Competition or Cooperation? An Exploratory Study in Cross-border Industry Networks

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ABSTRACT

Firms are embedded in networks of inter-organizational relationships which influence the behaviors and performance of firms and the flow of resources among them. The purpose of the study is to develop a conceptual framework of Cross-border industry networks with the focus on competitive and collaborative elements. First, we identify simultaneously the collaborative and competitive elements of the relationship in Cross-border industry networks, and based on industrial economics and network theory, we develop a conceptual framework to explore the nature and dynamics of competition and cooperation in Cross-border industry networks. Then, we develop propositions to identify the determinants of competition and cooperation. Finally, discussing the theoretical and practical implication, we conclude that the relational embeddedness perspective with a focus on competition and cooperation dynamics in industrial network advances our understanding of network dynamics.
Keywords: cross-border networks; industrial network; competition; cooperation
Introduction

To survive and thrive in the competitive environments, firms must seek interorganizational relationships with other firms (Kumar, Stern & Anderson, 1993), as firms are not autonomous entities, but embedded in networks of cooperative relationships (Galaskiewicz & Zaheer, 1999; Granovetter, 1985; Gulati, 1998; Gulati, Nohria & Zaheer, 2000) which profoundly influence their conduct and performance. Therefore, the strategic networks are the significantly strategic opportunities for firms to leverage these various relationships and develop interorganizational competitive advantage (Dyer & Singh, 1998). In other words, strategic networks potentially provide a firm with advantages of learning or access to information, resources, markets, and technologies, and allow firms to achieve strategic objectives, such as sharing risks, exploiting economics of scale and scope, and outsourcing value-chain activities. As the economic environment becomes sharply more competitive, the firm’s network assumes enhanced strategic importance (Gulati, Nohria & Zaheer, 2000).

An impressive accumulation of research in the field of strategic management as well as the organization theory literature for decades have devoted to studying interorganizational relationships and network. Research in the strategic management field have examined interorganizational relationships from a variety of theoretical perspectives, levels of analysis and outcomes on joint ventures, strategic alliance, strategic blocks, strategic supplier networks, learning in alliances and network resources (Doz, 1996; Dyer & Singh, 1998; Dyer & Nobeoka, 2000; Gulati, 1995, 1999; Harrigan, 1985; Hennart, 1988; Jarillo, 1988; Kogut, 1988; Nohria & Garcia Pont, 1991; Parkhe, 1993). These studies in
this field demonstrate the strategic importance and implications of interfirm relationships. Correspondingly, research on networks in the organization theory field has emphasized how ongoing social ties between organizations can strongly influence their actions and outcomes (Davis, 1991; Davis & Powell, 1992; Granovetter, 1985; Nohria & Eccles, 1992; Uzzi, 1996). Network approach has been used to explain and understand a variety of organizational phenomena, such as commitment and satisfaction (Krackhardt & Porter, 1985), job-related rewards (Bian, 1997; Burt, 1992, 1997; Granovetter, 1974), influence and power (Brass, 1984), conflict (Labianca, Brass & Gray, 1998; Nelson, 1989), organizational survival amid competition and change (Baum & Oliver, 1991; Miner, Amburgey & Stearns, 1990; Uzzi, 1996). As the interdependence among firms is increasing in the highly competitive and specialized environment, interorganizational networks even interest more researchers in the near future.

Based on the above-mentioned background, the transnational networks of organizations emerge as a promising vehicle for firm allies to gain competitive advantages. Strategic network across borders could build efficient integration and effective responsiveness for the networked member organizations, for it is inherently hybrid structure for production and transaction activities and strategic knowledge flows (Gupta & Govindarajan, 2000).

Although there have been a growing body of studies focusing networks, most of the studies view networks as a set of collaborative relationships, and neglect that competitive element in the network as long as the network member have different objectives of conflict of interests. Cooperation is built on commitment and trust on both sides. Competition, on
the other hand, is related to control and involve influencing the behavior and output of another party through the employment of power and authority. Therefore, competition and cooperation coexist in any kind of network, especially in the contexts of vertical and horizontal industrial networks. In order to create sustainable competitive advantages, firms must both cooperate and compete with their headlining stakeholders, i.e. the rivals, foreign/domestic governments, alliance partners, suppliers and buyers (Luo, 2004). In the complex and dynamic, the win-win strategy of co-opetition (started by Brandenburger & Nalebuff, 1996), instead of seeing the game of business as either losing or winning (zero-sum game), should be adopted to sustain competitive advantage. Namely, firms must both cooperate and compete with their headlining stakeholders in order to create sustainable competitive advantage.

While a growing number of influential studies on the above issues on networks have demonstrated the important role of interorganizational networks, their contributions is in a rather messy situation because of heterogeneous terminology, concepts, theories, and research results (Nohria, 1992; Oliver & Ebers, 1998; Powell & Smith-Doerr, 1994). With focus on collaborative relationships in networks, less systematic attention is devoted to the competitive element in networks. In addition, less research deliberate simultaneously the competition and cooperation in networks and explain their nature, behavior and dynamics in networks. By focusing on the industrial relationships, this study seeks to explore the nature, antecedents of competition and cooperation in of cross-border networks.

This study aims to advance our understanding on the characteristics and the nature of competition and cooperation in Cross-border industry networks, and to identify the
antecedents in industry and network context. The study is organized as follows. First, we review the relevant literatures of interorganizational relationships and networks as our theoretical background. Then, we proposed a model of competition and cooperation dynamics in Cross-border industry networks to respond the above research questions. Subsequently, based on the literature, we develop propositions to identify the determinants of competition and cooperation. Finally, we discuss the theoretical and practical implications, we conclude that the relational embeddedness perspective with a focus on competition and cooperation dynamics in industrial network advances our understanding of network dynamics.

**Theoretical Background**

There has been a growing body of research focusing on interorganizational relationships and networks in the field of strategic management as well as the organization theory literature for decades. To understand the essence of competition and cooperation in Cross-border industry networks, we first review the various terms and definitions widely used, such as collaboration, strategic alliance and network. Then, we discuss the rationale foundations for strategic networks across borders. Last, we review the nature and phenomena of competition and cooperation in industrial networks and infer some propositions

**Terminology and Forms of Networks**

A range of different definitions and forms of interorganizational relationships and networks exists in the literature. Focusing on interorganizational collaboration, Lawrence,
Hardy and Philips (2002) define collaboration, including a wide range of collaborative arrangements, for example, consortia, alliances, joint ventures, networks, and associations, as a cooperative, interorganizational relationship that is negotiated in an ongoing communicative process and that relies on neither market nor hierarchical mechanisms of control (Heide, 1994; Lawrence, Hardy & Phillips, 1999; Phillips, Lawrence & Hardy, 2000). A network is a set of actors (or called nodes) connected by a set of ties (Fombrun, 1982), which can be directed or undirected, strong or weak. Strategic alliances, a popular form of strategic network, can be defined as purposive strategic relationships between independent firms that share compatible goals, strive for mutual benefits, and acknowledge a high level of mutual dependence (Mohr & Spekman, 1994). Gulati (1995) defines an alliance as any independently initiated interfirm link that involves exchange, sharing, or co-development. In summary, the strategic networks, in which firms are embedded, encompass firms’ set of relationships with other organizations, such as suppliers, customers, competitors, complementors, or other entities across industries or countries. These strategic networks are composed of interorganizational ties that are enduring, are of strategic significance for the firms entering them, and include strategic alliances, joint ventures, long-term buyer-supplier partnerships, and a host of similar ties (Gulati, Nohria & Zaheer, 2000).

The Nature of Relationships in Networks: Duality of Competition and Cooperation

Alliance formation is influenced by factors such as competition, technological change, and access to information. Firms that enter into an alliance have idiosyncratic competencies and resources which, when combined with those of partnering firms, create "co-specialized
assets." These assets generate relational rents (Dyer & Singh, 1998: 662). Firms must both cooperate and compete with their stakeholders in order to create sustainable competitive advantage (Luo, 2004).

Some scholars view interorganizational network as a political economy, and the firm’s capabilities and position demonstrate the bargaining power in the process of resource exchange. However, the interactive relationships could be more complex than general thought. Ghoshal and Bartlett (1990) suggest that a multinational or translational corporation could be seen as a network of differentiated but coordinated organizations that involve in both competition and cooperation. As members of specific network, the relationships between network nodes or dyads of organizations could start in cooperating with each other, while there could be some factors that cause the transformation of the relationships in the middle progress of the cooperation, such as overall strategic adaptation on network missions or resources alignments, environmental change, or injustice in value appropriations. Even there could be a dramatic change from pure cooperation to competition. This phenomenon is referred as the so-called co-opetition dynamics (Brandenburger & Nalebuff, 1996; Luo, 2004), as Luo (2004) argues that a duality (sometimes tensional) situation would exist within the relationships among network member organizations.

Traditionally, the industrial organization perspective concerns how firms generate rent by the monopolistic power in market. In such circumstance, win-or-lose becomes the core logic of strategic thinking. However, it overemphasizes the competition (the zero-sum game) and ignores the social relation and legitimacy of organizations. Thus, competitive
strategy can only generate temporary rent rather than sustainable competitive advantages if the firms only concern their own self-interest (Lado, Boyd & Hanlon, 1997).

Deutsch (1985) addresses the emergent and circular relationship between actions and their consequences. Competitive behaviors that involve deceitful, coercive, threatening, and suspicious communication beget more of the same, whereas cooperative climates recreate supportive, empathetic, trusting, and open communication (Pettit, Goris, & Vaught, 1997). This conceptualization of competition is also prevalent in interorganizational research that considers the coexistence among competitors in cooperative situations and how competitive situations are transformed into cooperative ones.

Based on the discussions above, we argue that cooperation and competition are not extreme ends for one dimension, but they are distinctive (though highly correlated) axis’s that describes the inter-organizational interactive relationships and behavioral patterns. Luo (2004) describes this coexistence of competition and cooperation among network organizations as the cooptition situation. Because the system is embedded affects the patterns of the foal organization’s knowledge activities and strategies (Lam, 2003), we believe that the competition-cooperation duality could produce contexts that affect organizational behavior and relationship patterns. As Luo (2004) makes typology for the organizational type of the network member organizations, we extend the framework by incorporate various combinations of behavior patterns in each situational settings.

There are increasing attention paid to the importance of interfirm collaborations as a source of competitive advantage; besides, increasing numbers of firms use collaborations to
grow and expand the scope of their activities (Gulati & Singh, 1998). Regarding to the resource benefit of the cooperative relationship, the main theme described by some researchers is that varieties of resource in the environment to an organization must take best use jointly in order to survive the demanding and changing environment (Tsai, Fang, & Lin, 2005). Cooperation between firms occur when they are a more economical source of resources than incurring costs associated with acquiring resources in the market or developing them internally (Williamson, 1991). Typically, the type of association in collaborations is tilted towards partial interdependence, in which the firm uses cooperative arrangements with other firms to attain its objectives.

Cooperation versus competition research has its roots in game theory (Brandenburger & Nalebuff, 1996). Such research conceptualizes the cooperation competition continuum as a socially created concept (Doefel & Taylor, 2004). Competition and cooperation co-exist in the product development process in industrial networks (Hakansson, 1989). Hamel (1991) suggests firms to collaborate with their competitors as they may confront a learning game during the collaboration. Hamel and Prahalad (1994) argue that the alliance partners in the emergence of market may become as competitor in the last stage of market evolution. Similarly, Thorelli (1986) argues that networks, constituted by a number of nodes and links amongst actors, could intend to dynamically aim at improving its position within the network.

Resource dependency theory, however, argue that organizations that are more reliant on others for resources are more likely to cooperate with those others (Pfeffer & Salancik, 1978). On the other hand, the resource-wielding organizations become more central in their
interorganizational networks and more central organizations benefit because of their higher profile positions (Galaskiewicz, 1979). Further, studies like Bettis, Bradley, and Hamel (1992) have exerted that partnership relationships could be a double-edged sword that on the one hand it level up the opportunity for cooperative learning, while on the other hand it might suffer from the risks underlying the transfer of skills and know-how outside the firm’s boundaries.

We could be conceived that the co-optition relationship, if leverage well, could lead the network or the dyads of member organizations to a balanced and satisfied (Simon, 1964, 1997) performance in collective actions. The coexistence of both relational orientations means that, on the one hand, competition encourage organizations to keep its pace for efficiency and capability building; on the other hand, cooperation facilitates the interorganizational learning and collaborative implementation for cross domain tasks.

These researches make explicitly the nature of concurrent existence of competition and cooperation within focal network of organizations. Further, the importance of the governance issue among networks of organizations has to be articulated. Network governance constitutes a distinct form of coordinating economic relations (Powell, 1990). The success of governance forms is a function of how well they can adapt, facilitate coordination, and safeguard exchanges (Williamson, 1991).

After scrutinizing the nature of competition and cooperation by identifying the motivation, behaviors and capabilities of firms to compete or collaborate with other industry stakeholders. Then, we probe the determinants and antecedents of competition and
cooperation, we seek to identify the decisive factors in industry and network contexts respectively. From the industrial economics perspective, the complexity, concentration and dynamism would be the essential concepts in industry context. The critical network characteristics, such as the asymmetry, power, resource similarity and ties among actors, are recognized as the factors in network context.

**The cooperation and competition in the industry context**

In this study we focus on three factors in the competitive environment: industry concentration — the degree to which industry revenues are concentrated within a few large firms – industry dynamism — industry change that is difficult to predict- and industry complexity- the number of environmental variables and their interdependence.

Dynamic environments are characterized by unpredictable and rapid change, which increases uncertainty for individuals and firms operating within them (Duncan, 1972; Dess & Beard, 1984). Uncertainty is the difference between projected and actual outcomes, and results from the limited availability of information for decision making (Simon, 1955). Duncan (1972) proposed two dimensions of perceived environmental uncertainty, that is, the combination of complexity and rate of change (variability). Complexity refers to the number of environmental variables and their interdependence. Rate of change refers to the number of environmental outcomes that moderate confidence in environmental predictions. Daft et al. (1988) also defined perceived environmental uncertainty as a composite index of complexity and rate of change. In dynamic environments, managers must accelerate the
speed of the strategic decision-making process. They may also rely more on exploration and innovation as against structured decision-making. Due to high levels of uncertainty, decision makers working in dynamic environments tend to suffer from greater information processing burdens (Tushman, 1979). Complexity relates to the ability of an executive to predict accurately and interpret the effects of environmental events. Specifically, complexity relates to the ability to predict the effects of environmental trends on the firm, the capability to analyze the effects of organizational decisions, and the utility of environmental information in predicting effects and decision-making (Boyd & Fulk, 1996).

The ability of organizations to predict the effects of environment and their capability of analyzing organizational decision is limited by the bounded rationality of its decision-makers (Cyert & March, 1963; March & Simon, 1958). Also, March and Simon (1958) indicate bounded rationality places upper limits on managers' ability to process and comprehend data on environmental conditions. Bounded rationality also constrains managers' ability to retain and use data collected about their external environment.

Bounded rationality has additional important implications for scanning activities. As managers view their firm's external environment as complex, they may abandon the search for clues about the sources and directions of changes in their external environment. Indeed, the literature indicates that external sources of information are less useful when the organizational decision-makers perceive the environment as complex (Boyd & Fulk, 1996; Daft & Macintosh, 1981; Daft & Weick, 1984; Milliken, 1987). Paradoxically, increased perceived environmental complexity leads to greater uncertainty, but at the same time it may reduce rather than increase the effort executives devote to scanning the external
environment regardless of the importance of the environmental sector (Boyd & Fulk, 1996).

Transaction cost economics has been a popular framework for analyzing the efficiency of interorganizational boundary decisions (Poppo & Zenger, 1998; Tsang, 2000). Transactional cost economics views the strategic networks as mechanisms to reduce transactional costs during production and exchange activities. Robertson and Gatingnon (1998) indicate that transaction costs are major consideration when firms tend to select among various forms of governance structure for value activities. In their study, they found that it is more efficient for firms to choose a hybrid form (rather than market or pure hierarchy) to implement core R&D tasks. Further, Mizruchi and Galaskiewicz (1994) argue that the development of interorganizational relationship could not be escaped away from the influences of transactional costs. Moreover, transaction cost may be a major criterion for firms to choose a network organizing form to reduce the chance of opportunistic behaviors or coordinative spending. These logics, known as the comparative institution theorists (e.g., Hennart, 1994), make explicitly the strategic role of transaction costs in determining governance mode choices toward strategic networks. Thus, strategic networks serve not only as a way to reduce transactional costs but also a way to respond to dual failure of market and hierarchy.

Under such circumstance, tasks that need complex division of skills, could be separate into parts, each assigning to partner(s) who is best on it, without internally doing everything with cost. Meanwhile, the integration of the prior separated parts will be smoother in network form than through arms-length transactions because cooperative partners are with
higher degree of interactions (Dyer & Singh, 1998) to fulfill the communicational needs when completing integration. These conclusions lead to the following propositions.

**Proposition 1:** The greater environmental complexity, the higher likelihood among the members in the Cross-border industry networks would be apt to cooperate.

**Proposition 2:** The greater dynamics in the global industry environment, such as changing and diffusing of technology, the higher likelihood among the members in the Cross-border industry networks would be apt to cooperate.

Industry concentration measures the extent to which industry output is produced by a few firms and is a commonly used inverse proxy for industry competitiveness. It is widely used in the industrial organization and strategy literatures to enable analysis of market power and industry performance (Scherer & Ross, 1990; Stevenson, 1982). The essence of the reasoning can be traced to Hayek's (1945) notion that in the absence of competitive intensity the sophisticated pricing mechanism enabling the efficient allocation of resources is weakened.

Some empirical evidences is consistent with the existence of inefficiencies. For example, In the electric power, costs are estimated to be as high as 8.5% higher on average in firms facing diminished competition in the electric power cases (Stevenson, 1982). The higher concentration is associated with larger staffs and higher labor expense, controlling for urban size, demand, and branch characteristics in banking cases (Edward, 1977). With
regard to labor productivity, monopolies over pay employees, thereby creating production inefficiencies (Belman & Heywood, 1995). The lack of competition, in addition to decreasing overall organizational efficiency, also decreases the productive efficiency of individual factor inputs. The results of some empirical studies are consistent with the efficiency argument. In the U.S. telecommunications industry, increased competition from 1951 to 1990 is associated with a reduction in the excessive use of capital (Oum & Zhang, 1995). Hence, we conjecture that the absence of competitive pressure leads to less efficient in the industry context. In order to enable efficiencies and provide new sources of revenue generation, the firms in the industry network have to transform the relationships into competitions.

Proposition 3: The higher concentration in the global industry environment, such as concentration of ownership or concentration of market share, the higher likelihood among the members in the Cross-border industry networks would be apt to compete.

The cooperation and competition in the network context

In this study we focus on four factors in the network context: asymmetry, power and centrality, resource similarity and ties. Research on asymmetry in relationships has tended to examine the connection between an imbalance in size and other single relationship dimensions (Johnsen & Ford, 2007). For example, Gundlach, Achrol, and Mentzer (1995) looked at the link between asymmetry in size and power, commitment or dependence,
whilst Holmlund and Kock (1996) examined the link between asymmetry in size and knowledge and the initiation of change. Adopting the RBV, each firms possesses the vector of resources, they would approach rivals and competition very differently, even among firms in the same external opportunities set (Collins, 1991). Entry barriers (Porter, 1979) and mobility barrier between strategic groups are asymmetrical (Hatten & Hatten, 1987) depend in the particular strategy adapted by the firms, especially for firms with disadvantages resources and firms with low power.

Resource dependence perspective concerns with the arrangements which are negotiated between organization managers and the external stake holders, or organizational partners, who contribute necessary resources in the expectation of receiving value returns (Child & Faulkner, 1998). Pfeffer and Salancik (1978) noted that scarce resources are the incentive for firms, who are confidence with its own power exercise ability, to engage in cooperative relationships to control over specific resources owned by partners. We argue that this ability could be exploited by existing networks to request the owner of the scarce resource to participate in this network. This action could be a mechanism to add resource inflow into the network by co-opetition tactics.

Mutual dependence is an apparent characteristic of cooperative relationships, such as alliance or strategic networks through the lens of resource dependence perspective. The firms who are low power obtain the potential partners of an exchange will expect that benefit of forming cooperation is higher than its disadvantages. Dependencies make the control or negotiation over resources in a more voluntary manner. Partners with cooperative relationship and collectively defined actions and goals will contribute for capital
investments and the skills and resources they own to achieve mutual benefits.

The boundaries of firms’ strategies are greatly affected or even determined by their own accumulated resources. Thus, RBV implicitly argues that firms should think over on the resource configurations rather than merely the industrial conditions, when determine the governance structure conducting and implementing strategies. As a result, network of relations among individual or units in different organizational and among organizations are one of the crucial factors in explaining how organizations adopt similar organizational structures to pursue common strategies (Gulati, Nohria, & Zaheer, 2000). This collectively combination of firms provides more opportunities to gain various combination of resources endorsements and methods of exploitation of those resources.

Taking this point of view into the setting of inter-organizational networks, it is reasonably to expect that networks with idiosyncratic collections of resource, than other allies could possess the resource-based competitive advantages over others. Das and Teng (2000) have proposed a fundamental framework for bring resource-based view into the phenomenon of interorganizational cooperation in the context of strategic alliance. They argue that the resource-based view suggests that the rationale for alliances is the value-creation potential of firm resources that are pooled together. Further, certain resource characteristics, such as imperfect mobility, imitability, and substitutability, promise accentuated value-creation, and thus facilitate the formation of dyadic- or multiple- party organizational cooperation., Hence, the weaker firms need to cooperate with other firms in the network to get synergies.
Proposition 4: The weaker minority in the Cross-border industry networks would be apt to cooperate with the other members than the strong ones.

Proposition 5: The weak power members in the Cross-border industry networks would be apt to cooperate with the other members than the strong ones.

Resource similarity is defined as the extent to which a given competitor possesses strategic endowments comparable, in terms of both type and amount, to those of the focal firm (Chen, 1996). Resource-based view emphasizes that owning valuable, rare, inimitable, non-substitutable resources could help firms to build their own strategic landscape of competitive advantages (Barney, 1991; Collis & Montgomery, 1995). In resource based theorists’ view, a firm may be an arrangement form constituted with a bundle of resources (Penrose, 1959). The basic assumption is that the resources bundles and capabilities are heterogeneously distributed across firms and that each firm is idiosyncratic because of the different resources and assets it has acquired over time and because of the various routines it has developed to (Barney, 1991). Firms have different possession of resources and ways of combination and usage of their own strategic resources. Hence, when the firms have similarity resources are likely having the similar strategic capabilities as well as competitive vulnerability in the market.

In this situation, firms awareness of the resource similarity and capability of responding will play a key role in the firms decision (Chen, 1996). Firms have similar resources have greater duplication in assets and operations, and by eliminating these
redundancies the combined frms is likely to be more efficient (Wenerfelt, 1984; Dussauge, Gattette, & Mitchell, 2000). While synergy considerations suggests that more similar resources firms may prefer cooperations than competitions due to greater value-creation opportunities. They are more likely to share resources bases in the environments (e.g., input resources, technologies, and customer markets) and therefore are more likely to complete with each other (Hannan & Freeman, 1977).

**Proposition 6: The higher resources similarity in the cross-boarder industry network, the higher likelihood among the network members would cooperate.**

In contrast to the resources based view, social capital view indicates that the strategic resources of various interorganizational forms stems from the connection (i.e. relationships; guanxi and other forms of inter-identity linkages) but not from one node of social or organizational actor (Coleman, 1990). Since the success of operations for social capital view relies greatly on the high quality inter-partner alignments, the selection of partners is very important and could influence the decision on the formation of the cooperative relationships. Firms, intending to form an cooperative network of collaboration, would try to make conservative decisions only when it could be certain that the future partner would be negotiable or contributory. As a partner may keep a relationship, but not provide the agreed upon resources (Gulati & Singh, 1998), it is of potential danger to start the cooperation. In the premise of human nature of risk aversion, decision maker would trust only the external “trustworthy” organizations. The feeling of trustworthy basically could stem from the past cooperative experiences with specific partners or the referrals of other
organizations by some organization the firm trusts. In summary, firms form strategic cooperative relationships when they perceive there is a beneficial relationship between itself and the potential partner or there is a worth-committing relationship between itself and its potential partners.

To reduce the failure rate of cooperation (Das & Teng, 1996), which demonstrates that the inter-organizational collection for common goals could not operate well in expected directions and generate satisfactory cooperation, there have to be strategies and complementation capability for firms to manage their outer linkages with partner firms, in addition to merely broader scope of linkages to external organizations. Thus the better relational capabilities (Dyer & Tsneg., 1998) poses better cooperative procedures among network members, and thus, higher competitive advantages. This better relational management is suggested to be built via inter-organizational trusts and appropriate control mechanisms with partners (Das & Teng, 2001; Gulati , 1998) embodied in the experiences of partner interactions. At its core, ties that existing in the social structure, are stronger, intense and enduring. The social capital highlights the central importance of networks of strong, cross-cutting personal relationships developed overt time that provide the basis for trust (Nahapiet & Ghoshal, 1998). Hence, we have following proposition:

**Proposition 7: The stronger the ties in the Cross-border industry networks, the higher likelihood of cooperation among the network members.**

Based on the above arguments and propositions, we propose a conceptual framework shown in Figure 1.


Discussion

A network perspective deepens our understanding on the strategic behavior of firms as they are not atomistic entities, but embedded in networks of social, professional, and exchange relationships with other actors (Granovetter, 1985; Gulati, 1998; Galaskiewicz & Zaheer, 1999; Gulati, Nohria & Zaheer, 2000). The rapid proliferation of all different forms of interfirm relationships makes network as a vehicle for firms to leverage the various interorganizational relationships and develop competitive advantages (Dyer & Singh, 1998).

While most network studies focus on the collaborative side of interorganizational relationships, the competitive elements also play a crucial role in the network dynamics. In order to create sustainable competitive advantages, co-opetition strategy (Brandenburger & Nalebuff, 1996) is an effective way. This study seeks to explore the competition-cooperation dynamics of strategic networks, and the factors on industry and network factors. We first scrutinize the nature of competition and cooperation by identifying the motivation, behaviors and capabilities of firms to compete or collaborate with other industry stakeholders.

Secondly, to probe the determinants and antecedents of competition and cooperation, we seek to identify the decisive factors in industry and network contexts respectively. From
the industrial economics perspective, the complexity, concentration and dynamism would be the essential concepts in industry context. The critical network characteristics, such as the asymmetry, power, resource similarity and ties among actors, are recognized as the factors in network context. After the concepts and variable development of each constructs, the next question is how and why these factors in industry and network contexts, affect the competition and cooperation dynamics in Cross-border industry networks.

The results and contributions are described below respectively. It is a conceptually study by analysis of fundamental concepts and relevant issues of competition and cooperation, can advance our understanding on industrial networks and facilitate further researches. Secondly, a well-organized and systematic framework, based on solidly reasoning of theories, is developed, then an objective and meaningful empirical investigation would be feasible. Furthermore, the theoretical foundation of Cross-border industry networks would be refined via the conversations and brain-storming of field and case study, and then provide more useful suggestions for the practice.

Network has been considered as a critical issue by multidisciplinary scholars. The examination of the nature, determinants of competition and cooperation dynamism in Cross-border industry networks, can provide some theoretical implications for the fields of organization theory, strategic management and international business. In addition, competition and cooperation with industry stakeholders is an issue concerned by business managers. Therefore, research results in this study may provide insights for practices as well.


Fried, Y. & Slowik, L. H. 2004. Enriching goal-setting theory with time: An integrated


Lam, A., 2003, Organizational Learning in Multinationals: R and D Networks of Japanese


Stevenson, R. 1982. X-inefficiency and interfirm rivalry: evidence from the electric utility industry, Land Economics, 58 (1).


FIGURE 1
A Framework of Competition and Cooperation in Cross-border Industry Networks