

# ABAS: ANNALS OF BUSINESS ADMINISTRATIVE SCIENCE

Vol. 3, No. 3, July 2004

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ABAS: ANNALS OF BUSINESS ADMINISTRATIVE SCIENCE is published quarterly in January, April, July, and October, by Global Business Research Center, Marunouchi, Chiyoda-ku, Tokyo, JAPAN. <http://www.gbrc.jp>

# **Inter-Firm Learning in High-Commitment Horizontal Alliances: Findings from Two Cases in the World Auto Industry**

**Daniel A. HELLER**

*Faculty of Economics, Shinshu University*

[E-mail: daniel@econ.shinshu-u.ac.jp](mailto:daniel@econ.shinshu-u.ac.jp)

**Takahiro FUJIMOTO**

*Graduate School of Economics, University of Tokyo*

[E-mail: fujimoto@e.u-tokyo.ac.jp](mailto:fujimoto@e.u-tokyo.ac.jp)

**Abstract:** The present paper argues that the Ford-Mazda and Renault-Nissan relationships may represent a forerunning pattern of the learning alliance, whereby ongoing close interaction of horizontal alliance partners at multiple hierarchical levels can be used to facilitate the mutual accumulation of superior organizational capabilities within the alliance firms. Our observations suggest that for this pattern of cooperation to function effectively at least the following three conditions must be met. The alliance partners must: (1) co-exist as separate learning organizations, (2) be able to evaluate accurately a partner's relative organizational capability strengths and weaknesses, and (3) have the motivation and ability to facilitate a partner's inter-firm learning.

**Keyword:** capability-building competition, learning alliance, organizational capabilities

## **Introduction**

Since the mid-1980s, there has been a dramatic increase in horizontal linkages between assemblers in the world auto industry (Ishii, 2003; Fujimoto &

Takeishi, 2001; Fujimoto, Takeishi, & Nobeoka, 1999). A similar trend can be found in numerous other industries (Contractor & Lorange, 2002; Hergert & Morris, 1988). This increase in alliances

is generally attributed to intensified competition, globalization, rapid technological change, and notably for automobiles, growing consumer and governmental pressure on firms to respond to pressing social needs, particularly on environmental and safety issues.

Some alliances emphasize the inter-firm sharing of productive and managerial resources through various types of cooperation as a means to engage in inter-firm learning (i.e., “learning alliances,” cf., Hamel, 1991). To the extent that such alliances produce superior organizational capabilities in alliance partners they may be called capability-enhancing alliances. In this paper, we argue that the Ford-Mazda and Renault-Nissan relationships can be understood as a forerunning pattern of this type of learning alliance. We suggest the pattern may be distinctive in that it features a two-way, long-term orientation to inter-partner learning that is characterized by ongoing close interaction between partners at upper managerial and other hierarchical levels. Such a cooperative pattern would sharply contrast with what is typically found in horizontal (i.e., competitive) alliances, namely, the independent pursuit of short-term benefits (including learning) that is generally characterized by only irregular close interaction between upper-level managers in the alliance partners. We categorize this emerging alliance pattern as a high-commitment horizontal alliance, as it seeks to maximize over the long-term the mutual accumulation of superior organizational capabilities within alliance partners.

In this paper, we use an inter-firm learning perspective within the context of the competitive dynamics of manufacturing and product development in the world auto industry to analyze the observed alliances and consider if their features constitute a new pattern of alliance cooperation. The authors’ numerous research visits to each of the companies presented in the case studies serve as the primary source of the data upon which this paper is based.

### **Industrial Context: Organizational Capabilities in the Auto Industry**

Organizational capabilities have been the focus of much research in recent years and can be understood to be bundles of routines within a firm (Dosi, Nelson, & Winter, 2000; Nelson & Winter, 1982). As such, they are likely to be socially complex (cf., Barney, 1986a), involve tacit knowledge (Tsoukas, 2003, Kogut & Zander, 1992), be causally ambiguous (Rumelt, 1984), and be path dependant (Dierickx & Cool, 1989; Teece, Pisano, & Shuen, 1997), making them difficult to imitate and transfer (Barney 1986b; Kogut & Zander, 1992). Hence, differences in the capability endowments of firms tend to persist.

The efficient development and manufacture of a highly complex product such as an automobile requires an organization to possess integrated productive capabilities in design, planning, engineering, procurement, logistics, assembly, and distribution. As each of these organizational capabilities are difficult to build in the short run,

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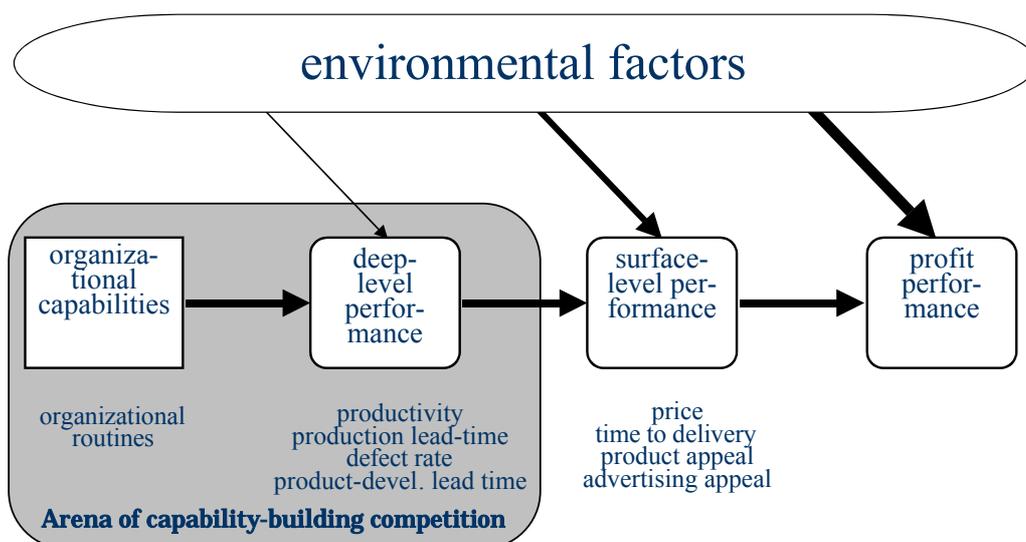
heterogeneity of firms’ productive performance tends to persist. Catch-up by lagging firms may take decades, and it is largely for this reason that such close attention is paid in the auto industry to even slight differences in the productive performance of automakers. As firms compete at this productive-performance level, they may be said to be engaging in capability-building competition (see Figure 1), the analysis of which necessarily requires a longer-range perspective than competition between firms in product and financial markets (Fujimoto, 1999).

As indicated in Figure 1, at least three general measures of a manufacturing firm’s performance can be identified: deep-level (“productive”) performance, surface-level (“product”) performance, and financial (“profit”) performance. Firm performance by each measure tends to vary based on firm strategy and the

degree to which each measure is influenced by factors external to the firm. Financial performance tends to be highly volatile even from quarter to quarter, surface-level performance generally varies more moderately as product lineups are renewed, and deep-level performance tends to be relatively stable for a given product architecture. The stability of deep-level performance comes from it being the least exposed of the three measures to external factors, and from the stability of productive capabilities, as described earlier.

Capability building in the auto industry takes place within the context of the long history of the automobile. Since the era of Ford Model T, the product architecture of the automobile has been integral, closed, and stable. Thus, the auto industry since the early 1900s can be seen as an industrial sector in which cumulative evolution, rather than

**Figure 1. Arena of Capability-building Competition**



(cf., Fujimoto, 2000)

revolution (cf., Christensen, 1997), has been a powerful engine for industrial change. Ongoing incremental change has produced great technological advancement and improvements in the productive and product performances of automakers worldwide. In this framework the long-term competitive foci of automakers have been the organizational capabilities that determine a company's performance on key productive measures (e.g., product development lead time, assembly productivity, assembly defects per car, etc.). Competition by firms to build increasingly more effective productive capabilities has been a powerful driver of the industry's changes over the years.

While capability-building competition in the auto industry has centered on productive capabilities, building a strong automobile brand and consistently achieving appropriate financial management also require various organizational capabilities. These capabilities may be considered increasingly valuable and difficult to build as industrial competition intensifies and firm size increases. As in other industries, automakers worldwide also engage in the building of these capabilities.

To the extent that capability building has been the primary driver of the automobile industry's evolutionary development, other industry dynamics, including alliances, are only likely to be relevant to industrial competition in the long-run in how they impact a firm's qualitative capability building, that is, in how they supplement, not replace, the industry's long-term competitive dynamic.

### **Alliance Learning - Received Theory**

Entering into an alliance relationship to engage in inter-firm learning has been identified as a motive for alliance formation from the early stages of the alliance literature. Much research supports the contention that an alliance can be a viable means to learn from a partner and internalize a partner's skills, technologies, and capabilities (Doz & Hamel, 1998; Hamel, 1991; Hamel, Doz, & Prahalad, 1989; Harrigan 1986; Hennart, 1988, Inkpen, 1995; Westney, 1988). For inter-partner learning that involves high levels of tacit and socially complex knowledge, frequent interaction of alliance partners (Nonaka, 1991; cf., Szulanski, 1996) and organizational replication whereby a firm's reproduces its organization in a new venture (Kogut, 1988; Kogut & Zander, 1992) may be needed.

In horizontal alliances, however, the fear of creating or aiding a competitor strongly pushes firms to be wary of excessive partner learning (Hamel, 1991; Lei & Slocum, 1992), and the literature warns of the dangers of allowing the inadvertent transfer of a firm's core competencies to a partner, as these may be used by the partner against the transferring firm (e.g., Dussauge, Garrette, & Mitchell, 2000). Consequently, inter-firm linkages are often kept tightly controlled and firm knowledge closely guarded (Inkpen, 1998). Hamel (1991) has described learning by alliance partners as a competitive race, where firms compete against each other to see which side can be first to use the alliance to learn, with ties severed or terms of cooperation aggressively

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renegotiated after one firm “wins” the learning race.

These highly competitive patterns of cooperation are often managed as prisoner dilemma situations (Gulati, Khanna, & Nohria, 1994). As such, the unwillingness of firms to support the alliance learning goals of a partner may manifest as uncooperative behavior, such as a failure to disclose critical knowledge to a partner (Inkpen, 1998). Such behavior can be expected to be an obstacle to inter-firm learning, thereby hindering the realization of the inter-firm learning potential of an alliance.

If a firm’s managers believe that any knowledge or organizational capabilities gained by a partner through inter-firm learning would not be used against them, they may be able to avoid the defensive attitude described above and make better use of alliances as a learning tool. Toward this end, the literature suggests that managers may foster a more cooperative relationship with their counterparts in an alliance partner by building appropriate levels of mutual trust between partners (Lane, Salk, & Lyles, 2001; Parkhe, 1998) or via other mechanisms, such as the skillful use of alliance gatekeepers (Ishii, 2004), building a dedicated alliance function (Dyer, Kale, & Singh, 2001), or making unilateral commitments (Gulati et al., 1994). We may call alliance relationships exhibiting these characteristics, and the long-term cooperative orientation they imply, “high-commitment” alliances.

Helper and Levine (1992) have used “high-commitment” terminology to describe assembler-supplier relations where firms expect their

relationship to be long-term and thus capable of supporting investments in long-lived specific assets. Our usage of “commitment” to describe the durational orientation of relations between horizontal partners is consistent with Cullen, Johnson and Sakano (1995, 2000). However, the study of *high-commitment* horizontal alliances is a relatively under-explored area in management research, with most research on commitment in alliances focusing on vertical ties (e.g., Mohr & Spekman, 1994).

The following section describes learning in two alliance cases in the world auto industry, each involving a pair of auto assemblers that seem to have forged relationships that feature high commitment levels between partners. We view learning as a change in organizational routines (Levitt & March, 1988), as these are generally viewed as a fundamental unit of organizational capabilities, our present concern.

### **Case-Studies**

#### **Case#1: Ford-Mazda**

The Ford-Mazda relationship dates back to 1969, when the firms, together with Nissan, formed a manufacturing joint venture in Japan. Following other cooperative initiatives between the companies, Ford purchased a 25% equity-stake in Mazda in 1979. At the time, other U.S. automakers were also forming alliance ties with Japanese automakers as the Japanese auto industry and market grew (Yoshino & Rangan, 1995). Mazda, on the other hand, had been experiencing financial difficulties in

the 1970s, which can be attributed to strategic mistakes (e.g., an over-dependence on the rotary engine) and the oil shocks. Cooperative relations between Ford and Mazda grew throughout the 1980s to include product development collaboration, a distribution joint-venture in Japan, and mutual parts and product sourcing. Due in part to learning from Mazda (Doz & Hamel, 1998; Harbison & Pekar, 1998; Heller, 2001), Ford's productive capabilities strengthened and the company's various performance measures improved markedly during the 1980s (Pascale, 1990; Shook, 1990; Womack, Jones, & Roos, 1990).

In the 1990s the relations between Ford and Mazda grew closer at an increasing rate. Mazda experienced another financial crisis, again attributable to strategic missteps (e.g., rapid proliferation of products and dealer channels in Japan despite decreasing sales volume), even as productive performance at Mazda remained strong. In 1992, Ford acquired a 50% equity stake and management control of Mazda's assembly plant in the United States. Ford then began a comprehensive review of the overall potential of the Mazda organization. Positive results to this study were followed in 1993 by Ford and Mazda formally announcing the strengthening of their alliance, and in 1996 Ford increased its equity stake in Mazda to 33.4%. With this additional investment, Henry Wallace, who had been dispatched from Ford to serve as an executive vice-president at Mazda since 1994, was promoted to become Mazda's president.

With the increased strategic nature of the relationship between the two companies, both were allowed access to each other's information systems and broad based sharing of data and knowledge in numerous functional areas ensued.

Ford's increased influence over Mazda's management led to a shift in the focus of alliance learning from Ford in productive capabilities to Mazda in strategic and administrative capabilities. Under the leadership of various Ford-dispatched upper- and mid-level managers who brought with them expertise in financial management and marketing, many changes were enacted at Mazda, including: the introduction of an extensive internal education system for strengthening the strategic business skills of Mazda managers, improved asset management and financial planning capacities, a more rigorous integration of financial and market analysis into product development, and the strategic clarification of Mazda's worldwide brand positioning and overall marketing processes (Bungsche & Heyder, 2004; Heller, 2003; Nobeoka & Taniguchi, 2003; Taniguchi, 1998). Ford and Mazda have also been closely cooperating in various joint product development projects (Heller, 2003) and third-country ventures (Heller & Orihashi, 2003).

Throughout the time when these changes were occurring at Mazda, the firm has continued the internal building of its productive capabilities, and the company's deep-level performance has remained strong. Since 2001, Mazda's surface-level

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performance has improved, and the company's financial performance has greatly improved over what it was in the early-to-mid 1990s. At Ford, depressed financial performance in the early 2000s and a recognition that Ford's deep-level performance still trails Mazda in various key dimensions appear to have spurred recently renewed broad-based efforts at Ford to use its relationship with Mazda as a learning instrument.

#### **Case#2: Renault-Nissan**

The alliance between Renault and Nissan began in the late 1990s. At the time, Nissan's productive performance was strong in many aspects (e.g., assembly plant productivity, product development lead times, engine and key component technologies); however, the company had difficulty using these productive capabilities and technologies to produce attractive products. Nissan's weaknesses at the times can generally be said to have been in brand management, product design, and overall product planning. These, together with strategic mistakes (e.g., excessive proliferation of models and distribution channels in Japan to match Toyota despite a stagnant or shrinking sales volume), led to poor profitability and chronic deterioration of Nissan's market share throughout the 1990s in markets around the world.

Renault, on the other hand, was experiencing strong financial and product performance as of the late 1990s through a series of successful new vehicles with novel product concepts. This good

performance followed the completion of corporate restructuring at Renault in the mid-1980s and mid-1990s (cf., Freyssenet, 1998). The poor performance that triggered these restructurings can be attributed to factors such as a high-cost/low-profit structure, too many platforms, and difficulties developing an attractive product line-up. Renault's recovery was based on a series of extensive corporate-wide efforts, including financial restructuring, learning from best-practice operations, cost-reduction initiatives mainly in parts procurement, and the development of a series of successful and innovative new products.

Thus, as of the late 1990s, Nissan and Renault had complementary organizational capability strengths: operational capabilities at Nissan and strategic/administrative capabilities at Renault. In addition, Renault had free cash, but its operations tended to be limited to Europe and some parts of Latin America. Nissan was more internationally active than Renault, though not a major player in either Europe or most Latin American markets, and the company needed cash to reduce its heavy debt burden. An opportunity existed for an alliance that would exploit these complementary positions. In 1999, the two companies entered into a broad based corporate alliance when Renault acquired a 37% equity-stake in Nissan. Two years later Renault increased its stake to 44% and Nissan acquired a 15% (non-voting) stake in Renault.

In the years since the alliance was formed, the two firms have sought to learn from each other and

have engaged in numerous cross-company projects, including joint product development projects and third-country collaboration. In addition, the firms have actively sought to assist each other's learning. They have also broadly shared information and knowledge in various functional areas. For example, the companies established in 2001 a joint purchasing organization, which handles the majority of parts, components, and supplies purchased by the two companies.

Learning at Renault has included codifying and refining the Renault Production System, an effort that includes detailed benchmarking of Nissan plants, notably Nissan's two large-scale production facilities in Europe. Deep interaction between Renault and Nissan production engineers is a core element of this process. In part to aid this process, Nissan has strengthened its efforts to make its own production system, the Nissan Production Way (NPW), more explicit, including establishing a section whose mission is to articulate and disseminate the NPW. In this way, Renault has been in the process of enhancing its productive organizational capabilities to improve its deep-level performance. Since 1999, surface-level and financial performance at Renault have largely remained steady.

At Nissan, under the leadership of a team of upper- and mid-level managerial dispatchees from Renault headed by Carlos Ghosn, a corporate revival plan was successfully executed and the company has subsequently embarked on an aggressive expansion plan. In many ways, Nissan's recovery process

looked as if it were a compressed version of Renault's own revival experience (Fujimoto, 2001), including lessons Renault learned from its failed alliance with Volvo in the early 1990s. Numerous changes have been implemented at Nissan since 1999 to improve the company's strategic capabilities, including an emphasis on cross-functionalism at the corporate level, the more widespread inclusion of front line (*gemba*) managers in corporate decision making, an integration of brand and corporate image building efforts, and an introduction of more rapid and globally orientated management systems (Bungsche & Heyder, 2004; Fujimoto, 2001; Heller, 2003; Yoshino & Egawa, 2003, 2002). Over this time, Nissan's deep-level performance has continued to be strong, surface-level performance has improved, and record financial performance has been achieved since 2000.

## **Discussion**

Since both of the cases reviewed above are ongoing, we must refrain from attempting to make any definitive conclusions. Nevertheless, preliminary analyses of the alliance relationships are warranted given their achievements thus far.

Despite the presence of strong productive capabilities of Mazda and Nissan, two factors combined to push these Japanese automakers to the difficult positions they experienced in the 1990s. First there was a narrowing of the gap in productive capabilities between Western and Japanese automakers (Womack et al., 1990; Ellison, Clark,

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Fujimoto, & Hyun, 1995) and the heightened global competition this created. Second there was the bursting of the so-called economic bubble in Japan and the depressed home-country environment that resulted. These factors exposed strategic weaknesses at Mazda and Nissan, and unable to deal with them on their own, these companies were forced to look to other industrial players for help. Their strong productive capabilities made them attractive targets, even given their depressed surface-level and financial performances.

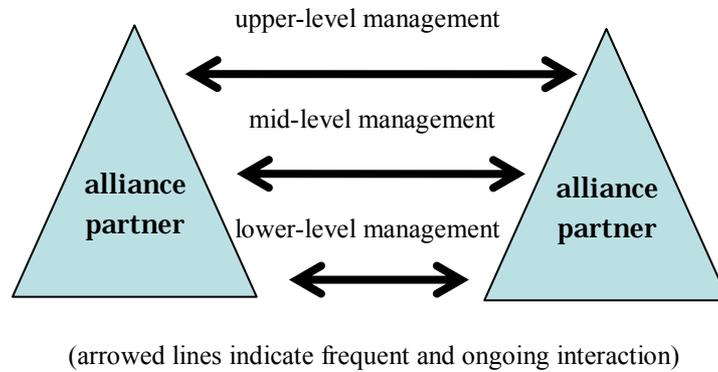
Ford and Renault emerged as the firms that ultimately entered into broad-based alliances with Mazda and Nissan, respectively. While these Western automakers possessed productive capabilities that tended to be weaker than their Japanese partners, they generally possessed superior strategic capabilities (e.g., product-concept creation, brand management, marketing, and financial management). Inter-firm learning of each partner's relatively stronger organizational capabilities was observed to have occurred sequentially in the Ford-Mazda case and concurrently in the Renault-Nissan case. Thus, the cases may be viewed as examples of capability-enhancing alliances. The observed pairings of companies with complementary resources and the attempts to use the alliance relationships to cover relative weaknesses are consistent with alliance theory, which holds that complementary resource endowments of firms and learning are primary motivations for alliance formation (Doz & Hamel, 1998; Harrigan, 1986,

1988). However, the observed mutuality of the partners' long-term support for each other's alliance learning goals is not predicted by the literature.

The governance mechanism that resulted in the two cases also does not follow conventional alliance theory. In both alliances, one of the alliance companies is seen dispatching upper-level executives to head its partner's management. Such a result would be expected if majority-equity stakes had been acquired (e.g., Rugman, 1981), but is highly unusual in minority-equity stake acquisitions (Lynch, 1993), such as that which occurred in the cases. A transaction-costs perspective (e.g., Hart, 1988) would tend to emphasize that one firm gaining the control rights of another is significant because it would make it easier for the dominant firm to utilize the resources of the other firm for its own benefit, much as a multinational parent firm deploys and builds the resources of an overseas subsidiary (Nohria & Ghoshal, 1997; Rugman & Verbeke, 2001). In the cases described above, however, this type of direct control was not widely observed. While some level of resource coordination and strategic alignment between the partners did occur, it does not seem to be the primary benefit of the alliance to the partners. Rather, given that capability-building competition is the long-term driver of the auto industry, a more important aspect of the alliances is the effect that the observed governance mechanism has on learning within and among alliance partners.

Formal treatment of the effect of the observed

Figure 2. Close Interaction at Multiple Hierarchical Levels



governance mechanism on learning is beyond the scope of this exploratory paper. Here we limit our treatment of this issue to noting that the mechanism creates a means by which extensive inter-firm contact becomes possible at all managerial levels of the alliance partners (Heller, 2003), as is illustrated in Figure 2. While close cross-firm interaction of mid- and lower-level managers and engineers, is common in the typical pattern of alliance cooperation, upper-level managers of partner firms generally will only closely interact at irregular, though critical, intervals (Doz & Hamel, 1998). In the pattern of alliance cooperation found in the cases, however, in addition to the close mid- and lower-level interaction mentioned above, frequent and close cross-firm interaction of upper- and mid-level managers also occurred when managers were dispatched from one company to work on a daily basis inside an alliance partner. While these dispatched managers were generally fully integrated into the alliance partner's organization and charged

to work for the sake of the partner, they also brought with them their backgrounds and various contacts in the dispatching company and typically will return to the dispatching company after a few years. As such, their interaction with people in the dispatching company tends to persist after they have been dispatched to a partner. In addition, these dispatchees can be expected to continue to identify, to some degree, with the dispatching company. Thus, their mere presence within an alliance partner may also be considered a form of inter-firm interaction.

The first benefit of the addition of the close cross-firm upper-level interaction is that it provides a means by which some degree of coordination and alignment of the core strategies of the partners may be pursued on an ongoing basis. This can be expected to lessen the fear of creating or aiding a competitor, thereby encouraging higher levels of commitment between partners. Higher commitment, provided there is also trust, can be expected to promote greater openness between partners and

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knowledge sharing (Cullen et al., 2000). Increased inter-partner sharing of knowledge may help reduce ambiguity as to the value of knowledge, which has been noted as a barrier to inter-partner learning (Inkpen, 1998). Likewise, close interaction between partners at upper-levels may reduce other obstacles to learning, such as a lack of transparency between partners (Hamel, 1991).

A second benefit of the addition of the upper-level interaction between partners is that it permits widespread co-location to be implemented. Co-location of mid- and lower-level managers frequently occurs under some commonly found alliance governance structures, such as joint product development projects (Ishii, 2004; Midler, Neffa, & Monnet, 2002), joint manufacturing ventures (cf., Kogut, 1988) and other types of third-country collaborative initiatives (cf., Heller & Orihashi, 2004). Under the governance mechanism observed in the cases, however, a form of upper-level co-location becomes possible in addition to co-location at these other hierarchical levels. As mentioned earlier, frequent interaction and organizational replication, both of which become possible with widespread co-location, can be understood to be facilitators of the inter-firm learning of organizational capabilities. Since organizational capabilities will generally contain complementarities across and within hierarchical levels (Levinthal, 2000), co-location at multiple levels of the alliance partners can be expected to enhance the inter-firm learning of capabilities.

The organizational behaviors and learning orientations found in the cases, which were characterized by high inter-partner commitment (e.g., the dispatching of managers at multiple hierarchical levels, mutually open information systems, the broad sharing of knowledge, etc.), contrast with what is found in typical learning alliances. As such, we argue this type of cooperation may represent a forerunning pattern of the learning alliance, where the mutual accumulation of competitive capabilities within both alliance partners is sought, an inherently long-term objective.

For this alliance pattern to translate into enhanced inter-firm learning and ultimately higher performance in the alliance partners, our observations suggest that at least the following three conditions must be met.

First, the ex-ante existence of learning organizations in the partners and the ex-post maintenance of these learning organizations after the alliance has been initiated are needed. We use the term “learning organization” (cf., Easterby-Smith & Lyles, 2003; Senge, 1990) in its most basic sense to describe to an organization that “is good at organizational learning” (Tsang, 1997, p. 75). More specifically we use the term to indicate an organization that is able “to generate, acquire and integrate both internal and external sources of knowledge” (Rosenkopf & Nerkar, 2001, p. 287) to develop and maintain its distinctive organizational capabilities at industry-leading levels. Research findings on disruptions often caused by full

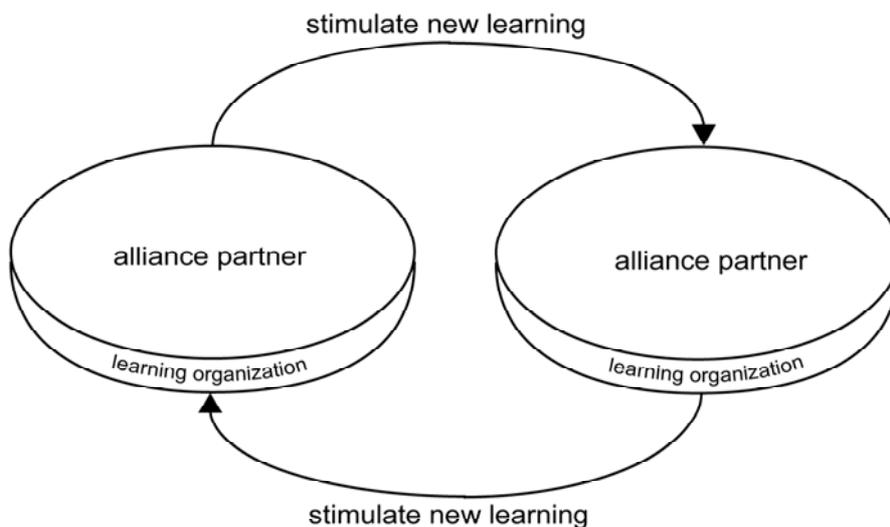
integration mergers (Nakamura, 2003; Haspeslagh & Jemison, 1991) suggest that maintaining high levels of organizational separation and autonomy between alliance partners may facilitate their continued co-existence as learning organizations.

Partners engaging in their own independent efforts continually to improve the competitiveness of their distinctive capabilities to keep them at industry-leading levels is necessary so that the ongoing sharing of resources for mutual inter-firm learning will remain attractive to the partners. The continuation of a learning relationship is necessary because the learning of organizational capabilities may take many years. As such, it is not reasonable to expect that such learning will quickly become what Hamel (1991) calls “self-sustaining,” that is, reaching the point where a firm has learned from a

partner to the extent that it is able to improve the acquired skills on its own at the same rate as a partner.

Second, partners must be able to evaluate accurately their relative organizational capability strengths and weaknesses. In the absence of this condition, alliance partners cannot be expected to be motivated to engage systematically in inter-firm learning due to a lack of recognition of the opportunity to do so that an alliance affords. Open access of information between partners will likely facilitate efforts at evaluation. Nevertheless, the capability to perform reasonably accurate evaluations must also be present. Such a capability may be considered an aspect of the relative absorptive capacity (Lane & Lubatkin, 1998) of partners, and we may expect that horizontal firms

Figure 3. Potential Learning Benefits of Alliance Cooperation Pattern



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with functioning learning organizations will generally possess this characteristic.

Third, allied firms must have the motivation and ability to facilitate a partner's inter-firm learning. The mere existence of the inter-firm linkages cannot be expected to contribute to inter-firm learning if they are not accompanied by firm motivations and abilities to share knowledge. As mentioned earlier, close interaction between partners at upper-management levels will likely produce increased alignment of the core strategies of partners, as well as provide other benefits. However, such a result depends on appropriate managerial understandings of collaboration, such as a recognition that the knowledge that lies at the heart of any organizational capability is not an exhaustible resource. If one firm shares knowledge with another, the sharing firm will still possess the knowledge resource. In fact, the sharing firm may even deepen its own knowledge because the act of sharing may stimulate a firm to understand better its own capabilities and facilitate their further development. This type of mechanism is discussed elsewhere in an intra-firm setting (cf., Kogut & Zander, 1992).

Figure 3 is a conceptual drawing of the potential learning benefits of what we have argued may be an emerging pattern of the learning alliance. The figure shows an active mutual learning relationship, between partners that co-exist as separate learning organizations, stimulating new learning in the partners. The result of such an ongoing relationship can be thought of as a virtuous

cycle whereby an alliance relationship spurs the building and accumulation of competitive organizational capabilities in the partners.

The observations of the authors suggest that managing the dynamics of the alliance pattern illustrated in Figure 3 may be quite difficult. In particular, the skillful use of often subtle actions and signals may be required to preserve the motivations and abilities of partners to learn from each other, as core strategies are coordinated and at the same time sufficient independence of the partners is also sought. We agree with Doz and Hamel (1998) who present alliance management as more art than science. Future research topics include the elaboration of this issue, as well as further definition of the contents of a learning organization within the context of a learning alliance.

### **Acknowledgement**

This work initially began as the text of a presentation given by Takahiro Fujimoto in Korea in June 1999. Earlier versions of the paper in its co-authored form were presented in 2001 at the GERPISA International Colloquium in Paris and the Workshop on Modern Business at the University of Tokyo's Graduate School of Economics. The International Motor Vehicle Program provided partial funding for this research. The present paper is a broadly revised version of Fujimoto and Heller (2004). The authors would like to thank all those who kindly commented on the paper and the companies covered in the case studies for their cooperation with the various

research projects upon which this paper's analysis is based.

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[ Received July 20, 2004; accepted July 24, 2004 ]