China-US IJV that "We have the technology and certain know-how. The Chinese partner knows how to make things happen in China. You put the two together right, it works." Harrigan (1988a) examined the influence of partner asymmetries on joint venture success. The results suggest that alliances between similar firms tend to be more successful than asymmetric partnerships.

Prior Tie

Tomlinson (1970) tried to identify distinct categories of partner selection criteria. Forty-nine British firms involved in seventy-one international joint ventures (IJVs) in India and Pakistan were conveniently selected to be studied. Respondents cited "favorable past association" as the single most important criterion among six general categories. "Facilities," "resources," "partner status," and "forced choice" were reported as being of approximately equal importance. "Local identity" was found to seldom represent a primary criterion for partner selection.

If firms have worked together in the past, they will have a basic understanding about each other's skills and capabilities (Heide and Miner, 1992). The partner may have developed commitments to each other because of a relationship that existed prior to forming the alliance (Inkpen and Beamish, 1997). Partners' early experiences with each other may have lasting consequences for the success of their joint efforts (Gray and Yan, 1997).

There is some evidence that alliances with embedded ties may perform better or last longer than others. Studies on the factors associated with alliance terminations found that alliances between firms with a prior history of ties were less likely to terminate (Kogut, 1989). The duration of exchange relationships may be led by dyadic attachments (Levinthal and Fichman, 1988; Seabright, Levinthal, and Fichman, 1992). Parkhe (1993) asserts that the older a relationship, the greater the likelihood it has passed through critical shakeout period of conflict and influence attempts by both

sides. Seabright, Levinthal, and Fichman (1992) maintain that attachments in collaborative relationships may be the result of the prior history of the relationship

3.3 Knowledge Attributes

Knowledge has been described as an important firm resource (Wernerfelt, 1984; Hedlund, 1994; Nonaka, 1994). Knowledge is an elusive concept that has been classified and defined in a variety of ways. Some researchers classify knowledge as it is procedural and declarative (Kogut and Zander, 1993; Nonaka, 1994). Whereas declarative knowledge refers to information or factual statements, procedural knowledge refers to knowing how to do something. Knowledge is also characterized as explicit and tacit (Polanyi, 1966) which are mutually complementary (Nonaka and Takeuchi, 1995). Explicit knowledge is like 'knowledge about', while tacit knowledge is associated with experience.

Polanyi's explicit/ tacit distinction was introduced into the literature of organizational learning by Nelson and Winter (1982) in their evolutionary theory of the firm. They argue that firms evolve by adapting the body of knowledge shared by their members, and that much of the process takes place at the tacit level. Over time, the quality of the interaction of the explicit and evolving implicit types of knowledge may lead to further improvements, and thence, to superior firm performance.

Very few studies have empirically linked the properties of knowledge to its transfer across partner firms in international strategic alliances. Huber (1991) states that there is a clear need for hypothesis development and testing on the role of knowledge in international strategic alliances. Incorporated the concept of innovation to organizational learning and strategic alliances, three characteristics of knowledge that affect learning are focused here, i.e., ambiguity, trialability, and usage advantage.

Ambiguity

Organizations increase their store of knowledge by internalizing knowledge not previously available within the organization (Huber, 1991). For this internalization to occur, the firms must first engage in efforts to transfer their partner's

skill-related knowledge from the alliance back to the parent (Inkpen, 1997). The firm's ability to use the new technology may depend on the existence of at least some knowledge base within the firm (Cohen and Levinthal, 1990). From the innovation perspective, the adoption of the innovation is influenced by its complexity (Rogers, 1983). New ideas that are simpler to understand will be adopted more rapidly than those that require the adopter to develop new understandings. Accumulated prior knowledge increases the ability to make sense of, assimilate, and use new knowledge (Bower and Hilgard, 1981; Kim, 1997).

Daft and Huber (1987) suggest that information varies considerably in relevance, length, accuracy, timeliness, and other attributes. From the interpretive perspective on organizational learning, information can be defined as data that have utility, reduce uncertainty, or changes one's understanding about the external world (Daft and Macintosh, 1981). When managers observe an external event, the information cue may be ambiguous and have several interpretations. Managers are unclear about what the event means or how to translate it into organizational action. New data may be confusing, and may even increase uncertainty. The essence of organizational learning is the reduction of equivocality (Daft and Huber, 1987). Weick (1979) contends that organizations must develop a common grammar for resolving ambiguity. Ambiguity precipitates discussion and the exchange of views rather than the collection of additional data.

Information such as skills learned through experience that cannot be easily incorporated into written form is considered highly tacit (Horton and Richey, 1997). Messages are better structured and less ambiguous if they can be transferred in codified form (Teece, 1998). When the knowledge is difficult to articulate, a natural barrier to entry by others is formed (Madhok, 1997). The non-tacit nature of the know-how that tends to be codified and standardized facilitates the collaboration because the cost of transfer is lower (Davidson and McFetridge, 1985). Such know-how is easier for a partner to appropriate.

Reed and DeFillippi (1990) stress that causal ambiguity in skill and resource deployment creates barriers to imitation between rivals. Barriers originate from the inability of competitors to comprehend the competencies that are sources of competitive advantages. Causal ambiguity affects negatively the propensity to learn

from a strategic alliance partner (Simonin, 1991). The causal ambiguity may even restrict the ability of a company to transfer voluntarily its proprietary assets and skills across its own organization (Szulanski, 1996).

Trialability

Rogers and Shoemaker (1971) maintain that new ideas that can be tried on the installment plan will generally be adopted more rapidly than innovations that are not divisible. Knowledge acquisition can arise from the direct experience of the organization and its members (Fiol and Lyles, 1985; Huber, 1991). Polanyi (1966) categorized knowledge as being explicit and tacit. Explicit knowledge is codifiable and are formally transferable. Tacit knowledge is highly context-specific, anchored in personal experience, and included underlying systems of rules and beliefs that guide actions (Tiemessen, Lane, Crossan, and Inkpen, 1997).

Nonaka and Takeuchi (1995) maintain that explicit knowledge and tacit knowledge are not mutually exclusive. Thus, explicit knowledge from a foreign partner might yield tacit knowledge in the alliance and vice versa. The tacit nature of the technology demands a high degree of interaction between parties to the development process and thus increases the potential benefits from an alliance (Horton and Richey, 1997). Johanson and Vahlne (1977) called this type of knowledge 'experiential' because one can learn it only through personal experience. Experience with the asset or knowledge in question sets the level of familiarity with the information content and context, and consequently favors the transferability of knowledge. The cumulative experience with a technology is a critical factor determining the learning capability of the recipient to understanding new technologies (Zander and Kogut, 1995).

Usage Advantage

Khanna, Gulati, and Nohria (1998) argue that there are two kinds of benefits available to participants in learning alliances. Private benefits are those that a firm can earn unilaterally by picking up skills from its partner and applying them to its own

operations in areas unrelated to the alliance activities. Common benefits are those that accrue to each partner in an alliance from the collective application of the learning that both firms go through as a consequence of being part of the alliance. These types of benefits influence the competitive and cooperative behavior of partner firms. The cooperative aspect arises from the fact that each firm needs access to the other firm's know-how, and that the firms can collectively use their knowledge to produce something that is beneficial to them all. The competitive aspect is a consequence of each firm's attempt to also use its partners' know-how for private gains, and of the possibility that significantly greater benefits might accrue to the firm that finishes learning from its partner before the latter can do the same.

Chan and Heide (1993) maintain that partner's knowledge can help the firm proceed more deliberately to develop a higher technical base through experiential learning. Commitment to and dependence upon valued and necessary strategic partners may be strengthened through collaborations that lead to higher total quality. Madeuf (1983) suggests that the value of the technology transfer lies in what the transferred technology contributes to the recipient's productive output. It depends on the inherent characters of the technology such as degree of novelty, complexity, exclusiveness, and the technological gap between recipient and supplier.