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UNDERSTANDING NEW TREND IN BUSINESS: INTER-FIRM COOPERATIVE ALLIANCE BETWEEN COMPETING ORGANIZATIONS

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Abstract:

Traditional economics-based framework suggests that firm cooperates with competitors to increase its market power or efficiency in transaction for the maximization of its self-interest profit. However, nowadays growing numbers of firm engage in alliance with competitors for non-economic purpose. This paper seeks to understand the nature of inter-firm alliance between direct competitors by discussing several critical issues regarding it. The issues are chosen by the criterion that useful perspectives from either organization theory or strategic management can be applied to this phenomenon so that scholars are encouraged and can be easier to do a research on this topic in the future. In this regard, I seek to answer the question of why firm cooperates with competitor by comparatively adopting four novel approaches, which, combined together, provide an excellent complementary view to the traditional economics-based approach. Also, by understanding the distinctive feature of decision-making process when firm conduct a collaboration with competitor this study provides a practical insight on how firm structures, manages, and makes a decision when it cooperates with competitors. Overall, several conceptual ideas suggested by this paper can be an interesting starting point for the future empirical research.

Key words: Alliance between competitors, Alliance governance, Alliance antecedent, Evolutionary approach, Competitive advantage

1. Introduction

Partly because of complex and ambiguous nature of recent business environment, there has been growing business trend toward **inter-firm cooperative alliances between competing organizations** (ICC) such as alliance formed between BMW and Daimler in automotive industry and alliance between Exxon Mobil and Imperial Oil in energy industry. Unfortunately, despite an unprecedented prevalence of inter-firm alliances between direct competitors in real business world, traditional studies on alliance have skewed to the inter-firm alliances with supplier or buyer firms with emphasis mainly on upstream and downstream efficiency in value-chain and/or inter-firm alliances with non-competing firms in other industry with emphasis mainly on resource synergy effect (Bouncken et al., 2015; Gnyawali and Park, 2011). However, given that over 50% of inter-firm alliances are

undertaken by the firms in the same industry, that is, among competitors (Gnyawali et al., 2016), studying collaboration between competing organizations is needed. Definitely, ICC is different from other types of alliance given that competitors come together to pursue collective goals but they are still enemy with their own interest. Thus, in this paper, I seek to understand the nature of ICC by discussing several critical issues regarding it. Following issues are chosen by the criterion that useful perspectives from either organization theory or strategic management can be applied to the phenomenon of ICC so that scholars in these academic fields are encouraged and can be easier to do a research on this topic in the future. In this respect, this paper intends to provide a starting base for further work on ICC. The structure of this paper is as follows.

Firstly, I will seek to understand why ICCs happen by comparatively adopting four different approaches (population ecology approach, resource-dependency approach, organizational learning approach, and institutional work approach). These four approaches, combined together, provide excellent explanations of the generations of ICCs in real business world. And then, I will focus on how firm structures, manages, and makes a decision when it engage in ICC. In order to understand this issue, I first discuss the distinctive circumstance under which managerial decisions about ICC are made. Thirdly, by taking the evolutionary perspective which regards ICC as a continuously changing and multiple-events-occurrence entity rather than a static and single-event-occurrence entity throughout the life span of inter-firm alliance, I newly defines the emergence of ICC as a special kind of variation at the organizational population-level and discuss the important role of community on the evolutionary process (generation, selection and diffusion) of ICC. In the final issue, I will study ICC through the lens of competitive advantage by answering the question of whether ICC can be a potential source of firm's competitive advantage, which is the critical question in the field of strategic management.

The fact that growing numbers of firms nowadays engages in inter-firm collaborations with competitors is definitely an interesting phenomenon and deserves careful considerations by scholars. Throughout this paper, I strongly assume that ICC is not temporary nor randomly chosen by management, rather it is an efficient strategy given recent uncertain and complex business environment. Thus, studying ICC can be a first step to understand new business trend and I hope this paper will provide such a role.

2. Why are there inter-firm alliances between competing organizations?

Regardless of academic fields, the most important starting point for scholars to investigate certain research topic is to question why certain phenomenon of interest happens at first. With understanding of antecedent of ICC, further discussions on this topic such as feature, consequence, benefit/cost and managerial issue of ICC are possible. To answer this question, I take mainly four different theoretical approaches (population ecology approach, resource-dependence approach, organizational learning approach and institutional work approach), which are relatively novel to the antecedent of ICC. I deliberately adopt these novel approaches because current established perspective to the antecedent of why firm cooperates with competitors is mainly based on the economics-based view whose fundamental assumption is that 1) individual company is rational, 2) it

considers its self-interest first and thus tries to maximize its own profit and 3) it acts independently with respect to other organizations and even community it belongs to. So, according to the traditional economics-based view, ICC is undertaken especially when competitors work together in order to maximize their self-interest economic profits through increasing its current position or power in the market or decreasing transaction or information cost. Traditional form of coalition among competitors such as cartel that maximize partners' individual profits at the expense of the benefit of customers is the example of ICC that can be well explained by the traditional economics-based view. Or the alliance that combines different operation lines owned separately for the economies of scope so that common inputs can be utilized more efficiently is also another example of the traditional economics-based view. However, although it might provide us with the valuable insight on the understanding of the generation of ICC, the gap between traditional economics-based view and reality becomes greater as more companies nowadays engage in ICC for various non-economic purposes. For example, traditional view cannot explain why firm provides their competitors with its product/service or even patent without any economic profit in return. Also, it cannot consider the possibility that collaboration between competitors is not an intended outcome by firm to increase its economic profit but an adaptive phenomenon in response to certain economic or social conditions. So, I will focus on the relatively novel approaches here which, combined together, provide excellent complementary view to the traditional economics-based view so that future work can be possible with these new approaches.

Figure 1. *The relative locations of four approaches in terms of theory of active organization*

The first novel approach is a 'population ecology of organization' (Hannan and Freeman, 1977). Inspired by the question of why there are so many different kinds of organizations, organizational ecologists endeavor to explain how economic, social and political conditions affect the birth and death of certain types of organization (or business operation) and seek to account for their changing composition over time. The most important theoretical feature of this approach is that it does not view ICC as an intended outcome previously determined by active firms. Rather, this approach tends to assume that it is a phenomenon arising from the adaptive process of organizational population in response to particular ecological situations. So, if we consider the continuum (figure 1), which ranges from the perspective in the left that assumes a passive nature of organization with respect to external environment to the perspective in the right that assumes an active role of organization, then the first approach is located in the left side of

the continuum. The rationale behind the first approach has high validity especially when 1) environmental changes are largely uncontrollable, 2) what happens is more disorganized than what management planned, and 3) unreliable information, unexpected eventualities and differing views make it unsure whether they will achieve what they strategically planned (Hannan and Freeman, 1993). Indeed, given that today business world becomes too complex and uncertain, this ecological perspective has some contributions to the understanding of ICC in certain industries. For example, many firms nowadays in airline industry face enormous amount of business uncertainty such as abrupt fluctuation of the number of passengers and the purchasing price of aircraft, climate condition, and political risk of foreign countries and as a result engage in alliance with other airlines companies in order to efficiently cope with the fast-changing and uncertain external environments. By forming an alliance together with other airlines companies, it can better manage economic and social conditions too uncontrollable to be tackled by individual airline company and thus partially minimize its business uncertainty. However, this approach has some limitations in that it downplays the efficacy of the efforts commonly made to re-structure existing organizations as managements proactively cope with external environment (Pugh and Hickson, 1997). This consideration leads to other three approaches that assumes relatively more active role of organization vis-à-vis external environment.

Second approach is a 'resource-dependency approach' (Salancik and Pfeffer, 1977), which analyzes organizations in terms of their inter-dependence with others organization in the environment. So, unlike ecological perspective which regards ICC as an inactive outcome arising from an organizational adaptation to particular external environment, resource-dependency approach assumes that it is an outcome arising when resource-interdependent firms interact with each other. Thus, this perspective is placed in the middle of the continuum. If we take the second approach, we can understand ICC as one of strategies that an organization may use to balance its dependencies, as argued by Salancik and Pfeffer (1977). According to them, resource-dependent organization may negotiate its environments by joint ventures with other organizations or interlocking directorships or by other association. In other words, by cooperating with competitors either via alliance or joint-venture, firms may obtain from partner the valuable resources, which they lack. The recent cooperation between Saudi Aramco and Hyundai Oilbank in energy industry can be an excellent example for this approach. Through a collaboration, Aramco can obtain the refining technology required for the production of chemical product while Hyundai Oilbank can easily obtain supplier and sale's channel owned by Aramco worldwide.

Third novel theoretical framework to answering why firm cooperate with competitors is based on an 'organizational learning approach'. Unlike previous approaches, the third approach highly emphasizes active organizational learning capabilities for the success and survival of firms. Specifically, this approach embraces the idea that modern organizations are in situations that require continuous learning and development (Senge, 2006). Indeed, mainly due to the globalization, the development of information technology, and the fast product innovation, many recent firms encounter the business environment where classification of industry and competitors based solely on traditional insight becomes obsolete. Furthermore, even clear identification of competitor

in the market can be difficult or impossible. Thus, in this environment, third approach argues that firm needs to become more open-minded to effectively learn and innovate (Huber, 1991; Senge, 2006). Interestingly, the normative prescription suggested by the organizational learning approach might be opposite from that of ecological perspective because the ecological approach would probably say there's nothing organization can do in the face of changing environment and therefore would just give the recommendation of founding a new type of organization appropriate for new ecological situation. On the other hand, by emphasizing the active organizational role for the organizational success and survival, organizational learning approach is located in the right side of the continuum. Based on the third approach, ICC can be regarded as an outcome resulting from the purposeful endeavor by firm to become so called 'learning organization'. In this regard, firms intentionally cooperate with competitors by establishing, for example, jointly-owned R&D institute for the pursuit of becoming learning and innovating firm. By doing so, ICC would have positive effect on the generation of scientific knowledge and technology required for the development and innovation of product. If we take the third approach, we can have better understanding of why there are relatively many cases of inter-firm alliance between competing firms especially in high-tech and biomedical industries. For instance, recent agreement between BMW and Daimler in automotive industry make these two companies cooperate together for the development of autonomous car, through which they can share and obtain essential scientific knowledge and technology such as driver assistance systems, automated highway driving and automated parking to Level 4 standards.

Lastly, I take a different theoretical lens, institutional work theory, to pay attentions to the possibility that ICC is an outcome arising from the institutional work by the partners to obtain the legitimacy or to affect the institutions – *formal constraints (constitutions, laws, and property rights)* and *informal constraints (traditions, customs, sanctions, taboos, and codes of conduct)* (Jepperson, 1991) - that regulate the industry in which the partners operate. Defining institutional work as any kinds of purposive actions of organizations aimed at creating, maintaining, and even disrupting institution (Lawrence and Suddaby, 2011), this approach is theoretically different from previous three approaches in that it focuses mainly on the active role of constituent firm in influencing the external environments or institutions. According to the last approach, ICC could be, for example, an effective tool for the firms to create institutional environment to support their business in a favorable way. This is the most possible scenario especially for the infant industries where there is a lack of clear definition of business model, supporting infrastructure such as vocational education school for the supply of competent employees, socio-legitimacy among the community member to approve its business operation, and of competitive advantage vis-à-vis that of the established firms in other industries. In short, similar to organization in the early phase, nascent industry also faces a number of problems, which could put the entire firms in the industry into danger (Moeen, 2017). Therefore, in order for firms in an infant industry to overcome these difficulties, the constituent firms need to cooperate together to some degree for the pursuit of collective objective such as obtaining the socio-legitimacy or governmental support instead of just pursuing short-term self-interest economic profits. For example, sometimes IT companies in nascent industry

cooperate together by providing their newly launched services for free and sharing their patent one another for the successful establishment of their new business model in the society. By doing so, they can also more easily obtain socio-legitimacy on their business model because newly created market can expand faster and attract more potential customers when they cooperate together for the pursuit of collective goals instead of pursuing individual benefit through competition.

In this section, I explain the antecedent of ICC through four theoretical approaches, which are relatively novel perspectives compared to traditional economics-based view. Economics-based thinking, despite its theoretical merit in general, suggests that individual company cooperates with competitors for the maximization of individual economic profit via increasing its current position or power within the market or for the maximization of the efficiency in transaction through reducing transaction or information costs. Clearly, this economics-based thinking simply analyzes today's complex nature of business phenomenon and does not explain the creation of ICC for other non-economic purpose. The four approaches, introduced in this section, provide complementary explanations on the generations of ICCs that economics-based view does not consider. Of course, most real cases in ICC cannot be solely explained by only one approach. So, we need to have a composite view on the antecedent of ICC for better understanding.

3. Decision making in the context of ICC and how its tasks are structured and managed

Once firm decides to engage in ICC for whatever reasons, the next step is to understand its nature and establish proper organizational structure and management system accordingly. In the third section, therefore, I attempt to answer the question regarding how firm structures, manages and makes a decision when it conducts ICCs. But, in order to understand how the firm structures and manages ICC, we first need to understand the characteristic circumstance of it under which decisions are made. When it comes to the ICC in which more than two competitors come together for the attainment of collective goals, there is likely to be high degree of non-rationality on decision-making process. Firstly, when cooperating with competitors, the firm faces the problem of bounded-rationality due to the fact that it has limited amount of information, and the fact that the firm has a lack of capability to evaluate competitors thoroughly even with the complete information (Bonel and Rocco, 2009). Secondly, it is likely that competitors will change their minds about what they want via ICC such that the preference of participating competitors is not constant over time (Park and Ungson, 2001). Indeed, many failures of inter-firm alliance can be attributable to the changed mind and attitude of one partner in the future. Thirdly, although competitors come together and decide to cooperate for the pursuit of collective goals, each competitor still has its self-interest preference about what the cooperation should be like and what its goals should be. Hence, all of these implies that the composition of the ICC is not given; it is negotiated. In other words, as Cyert and March (1963) argued, the goals of the ICC are not given, they are bargained, and are far from a reasonably controlled process moving progressively to a culminating choice.

Given the distinctive nature of decision-making process the organization faces when conducting an ICC, most of ICCs are realized either through a joint-venture created by equity-investment or through an alliance based on detailed legal contracts rather than through a mechanism which relies on free market transaction or less-requiring type of alliance. Here, we can apply transaction cost economics to explain why the ICC's task of allocation, supervision, and coordination are managed and structured in a way that takes advantage of joint-venture or legally bounding alliance. According to this approach, each of the multitudes of recurrent transactions that occur in a society can be implemented either through a market or within organization. And which mode is adopted depends on whether or not there exist bounded-rationality (uncertainty), opportunistic behavior (cost of monitoring and enforcement), and informational asymmetry (Williamson, 1991). TCE approach argues that transactions are better brought within an organization when much more must be known, when much less is certain, and when quasi-moral elements exist. Considering that the firm faces bounded rationality due to a lack of sufficient information about the competitors, opportunistic behavior resulting from competitors' varying preference over time, and the difference in each competitors' own goals, either joint-venture or legally bounding alliance might be an ideal type for the management of ICC because they brings the poorly informed competitors to a transaction together under some extent of certainty. Particularly, creating a joint-venture with competitor can tackle effectively many problems that arise when conducting the task of ICC because decision-making in the context of ICC has some characteristic similarities with that of so called "organized anarchy" (March, 1991). Specifically, the nature of decision-making process under ICC shows 1) quasi resolution of conflict and 2) learning process. Given that each competitor brings each own different interest into the ICC even though they seek collective benefits, devices for quasi resolution such as 'local rationality' and 'acceptable-level decision rules' might be essential devices for coping with the inherent problem of conflicts among competitors. Also, mainly due to bounded rationality that I mentioned above, the decision-making process under ICC is a learning process, where the firms learn as they go rather than begin with all required information. In this respect, joint-venture can be an effective tool for following reasons. Firstly, it extends the bounds on rationality. Although the rationality of each competitor within ICC is still limited, joint-venture enables the competitors to exchange more information and even impose penalties for potential opportunistic behavior such that it can partially minimize the inherent problem of decision-making process of ICC. Also, by forming a joint-venture with competitors, the firms are better able to deal with complex problem by splitting a complex problem into smaller sequential orders. By doing so, the firm pays attentions to a given aspect of situations as they move forward rather than all at once.

4. Evolutionary Approach: ICC as an intentional variation at the organizational population-level

In this and following sections combined together, I take an evolutionary approach to newly make propositions that ICC is an intentional variation at the organizational population-level (section 4) and that a community plays a significant role on the

evolutionary process of ICC (section 5). The reason I take an evolutionary approach in studying ICC is that it enables us to view ICC as a continuously changing and multiple-events occurrence nature rather than a static and single-event occurrence nature throughout the life span of inter-firm alliance. Studying a certain social phenomenon in the evolutionary approach is therefore proper and useful given its theoretical focus on the generation, selection, diffusion and death of specific phenomenon of interest. In order to establish the proposition that ICC is an intentional variation at the organizational population level, I attempt to demonstrate that the implementation of ICC causes the emergence of new population whose organizational forms, routine, and management structure deviates significantly from those of traditional economic transactions. In addition, I show that we can define and identify organizational community that affects the evolutionary process of ICC.

In real business world, instead of being conducted via well-established forms such as market transaction or internal organizational hierarchy, almost all of ICCs have been implemented by taking special organizational forms such as joint-venture, strategic alliance, joint-programming, consortia, business groups, relational contracts, and some forms of franchising and outsourcing. Of course, as I already mentioned before, among these various forms, joint-venture is the most preferred organizational form due to the problems of bounded rationality, time-varying preference, and competitors' differential goals. Consequently, each of above organizational forms chosen by partners for the successful implementation of ICC requires distinctive sets of knowledge, routines, technologies and management structures, which are characteristically different from those of traditional organizational hierarchy or market transaction. For example, the partners of joint-venture cannot simply apply their parent firms' established routines and management styles into newly jointly-created entity. Instead, they must attempt to develop wholly new style of management, knowledge, routines, and even culture appropriate for the specific nature of joint-venture (Killing, 2013). This is true as well for the cases of other organizational forms such as R&D consortia or outsourcing. We know that variation, an analytic starting point of evolutionary process, can be viewed as any departure from current established routine and tradition (Aldrich, 1999). And most importantly, it usually entails the change in organizational form. In terms of the definition of variation, we can regard various forms of alliance designed for the implementation of ICC as a variation in the evolutionary process mainly for two reasons. Firstly, instead of being conducted in traditional ways that emphasizes the functioning of market and internal hierarchy, most of ICCs are carried out in newly structured (or hybrid) organizational forms. And secondly, because of considerable departure from established organizational forms, ICC usually requires new and different knowledge, management skills, technology, and even cultures. Furthermore, ICC is an intentional variation because it is a planned outcome arising from purposeful decisions made by partners to cooperate with competitor. (Of course, ecological approach is not consistent with this view). In this regard, ICC is an intentional variation at the organizational population-level.

Next, identifying an organizational community is a critical preliminary step that we have to do first to discuss the important role of community on the evolutionary process (variation, selection and retention) of ICC. An organizational community is a spatially or

functionally bounded set of populations, linked by ties of commensalism and symbiosis (Monge, 2008). In a more specific term, it is a set of co-evolving organizational populations connected by ties of commensalism and symbiosis through regulatory regime, normative order, or their orientation to a common technology. So, in this respect, we can define the concept of community in a much broader way than the conventional definition of industry such that the community includes the following constituencies; competitors, supplier firms, customer firms, government agencies, educational institutions, public media, and other relevant stakeholders. Since community defined in the above way includes not only firms directly competing one another for the same market but also many other indirectly-linked constituencies in the name of symbiosis, a community is usually much broader term than industry.

5. Evolutionary Approach: The important role of community on the evolutionary process (variation, selection, and retention) of ICC

Now that we did make clear from the previous section that 1) the implementation of ICC causes the emergence of new organizational form and that 2) we can conceptually identify organizational community which affects the evolutionary process of ICC, we can now move to the discussion of the important role of community toward the evolutionary process of ICC. Evolution results from the operation of four generic processes; variation, selection, retention, and struggle (Campbell, 1969). (Here, I only discuss the first three processes.) In this section, I will study how the community affects each stage of ICC's evolutionary process; the likelihood of the emergence of ICC (variation stage), the adoption and legitimacy of ICC (selection stage), and the diffusion of ICC (retention stage). Then why particularly a community on the study of ICC? Unlike other types of alliance formed with suppliers, customers, non-competitors, or non-profit organizations, inter-firm cooperation between competitors can be heavily influenced by the community that firms belong to, which can both provide and constrain opportunities and options during the evolutionary process of ICC. That's because community members such as government, media, consumer groups or even supplier or buyer firms are active in monitoring for any potential collaborations among competitors that might decrease the market competition. Indeed, many countries have implemented an anti-competitions law to promote or maintain market competition by regulating any anti-competitive conducts done together by competitors for the pursuit of their self-interest goals. So, the discussion on the important role of community on the evolutionary process of ICC arises from the clear recognition that ICC is heavily influenced by the communities in which partners are highly embedded.

Then, how does a community affect the evolutionary process (variation, selection, and retention) of ICC? In the first evolutionary stage of variation, the likelihood that collaboration between direct competitors is formed is not equal across different communities. In other word, depending on which community the firm belongs to, the possibility of the emergence of ICC can vary significantly. Some communities would encourage its constituent members to pursue collective goals so that they increase the likelihood of ICC whereas other communities stimulate their member to pursue

competition. Certain governmental and political activities can directly affect the possibility of the emergence of ICC. Specifically, sovereign nation-states affect the creation of ICC by establishing necessary precondition such as providing direct subsidies to newly created joint venture formed between direct competitors, enhancing its sociopolitical legitimacy by accepting its business operation, or even purchasing the goods and services produced by ICC. These governmental supports to encourage cooperation between competitors are well manifested in industries whose economic activities are significant to future (next generation) national economic well-being. For instance, companies in high-tech sectors in developing countries (e.g. semiconductor companies in China or Aerospace companies in India) faces a cooperation-friendly-environment stimulated by governmental support for the successful innovation in high-technology, which increases the likelihood of active collaborations among companies within the same industry. Another reason of why different communities have unequal likelihoods of the emergence of ICC is that different communities have unequal levels of carrying capacity to support the emergence of ICC. It is certain that firms construct new organizations out of the resources they mobilize at the community in which they are embedded just as nascent entrepreneur relies heavily on his/her social network when they first try to found new company (Davidsson and Honig, 2003). As a result, many of the processes affecting the emergence of ICC are specific to community environment. If a certain community does have enough resources available for ICC and the legitimacy to support the founding of ICC, the likelihood of the emergence of ICC is inherently high. So, the community has the significant effect on the first stage of ICC's evolutionary process because the probability that competitors cooperate together for the pursuit of collective goals is considerably influenced by the community in which partners are heavily embedded.

Secondly, the community can also have substantial influences on the ICC's evolutionary process of selection by affecting the legitimacy of ICC. Selection refers to the differential elimination of certain types of variations. And it is natural that ICC, an intentional variation at the population-level, must encounter the selection process as well, through which it could be either adopted or eliminated. When it comes to the selection process of ICC, either internal or external selection respectively or both selections simultaneously take place. The examples of internal selection criteria are the pressures toward stability and homogeneity, and the logic of internal organizational structuring, whereas external selection criteria could be the market forces, competitive pressure, and the conformity to institutionalized community norms and values (Aldrich, 1999). Then, how does a community affect the selection process of ICC? It is mainly through an external selection criterion such as conformity to institutionalized norms and values that community can have a significant impact on the adoption of ICC. Actually, the community need to have selection process so that it can support only variations that conform to its current established values, norms, and culture. In this respect, if ICC is considered to be in accordance with the current established norms and values of community, then it obtains stronger legitimacy from the community members and ultimately the founding rate of ICC increases substantially. For example, Korean construction companies frequently create inter-firm consortiums with other domestic construction companies for the successful obtainment of order from foreign clients because such consortium is accepted norm and

thus legitimate by domestic community members for the sake of national economy while this kind of business consortium is barely accepted in other industrial communities (e.g. consumer retail) due to anti-trust law in Korea. In other words, different communities can have different degree of values toward the cooperative alliance between direct competitors. If the norms, values and cultures of community have encouraged historically the cooperative community between populations of producers, suppliers, distributors, and etc. rather than competitive community among its constituent populations, then it is highly likely that any variations that promote commensalism and symbiosis obtain substantial extent of legitimacy, and thus are adopted by community. Because ICC, an inter-firm cooperation between direct competitors, can be viewed as a special type of commensalism, the adoption of ICC by community increases especially when established community encourage the value of cooperation and pursues collective goals.

Lastly, even after ICC is emerged, selected, and implemented, the preservation and reproduction of ICC across different organizations is still heavily influenced by the community in which firms are embedded. In other word, we should also consider the important role of community on the ICC's evolutionary process of retention. A third evolutionary process involves the operations of a retention mechanism for the maintenance of positively selected variation. Aldrich (1999) suggests that depending on which community the organizations belong to organizations often adhere to traditional ways or express a reluctance to trust variation from outside. Also, community might provide disparaging environment for the diffusion of ICC such that inter-firm hostility among business firms, mistakes, incompetence, and an unwillingness to learn are widespread across constituents. On the other hand, if community has institutionalized well the practice, and the knowledge of previously successful ICC, there has been a diffusion of ICC, and ultimately retention of ICC. Also, community stability affects the creation and maintenance of ICC by influencing the terms on which resources are made available to ICC. For example, community-supported systems help maintain continuity in knowledge between generations by producing educated entrepreneurs continuously. And community institutions such as law and college raise the probability that ICC, if successful, will persist and that unimaginative entrepreneurs will be able to copy them.

6. ICC as a potential source of firm's competitive advantage

So far, I have discussed various critical issues regarding ICC such as the antecedent, the decision-making process, appropriate governance structure, and important role of community on the evolutionary process of ICC. In this final issue, I will endeavor to analyze ICC in terms of the strategic management perspective. Theoretically, it means that we study ICC in relation to the competitive advantage of the firm. Theoretical endeavor in analyzing ICC through the lenses of competitive-advantage has considerable research potential as more companies have engage in inter-firm collaborations with direct competitors in order to achieve their business objectives.

But firstly, it is important to have a clear conceptualization of competitive advantage. There is a theoretical consensus among management scholars that competitive advantage happens if the firm (or organization) acquires or generates an

attribute or combination of attributes that enables it to do better than its competitors. And it is generally accepted that the more the firm has a competitive advantage vis-à-vis other competitors, the more likely that the firm with greater level of it has the higher likelihood of better performance and survival in the market place at the firm-level. With the recognition on the importance of competitive advantage on the firms' performance and survival, most strategic management scholars, as a result, have been eager to identify the main sources of firms' competitive advantage.

Then, how can ICC be a potential source of firm's competitive advantage? Firstly, by cooperating with competitor, the firm is able to further increase its market power and/or the extent of current market barrier in comparison with other firms in the same industry which do not engage in collaboration with competitors. Similar to merger and acquisition, ICC can be an effective mechanism to the participating firms for strengthening their current market power. Even though firms might not create a complete dominance, they may be better able to influence market environment and structure favorably by restraining the level of competition especially when the firms have considerable power within the industry such as Apple in IT and Toyota in automobile industry. However, given the fact that most governments in recent developed countries have restricted the establishment of cartels and other collusive actions in order to instigate competition for the benefit of consumer, recently few ICCs are undertaken due to the mere pursuit of increasing market-power or decreasing the extent of competition within the industry. Rather, as the economic system has gradually shifted from the traditional hierarchical capitalism toward the knowledge- and technology-based economy, increasing numbers of firms, especially those in high-tech industries, conduct ICCs for the pursuit of knowledge and technological innovation. In this respect, ICC can be a valuable device for the sources of firms' knowledge- and technological competitive advantage. Specifically, by sharing core information, knowledge, and complementary technological assets together with the competitors, ICC excludes other firms from having access to them. In addition to obtaining valuable inputs for the creations of the knowledge and innovation, the firm might be able to reduce transaction cost if the ICC can increase the efficiency in inter-firm transaction. In other word, by creating relation-specific knowledge, assets and routines, the ICC can provide various exclusive benefit only to the participating competitors.

Also, ICC can be a source of firms' competitive advantage if it plays important roles in successfully obtaining governmental support and/or socio-legitimacy. Indeed, companies in certain industries such as environment, military, biomedical and pharmacy do care on this issue a lot because their product, service or even overall business activities depend heavily on whether they obtain legitimate approval from government and socio-legitimacy from community members. As previously mentioned, ICC, in this situation, could be an effective tool for the partner firms to change institutional environment in a way that support their business favorably. Moreover, as new markets are created followed by new products and/or services accordingly, there are not yet predominant ones, which causes many companies to try to make their products be an established standard in the emerging market. Given a lack of predominant products in new market, firm might cooperate with other competitors in order to successfully achieve this goal. For example, as many firms in automotive industry have gradually relied less on

fossil fuel and prepared for future vehicle with new alternative energies, Tesla, Volkswagen and BMW have spent more efforts on the development of electric vehicle than on the development of hydrogen vehicle while Toyota, Honda and Hyundai did in an opposite way with more emphasis on hydrogen vehicle. Since this is a prospective market with the solid expectation that either electric or hydrogen vehicle will replace current gasoline and diesel cars and become an established market standard in the future, individual car makers within each side have cooperated to some extent for the obtainment of socio-legitimacy from potential customers and supportive policies from governments worldwide for the successful commercialization of their clean energy vehicle. By cooperating with competitors for the collective goal, they would better obtain governmental support and/or socio-legitimacy than would they by alone.

7. Conclusion

Growing numbers of firms nowadays engage in inter-firm cooperation with competitors. However, traditional research on inter-firm cooperation has been heavily skewed to the alliances with supplier or buyer firms (vertical alliance) or those with indirect competitors in other industry (horizontal alliance). Thus, in this paper, I have sought to understand the nature of ICC by discussing several critical issues regarding it and sought to provide a starting base for further work on ICC. Indeed, several theoretical ideas suggested by this paper can be an interesting starting point for the future empirical research. For example, event-study analysis on the linkage between the change in specific government policy and the emergence of ICC would provide valuable opportunities for scholars to consider whether institution can encourage its constituent members to pursue collective goals instead of self-interest benefit. And the comparative analysis between the performances of the firm that engage in ICC and those of the firms that do not might empirically validate the proposition that ICC can be potential source of firm's competitive advantage. Also, considering that successful study on ICC usually requires scholars to pay theoretical attentions from various academic fields such as organization science, strategic management, political science, sociology and industrial economics for the refined comprehension of complex nature, the research in this stream can fertilize the multi-disciplinary approach in the academic management community.

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