

Dyadic Analysis in Inter-Corporate Alliance: Merits and Risks

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ABSTRACT

The purposes of this paper have three points. First, Inter-corporate alliance can be classified into four patterns by its alliance-form. About four patterns in Inter-corporate alliance, the focused corporate is supposed to consists of two business-layers; application and infrastructure. Application is direct activity for goods and services or systems. Infrastructure is an activity or system to promote activities of applications. The four patterns of Inter-corporate alliance are horizontal alliance, cross-industry alliance, vertical alliance, and infrastructure-application alliance. Horizontal alliance means the interactions of applications underlying the same infrastructures. Cross-industry alliance means the interactions of applications underlying the difference infrastructures. Vertical alliance means supply-chain activity. Infrastructure-application alliance means hierarchical activity between application-player and infrastructure-player.

Second, from the view points of Inter-corporate alliance, the concepts of economies are redefined. There are traditionally two concepts of economies: economies of scale and economies of scope. Economies of scale have defined factors that cause the average cost of producing a commodity to fall as output of the commodity rise. The new definition of economies of scale is internal and external effects (merits and risks) that increases activity -scale by alliance. While economies of scope have defined factors that make it cheaper to produce a range of related products than to produce each of the individual products on their own. The new definition of economies of scope is internal and external effects (merits and risks) that cause combinations or connections of the different products, business and activities by dyadic corporate-alliance. Here internal effects mean influence and effect between one player and the other player that constitute alliance. External effects mean influence and effect between a customer and a player.

Third, the paper analyzed those four inter-corporate alliances (four case studies), each of which we assume has its own merits and risks. The merits and the risks are divided

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into internal and external effects, and four concepts of economies are proposed corresponding to four alliance-forms. Horizontal alliance is influenced by economies of scale, and the other three types of alliances are influenced by economies of scope but in different ways. The internal merits of horizontal alliance cause the average cost of producing a commodity to fall per unit and critical-mass. Its external merits make easy access to purchase and use. Its internal risk makes flexibility the rate of operation low. Its external risk makes a choice range reduce. The internal merits of cross - industry alliance cause complementation and assimilation. Its external merit makes increase of one stop shopping. Its internal risk makes complexity of coordinations and judgments with activities. Its external risk makes brand image confuse. The internal merits of vertical alliance cause the constant supply and improvements across the supply chains and differentiation. Its external merit makes easy proposal across the supply chains. Its internal risk makes difficulty of changing membership. Its external risk makes brand image limited by the alliance partner. The internal merits of infrastructure-application alliance cause whole business formation and the limit of business domain. Its external merit makes users' convenience promote. Its internal risk makes developing constrains underlying partner's standard. Its external risk makes minority opposition without uses of government and infrastructure. The paper proposes each corporate must adopt the alliance strategy considering the merits and risks.

Keywords: economies of scale, economies of scope, horizontal alliance, cross-industry alliance, vertical alliance, and infrastructure-application alliance

New Classification of Inter-Corporate Alliance

In these days, there are many kinds of the inter-corporate alliance among maker, wholesalers and retailers. There are much intent of the company doing the inter-corporate alliance; the promotion of product quality controls, the increase the number of customers, the gain of product complement, and the stability of business share, etc. The purpose of this paper is to make merits and risks by the differences of alliance-patterns clear.

As a pre-study , the concepts of economies are redefined in connection with Inter-corporate alliance. Inter-corporate alliance defines the plural¹ companies sustain cooperative activity more than ordinary activity. There are some typical

¹ In this paper, the plural companies are analyzed from the dyadic view not from the network view.

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classifications of the inter-corporate alliance. There is one of the typical classifications of Inter-Corporate Alliance focused on the vertical relationship and the horizontal relationship, in other words, the vertical alliance and the horizontal alliance (Milgrom • Roberts, 1992). There is the other of Inter-Corporate Alliance focused on the corporate functions; R&D, procurement, production and sales (Takeda, 1992; Ogawa, 1995; Matsuyuki, 2000). There are three patterns of corporate integrations that are regarded as specific Inter-Corporate Alliances; horizontal integration, vertical integration, and diversified integration (Hasegawa, 1997).

But some inter-corporate alliances can't be applied the typical classifications. There is one example of Inter-corporate alliance of convenience stores and banks. The customers of Banks (Bank of Mitsubishi-Tokyo UFJ, etc.) withdraw their own accounts with ATM (automatic teller machine) located in the convenience stores (Lawson convenience stores etc). There is the other one of Inter-corporate alliance of Sony Bank and the other banks. Sony Bank has no branch. The customers of Sony Bank withdraw their own accounts with ATM in the other banks branch (Sumitomo-Mitsui Banking Corporation branch), Postal savings branch and Convenience store (am/pm). What alliance is Inter-corporate alliance of convenience stores and banks? Is it a horizontal alliance? What alliance is Inter-corporate alliance of Sony Bank and the other banks? Is it a vertical alliance? Recent Inter-corporate alliances are very diversified. Recent Inter-corporate alliances can't be classified with typical category, for example, the vertical alliance and the horizontal alliance.

I suppose the business is made of two business layers to examine these questions and I propose new classification of Inter-corporate alliance. On the Inter-corporate alliance, the focused corporate is supposed to consist of two business-layers; application and infrastructure. Application is direct activity for producing goods and services or systems. Infrastructure is an activity or system to promote activities of applications. I propose new classifications of Inter-corporate alliance are four patterns; horizontal alliance, cross-industry alliance, vertical alliance, and infrastructure-application alliance. Horizontal alliance means the Interactions of applications underlying the same infrastructures. Cross-industry alliance means the interactions of applications underlying the different infrastructures. Vertical alliance means supply-chain activity. Infrastructure-application alliance means hierarchical activity between application-player and infrastructure-player. Adapting new classification of Inter-corporate alliances, I want to call Inter-corporate alliance of convenience stores

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and banks “Cross-industry alliance”. I want to call Inter-corporate alliance of Sony Bank and the other banks, postal saving branches “Infrastructure-application alliance”.

Relationship between the Economies and the patterns of Inter-Corporate Alliance

In this paper, I suppose the strong relationship between economy concepts and the patterns of Inter-corporate alliances. There are traditionally two concepts of economies: economies of scale and economies of scope. Economies of scale have defined factors that cause the average cost of producing a commodity to fall as output of the commodity rise. Economies of scope have defined factors that make it cheaper to produce a range of related products than to produce each of the individual products on their own. I propose the new definition of two concepts of economies. Economies of scale are internal and external effects (merits and risks) that increase activity -scale by alliance. Economies of scope are internal and external effects (merits and risks) that cause combinations or connections of the different products, business and activities by dyadic corporate-alliance. Internal effects mean influence and effect between one player and the other player that constitute alliance. External effects mean influence and effect between a customer and a player.

There are other two concepts of economies in relation to economies of scope; Economies of coupling² and Network Externalities. Economies of coupling defines plural firms are coupling, and the connection of information and know-how of them cause synergistic effects (Miyazawa, 1988). Miyazawa doesn't distinguish the vertical alliance from the cross-industry alliance that this paper does. The concept of Network Externalities is a part of external effects on economies of scope of the infrastructure-application alliance. The traditional definition is that Network Externalities are the effects on a user of a product or service of others using the same or compatible products and services. The benefits of a user are increasing as increasing the number of other user. Network Externalities may effect on the small scale as a whole. For example, a small number of users can be increasing the benefits by accessing the infrastructure on the infrastructure - application alliance.

Case Study

² The concept of Economies of coupling is thought up by Miyazawa, Kenichi.

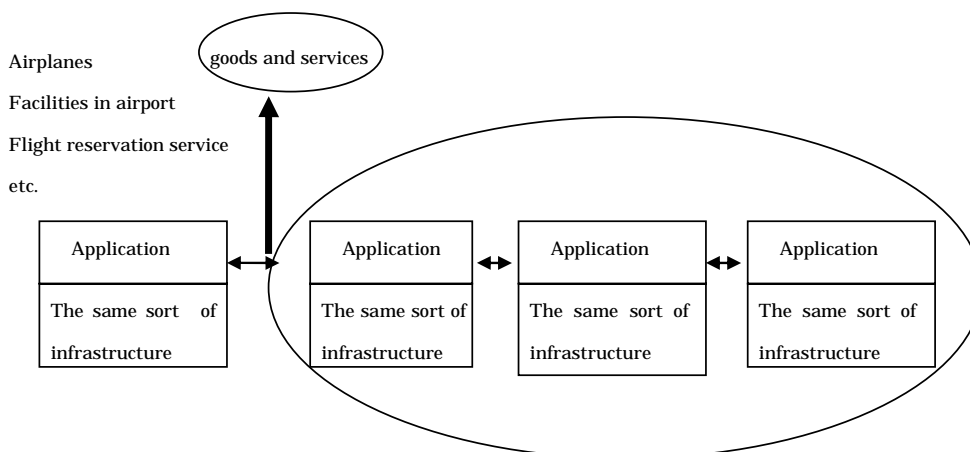
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The four cases are studied in detail to distill merits and risks of Inter-corporate alliance. The case of horizontal alliance is Star Alliance. The case of cross-industry alliance is Inter-corporate alliance of Convenience stores and Banks. The case of vertical alliance is the supply chain of Kentucky Fried Chicken Japan Ltd. The case of infrastructure-application alliance is Sony Bank.

Star Alliance: Economies of scale on the horizontal alliance

Star alliance was established in 1997, a group of five world-class airlines got together to create something never seen before – an alliance that brought together networks, lounge access, check-in services, ticketing and dozens of other services to improve the travel experience for customers and efficiencies for the carriers. By 2006 the alliance had grown to 17 members and three smaller, regional members with two other international carriers in China scheduled to join in 2007. The member of Star Alliance are AIR Canada, Air New Zealand, ANA, Asiana Airlines, Austrian, bmi, LOT Polish Airlines, Lufthansa, Scandinavian Airlines, Singapore Airlines, South African Airways, Spanair, SWISS, TAP Portugal, THAI, United, US Airways, and Regional Members. The equipments that use in the airplane; many pieces of paper cup, blankets are standardized and can be procured in the worldwide (Internal merit). The common mirage highly increases the attractions of the mirage system. The flight schedule of another member is coordinated in the case of the cancellation (External merit). The critical mass of passengers is needed by the width of flight network (Internal risk). As Star Alliance is a big group of air flight companies, it makes flight choices of passengers less (External risk).

Figure1. Star Alliance: Economies of scale on the horizontal alliance

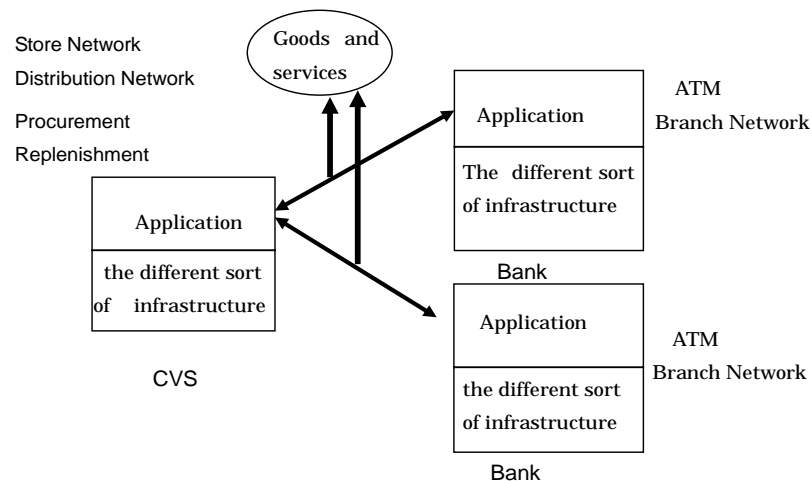


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CVS (Convenience Store) and Banks: Economies of scope on Cross-industry alliance

As going on the Japanese financial big bang, the other industries adding the banking industry provide a wide of financial services. The Customers of Banks (Bank of Mitsubishi-Tokyo UFJ. etc.) withdraw their own accounts with ATM (automatic teller machine) located in the convenience stores (Lawson convenience stores etc). The rate of operation both in the space of convenience store and banking information system is increasing. Without the constraint of payable money, the activity of customer's purchasing can be increasing (Internal merit). A customer pulls out his/her account in a convenience store and buys something more. The effect on one stop shopping becomes strong (External merit). The salesclerk of the convenience store need to both sale goods and services and manage enough and many sorts of money (Internal risk). The customer may confuse the brand image of convenience store (convenient) and bank (safety) (External risk).

Figure2. CVS and Banks: Economies of scope on Cross-industry alliance



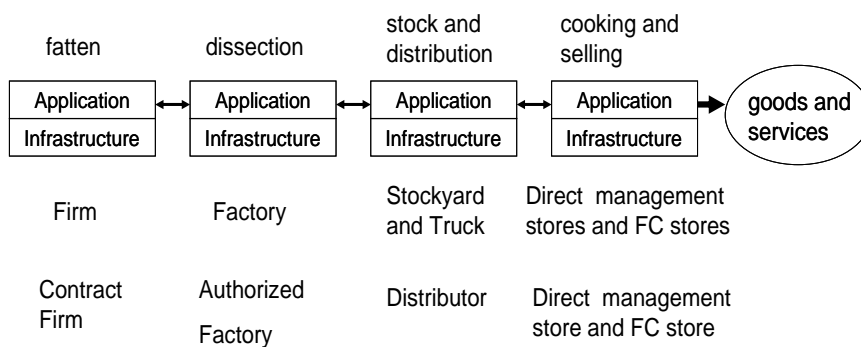
Supply-chain of KFCJ : Economies of scope on the vertical alliance

Kentucky Fried Chicken Japan Ltd. is a fast food franchiser and main food is fried-chicken. Kentucky Fried Chicken Japan Ltd. has instituted and managed the supply -chain; Contract Firm-Authorized Factory-Distributor-Direct management stores and FC stores.

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The supply chain to supply chicken stably makes the business activity smoothly and effectually. The unification of information systems over the supply chain makes a prospect of the demand and supply more accurate (Internal merit). The franchiser can easily reply the references of the franchisees that confirm the additional supply (External merit). The franchiser can easily reply the references of the franchisees that confirm the additional supply. As it is hard to take part in the supply chain newly for the reason of adding specific relational investment, the change of the members is very hard (External risk). As the products under the brand of KFCJ depend on the suppliers, the suppliers effect on the brand image strongly (External risk).

Figure3. Supply-chain of KFCJ: Economies of scope on the vertical alliance



Sony Bank: Economies of scope on the infrastructure-application alliance

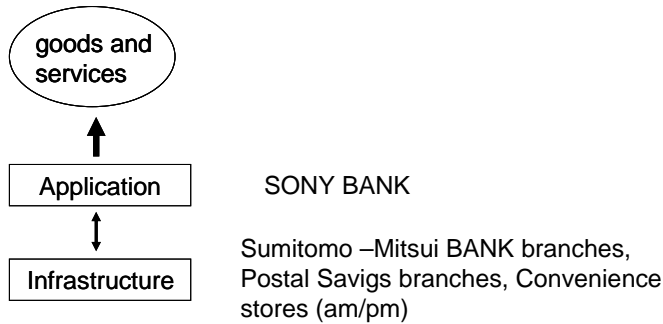
Sony Bank is established in April 2, 2001. Sony Bank is a member of Sony Financial Holdings that is Japan's first financial holding company to hold both insurance and banking business under one umbrella. The shareholders of Sony Bank are Sony Financial Holdings Inc. (Number of shares owned 440,000 shares, 88%) and Sumitomo-Mitsui Banking Corporation (Number of shares owned 60,000 shares, 12%).

Sony Bank has no real branch. The customers of Sony Bank withdraw their own accounts with ATM in the other banks (Sumitomo-Mitsui Banking Corporation branches and Postal savings branches, etc). Sony Bank can make a banking business with the use of ATM in the Sumitomo –Mitsui BANK branches, Postal Savigs branches, Convenience stores (am/pm). The ATM network limited the domain of Sony banking business (Internal merit). A customer who uses ATM in the Post office is served with other postal services(External merit). Sony Bank tends to research and development the

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banking services considering the application (Internal risk). The customers of Sony Bank are limited with the location of the applications (External risk).

Figure4. Sony Bank: Economies of scope on the infrastructure-application alliance



CONCLUSION

Through the analyses of four cases, the examples of both the internal and external merits and the internal and external risks are shown as follows. The internal merits of horizontal alliance cause the average cost of producing a commodity to fall per unit and critical-mass. Its external merits make easy access to purchase and use. Its internal risk makes flexibility the rate of operation low. Its external risk makes a choice range reduce.

The internal merits of cross - industry alliance cause complementation and assimilation. Its external merit makes increase of one stop shopping. Its internal risk makes complexity of coordinations and judgments with activities. Its external risk makes brand image confuse.

The internal merits of vertical alliance cause the constant supply and improvements across the supply chains and differentiation. Its external merit makes easy proposal across the supply chains. Its internal risk makes difficulty of changing membership. Its external risk makes brand image limited by the alliance partner.

The internal merits of infrastructure-application alliance cause whole business formation and the limit of business domain. Its external merit makes users' convenience promote. Its internal risk makes developing constrains underlying partner's standard. Its external risk makes minority opposition without uses of government and

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infrastructure.

These examples aren't exhaustive. These examples are found the relationship between concepts of economies and the internal and external merits and the internal and external risks may be different. In relation to activities and effects of each Inter-corporate alliance, I argue that horizontal alliance strongly relates to economies of scale and cross-industry alliance, vertical alliance, and infrastructure-application alliance strongly relate to economies of scope.

In this paper, First, Inter-corporate alliance can be classified into four patterns by its alliance-form; horizontal alliance, cross-industry alliance, vertical alliance, and infrastructure-application alliance. Second, from the view points of Inter-corporate alliance, the concepts of economies are redefined. I argue economies of horizontal alliance, cross-industry alliance, vertical alliance, and infrastructure-application alliance are different (Economies of horizontal alliance is a kind of economies of scale and each cross-industry alliance, vertical alliance, and infrastructure-application alliance is a kind of economies of scope) .

Furthermore, the concepts of economies are redefined. I point out that the content of economies makes of internal and external effects (merits and risks). Here internal effects mean influence and effect between one player and the other player that constitute alliance. External effects mean influence and effect between a customer and a player. Finally, the examples of internal and external effects (merits and risks) on Inter-corporate alliance are represented from the analyses of four case studies. It is found from the result that the contents of four economies are different. Each corporate must adopt the alliance strategy considering the merits and risks. To generalize the theory in this paper, the effects of each concept of economies must be represented exhaustively. The practical checklist on guiding useful Inter-corporate alliance is needed to complete.

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