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Enhance Organizational Learning:
Findings from the Automobile Industry**

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Introduction

In the last year and a half, we have witnessed some dramatic examples of both consolidation and de-consolidation in the world auto industry.² The industry lost a competitor in May 2005, when MG Rover of the U.K., a company with over 100 years of proud automotive history, became insolvent and began the liquidation of its sole remaining factory in Longbridge.³ As for de-consolidation, a few months earlier, Fiat and GM ended their equity relationship and dissolved their various joint ventures, while a year or so before that, DaimlerChrysler (DCX) decided not to invest additional capital in Mitsubishi Motors, thereby relinquishing its control over that firm in a move that attracted much attention in Japan and around the world. Further, in 2004, DaimlerChrysler also sold its minority stake in Hyundai Motors: the two divestitures taken together served to unwind DCX's entire "Asia strategy."

Nevertheless, despite this recent flurry of activity, the basic industrial organization of the auto industry, when viewed from a global perspective⁴, remains relatively stable, after a period of

² To simplify the presentation of our argument, we focus our attention in this paper on passenger cars and light commercial vehicle assemblers. We do not explicitly analyze manufacturers of medium and heavy-duty trucks and buses. Nevertheless, we expect the paper findings will also largely hold for manufacturers of these larger vehicles.

³ Holweg and Oliver (2005) contains a detailed analysis of the fall of Rover.

⁴ Since many automakers compete with each other in multiple markets around the world, it is reasonable to

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aggressive consolidation. The number of existing alliances (including mergers and acquisitions) between Japanese, European, and U.S. auto assemblers increased dramatically in the latter half of 1980s, from 36 in 1985 to 102 in 1990, and then remained at this elevated level throughout the 1990s (Fujimoto, Takeishi, and Nobeoka, 1999). Parallel to this increased use of alliances, over the past twenty or so years five or six very large auto groups have formed, alongside of which coexist a shifting roster of smaller industry players. (For example, even as Rover bows out firms such as Tata enter the fray.)

We estimate that the combined output of the top five large groups accounts for approximately 60% of total worldwide auto sales.⁵ The affiliated automakers that make up each group are connected to each other through a web of equity-based relationships. Such capital ties

discuss the auto industry as a global industry. However, it is important to note that there is no "world market" for any given automobile, as there may be for an .mp3 player or a sweater. Instead, for automobiles we see a mixture of local product differentiation and global corporate competition. Thus, for example, the three "Triad" product markets are very distinctive: the U.S. market remains dominated by gasoline-powered pickups and SUVs, the European market by diesel-powered sedans, and the Japanese market is distinctive in its high number of gasoline-powered minicars. On the other hand, many markets around the world have globalized dramatically from the point of view of who competes where. For example, Grant (1998) describes the dramatic share losses in their home countries of "national" car companies from the 1960s to the 1990s: 85% to 64% for the Big Three in the U.S. (as the Japanese entered the market), and, as cross-European competition increased, from 66% to 40% for Fiat in Italy, 40% to 11% for Rover (formerly British Leyland) in the U.K, and 50% to 28% for VW & Mercedes in Germany.

⁵ When DaimlerChrysler, the 6th largest auto group, is included the combined share rises to 67%.

consist of a mix of full, majority, and minority ownership stakes. Table 1 lists the industry's major global players and some of their key linkages.

<<Table 1 about here>>

The emergence of these large auto groups, however, in no way means that there are now essentially "only 5 automakers" left in the world, as is often asserted by pundits. Nor does it mean that the five largest auto groups are necessarily the strongest players in the industry or the only ones that will survive. In fact, there may be a very loose inverse relationship between size of group and profitability, as is suggested by the May 2005 downgrading of the debt ratings of two of the largest firms, GM and Ford, to "junk bond" status, while smaller firms such as BMW and Honda continue to thrive. Large size does not guarantee good economic health in this industry, although there are certainly minimum economic scales to be found at both the plant and corporate levels.⁶

On a related theme, there seems to be little correlation between the amount of formal (financial) alliance activity an automaker undertakes and its long-term success. Famously, very healthy firms such as Toyota, Honda and BMW (now that its acquisition of Rover has been reversed)

⁶ Fujimoto, Takeishi, and Nobeoka (1999) and Fujimoto and Heller (2004) explain why manufacturing scale can only be reasonably expected to give a positive effect in the auto industry up to a certain limit, which is estimated to be about 250,000 per platform and 1 to 1.25 million per automaker. See also Conybeare (2004).

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have generally avoided outright acquisitions. Further, Mercer (2001) surveyed five large mergers between assemblers that occurred in the 1980s and found that it was rare for such mergers to create shareholder value, based strictly on financial or sales volume measures.⁷

Despite these findings, given the competitive dynamics of the auto industry, where capability building is the long-term driver of firm performance (most vividly demonstrated by industry leader Toyota's frank admission that its success is based almost wholly on its mastery of the Toyota Production System), if we view the industry as made up of (semi-)independent learning organizations, rather than as financial "groups," we may still find that some alliance arrangements can generate great value that is not easily revealed by traditional financial metrics.

We use the term learning organization in its most basic sense to mean an organization that is capable of engaging in organizational learning.⁸ That is, an organization capable (or potentially capable) of building up the competitiveness of its productive and administrative capabilities (e.g., its product development, manufacturing, purchasing, sales & marketing, human resource management, corporate finance, and other functions.) By independent, we mean organizations that possesses some

⁷ The five cases examined in Mercer (2001) are AMC-Chrysler in 1986, Fiat-Alfa Romeo in 1987, Ford-Jaguar in 1989, GM-SAAB in 1989, and Volkswagen-SEAT in 1986 through 1990.

⁸ Regarding this usage of the term, see Tsang (1997). Additional reading on learning organizations can be found in Easterby-Smith and Lyles (2003), Tsang (1997), and Senge (1990), among others.

significant level of autonomy.⁹

Using learning organizations as a starting point, our interpretation of the effects of recent developments in the auto industry may differ markedly from the financial-based perspective. Pending a more detailed discussion below, the key question to be answered when considering M&A activity between automakers from this perspective is how the formation of such a relationship (or its dissolution) may affect the organizational learning of the concerned automakers. Any financial and manufacturing scale effects are likely to be secondary issues or secondary outcomes, from this perspective.

Context: Capability-building competition in the Auto Industry¹⁰

At least three general measures of a manufacturing firm's competitiveness can be identified: deep-level ("productive") competitiveness, surface-level ("product") competitiveness, and financial

⁹ Since automakers compete in oligopolistic markets, they are all interdependent to some degree. As such, in this paper "independent" is meant to indicate a "self-contained entity" with a non-trivial level of autonomy. Even wholly owned organizations may possess high levels of autonomy (e.g., in the auto industry, Audi within VW, Volvo within Ford, etc.)

¹⁰ This text of the first part of this section draws on Heller and Fujimoto (2004). For additional reading on capability-building competition, see Fujimoto (2003, 1999, 1997).

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(“profit”) competitiveness.¹¹ Firm performance according to each measure will tend to vary based on firm strategy and the degree to which each measure is influenced by factors external to the firm. Financial performance is often highly volatile even from quarter to quarter. Surface-level performance generally varies more moderately as product lineups are renewed, prices are adjusted, and user needs change. 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 relative stability of productive capabilities for a given product architecture.

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.¹² Thus, the auto industry since the early 1900s can be seen as an industrial sector in which cumulative evolution, rather than revolution (cf., Christensen, 1997), has been a powerful engine for industrial change.¹³ Ongoing incremental change has produced great

¹¹ In the auto industry, deep-level competitiveness is typically measured by product development lead time, assembly productivity, assembly defects per car, among others; surface-level competitiveness is typically measured by product appeal, price, time to delivery, among others; and financial competitiveness is measured by operating profit, return on invested capital, stock price, among others.

¹² As such, the auto industry may be viewed as an industry with a very slow "clockspeed" (Fine, 1998).

¹³ Evolutionary change is also encouraged, according to some industry observers, because of the dramatic

technological advancement and improvements in the productive and product performances of automakers worldwide. In this context, the long-term competitive foci of automakers have tended to be the organizational capabilities that determine a company's performance on key productive measures. Competition by firms to build increasingly more effective productive capabilities (e.g., in product development, manufacturing, and retailing) has been a powerful driver of the industry's changes over the years.

While capability-building competition in the auto industry has tended to center on factory-based productive capabilities, building a strong automobile brand and consistently achieving appropriate financial management also requires competitive marketing and administrative capabilities. Such capabilities may be considered increasingly valuable as industrial competition intensifies at the factory level (as we have already seen, in terms of metrics such as hours/car build times, which are converging among automakers over time), and more difficult to build as firm size increases. (For example, while BMW is acknowledged as an excellent product developer on a global level, and Toyota as an excellent manufacturer in countries all around the world, no automaker is

capacity for harm that the product offers: with hundreds of thousands of people annually killed in auto accidents, there is enormous incentive not to take significant risk in product design, lest it lead to unsustainable amounts of corporate legal and financial liability.

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ever cited as strong in retailing in every country in which it competes, or as uniformly superior in various “white collar” functions.) As in other industries, automakers worldwide thus engage in the active 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, such as mergers and alliances, are only likely to be supplementary factors. Their long-run relevance to industrial competition will tend to be determined by the extent to which they impact an automaker’s qualitative capability building: that is, in how they influence, not replace, the industry’s long-term competitive dynamic of capability building.

In the automobile industry, we may operationalize the concept of a learning organization by identifying organizations that have the capability and autonomous authority to develop a vehicle on their own from the concept creation to production preparation stages. Such an organization may be called an independent product-development organization. Learning for such an organization would consist of developing increasingly higher-performing organizational routines to shorten development lead times, improve a vehicle's overall customer satisfaction, improve the ease in which the vehicle

can be assembled, etc.¹⁴

The existence of an independent full-fledged research and development (R&D) center could be used as a rough proxy for determining what qualifies as an independent product development organization.¹⁵ By this definition, for example, Ford and Mazda would be counted as separate entities, but Peugeot and Citroen would not. Any particular categorization, however, would be open to some level of debate due to the rather subjective nature of determining what would qualify as "independent" and what constitutes a "full-fledged" R&D center. Table 1 shows a categorization of the industry's learning organizations based on the authors' varied experiences and many years of analyzing the auto industry. We have included a "semi-independent learning organization" designation for Skoda and SEAT, two of the more debatable or unclear cases.

As is shown in the Table 1, counting by independent learning organizations (ILOs) we get a total number of global players in the auto industry of at least 28, or twice the number (14) of

¹⁴ We define organizational learning here as changes in organizational routines (Levitt and March, 1988; Nelson and Winter, 1982) that produce more competitive organizational capabilities.

¹⁵ At this point clarification as to terminology is required. In North America the activity of designing and bringing to production readiness a new car model is called "product development," whereas in Europe and Japan this is more often termed "R&D." To an American automaker "R&D" more typically refers to the far-upstream development of technologies that may apply to any number of vehicles (e.g. intensified use of exotic materials), while the design of a specific model or models is "product development." In this paper we use the Japanese/European definition of R&D.

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financially independent groups or firms. As this number of global ILOs has not changed markedly over the past twenty years (Fujimoto, Takeishi, Nobeoka, 1999), the consolidation of the industry that has occurred over this period has generally only been at the financial level and has not been accompanied by any great reduction in the number of independent learning organizations. This fact is an indirect indicator of the value to the industry of having a relatively high number of ILOs, further implying that they may reach minimum scale at lower levels than the financing community demands of broader corporate entities. The value of having “too many” ILOs (relative to financial units) may be linked to the brand and model proliferation that we can observe in the industry. As the industry matures and commoditizes (in major markets such as Japan, the EU, and North America), automakers chase fleeting pockets of price premiums by launching new models and even new brands (e.g., Toyota brings out Scion in the U.S., DaimlerChrysler adds Smart in Europe and elsewhere). It may enhance a company’s ability to propagate many diverse brands and models by having at its disposal more than one learning organization within its financial grouping.

Case studies

In order to obtain insights into how M&A may be used to enhance learning organizations,

we present three case studies to examine how such activity in the auto industry has affected the learning organizations of the automakers involved.¹⁶ The longitudinal and qualitative research method we employ allows us to examine not only M&A outcomes but also processes.

Opportunities to engage in horizontal merger activity in the auto industry by one automaker acquiring a full or partial equity position in another automaker have frequently come when the acquired company had experienced financial distress. The cases examined here all fall into this category. The first two cases, Ford-Mazda and Renault-Nissan, involve very significant but still minority equity-stakes between Japanese and Western automakers. The third case, Chrysler-AMC, involves the full acquisition of one U.S. firm by another U.S. firm.

Case #1: 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 (especially in assembly plant productivity, product development lead-time reduction, engine and key component technologies); however, the company had difficulty using these productive capabilities and technologies to produce attractive products cost efficiently: on the revenue side designs were seen as too weak to earn brand premiums,

¹⁶ The first two case studies draw from Heller and Fujimoto (2004). The third case is based on Mercer (2001).

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and on the cost side a disorganized purchasing department was failing to deliver componentry (which can make up 80% of the manufacturing cost of a car) at globally competitive prices. Nissan's overall weaknesses at the time can generally be said to have been in brand management, product design, and component purchasing. These weaknesses, 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, an excessive number of product platforms, and difficulties in developing a consistently attractive product lineup. 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: engineering and manufacturing capabilities at Nissan and design and sourcing capabilities at Renault. In addition, Renault had free cash, whereas Nissan was deeply in debt. Finally, there was some geographic complementarity: Renault's operations tended to be limited to Europe and some parts of Latin America, whereas Nissan was more internationally active (especially in the key U.S. market that Renault had abandoned earlier), though not a major player in either Europe or most Latin American markets. An opportunity thus existed for an alliance that would exploit these complementary positions. In 1999, the two companies entered into a broad based corporate alliance when Renault invested approximately 600 billion yen (about US\$5.5 billion) to acquire a 37% equity-stake in Nissan. Two years later Renault exercised the stock options it had acquired in the 1999 alliance deal to increase its stake in Nissan to 44%. Shortly thereafter, 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 (cf., Segrestin, 2005) and third-country production and distribution collaboration. In addition, the firms have actively sought to assist each other's learning through the mutual dispatching of

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executives and managers in various functions. They have also broadly shared information and knowledge. For example, the companies established in 2001 a joint information systems organization and a joint purchasing organization.

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 and Heyder, 2004; Fujimoto, 2001; Heller, 2003; see also, Yoshino and Egawa, 2003, 2002). Nissan has also benefited from its access to Renault's purchasing database, which has assisted Nissan to move its sourcing spend toward more competitive Renault levels. Since 1999, Nissan's deep-level performance has continued to be strong, surface-level performance has improved, and record financial performance has been achieved since 2000. In fact, there is no mass-market automaker which can now claim a higher profit margin than Nissan-Renault.

Case #2: 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 for approximately 30 billion yen (about US\$130 million) a 25% equity-stake in Mazda in 1979. At the time, other U.S. automakers were also forming alliance ties

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with Japanese automakers as the Japanese auto industry and market grew (Yoshino and Rangan, 1995). For the Japanese side, these alliances may be viewed in some ways as defensive measures. Once tied up in an alliance, it would be harder for a foreign firm to acquire one of the Japanese automakers outright, which was of great concern to the Japanese government (MITI) and Japanese automakers at the time.

Mazda, on the other hand, had less choice in entering into an alliance, requiring it in large part just to stay alive. The firm had been experiencing severe financial difficulties in the 1970s, which can be attributed to strategic mistakes such as over-investment in the Wankel rotary engine, which turned out to be a relatively fuel-inefficient and somewhat polluting design: a prescription for disaster as the world was rocked by the Mideast oil shocks and as governments everywhere tightened controls on pollution. Thus, as the 1970s unfolded, Ford's alliance with Mazda moved from one of friendly exchange among equals to life-support for the weaker firm. Cooperative activities 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. But the support was not all one-way: Mazda was skilled in flexible manufacturing and also car design – whereas Ford focused mainly on trucks and SUVs. Due in part to learning from Mazda (Doz and Hamel, 1998; Harbison

and 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, and Roos, 1990).

In the 1990s the relations between Ford and Mazda grew closer at an increasing rate, as Mazda experienced another financial crisis, again attributable to strategic missteps (in this case the 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 with an eye toward increasing its equity stake. Positive results to this study were followed in 1993 by Ford and Mazda formally announcing the strengthening of their alliance, and in 1996 Ford invested approximately 50 billion yen (about US\$500 million) to increase its equity stake in Mazda to 33.4%, which under Japanese law essentially gave Ford full control over the Hiroshima-based firm. 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

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other's information systems and broad based sharing of knowledge in numerous functional areas accelerated.

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

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, especially in manufacturing and product design. Since 2001, Mazda's surface-level 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. As part of this effort, as of the year 2005, a significant number of Ford car products were based on Mazda-developed platforms, such as the Mazda6, or based on Ford/Mazda co-developed platforms.

Case #3: Chrysler-AMC

In 1987, Chrysler Motor Corporation acquired American Motors Corporation (AMC) from Renault SA of France. The case is typically viewed as a great coup for Chrysler because the acquisition gave that firm the Jeep vehicles and brand, which enabled Chrysler to participate heavily in the high margin sport-utility vehicle (SUV) boom of the 1990s.¹⁷ A close look at the case, however, reveals that in addition to the timely acquisition of a profitable vehicle line, Chrysler also benefited

¹⁷ AMC had acquired the Jeep brand in 1970 when it bought the Kaiser Jeep Corporation for \$75 million.

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greatly by its learning of the successful product development practices that had been employed at AMC.

Prior to the acquisition, Chrysler had completed a recovery from a severe financial crisis, in which the company had to be bailed out by the U.S. government in 1979, with \$1.2 billion in government-backed loans.¹⁸ This recovery, which while it included cost reduction efforts such as large-scale layoffs and plant closures, was primarily based on the revenue success of Chrysler's pioneering and then dominating the minivan segment of the market.¹⁹ The ensuing financial stability allowed Chrysler to fund its strategy to achieve a leading position in the SUV segment, which it (correctly) forecast as becoming an attractive and high-growth market segment, by acquiring AMC's Jeep brand.

AMC, on the other hand, was struggling as of the mid-1980s as a minority-owned (46%) partner of Renault. AMC's product strategy of distributing minimally modified Renault-developed vehicles (notably the Alliance and Encore models) through the AMC dealer network resulted in massive recalls, primarily for faulty air conditioning systems and secondarily for issues such as body

¹⁸ The loans were ultimately fully repaid by 1983, with an additional amount of \$311 million paid to the U.S. government as guarantee fees. See Reich and Donahue (1985) for additional details.

¹⁹ The first minivans, which debuted in 1983, were the Plymouth Voyager and Dodge Caravan.

rust and suspension failure, all of which problems derived from Renault's insufficient understanding of the demands of the American market and driving environment. The ensuing public-relations difficulties, combined with accumulating losses at AMC and a prolonged financial crisis and rising labor-management struggles for Renault in France, pushed the company to sell off its controlling stake in its U.S. partner, which it had held since 1978.

Renault agreed to the Chrysler acquisition of AMC on March 9, 1987. The deal was approved by AMC shareholders on August 5, 1987 and cost Chrysler approximately US\$1.7 billion.²⁰ As part of the agreement, Chrysler absorbed 5,500 salaried and 17,400 hourly employees of AMC, three large-scale assembly plants, and 1,472 AMC-Jeep-Renault dealers in the U.S. Chrysler had two primary objectives following the acquisition: (1) to return AMC's operations to profitability, and (2) to preserve and build upon the strengths of the Jeep brand. These two objectives and the means by which they were pursued are described below.

First, the AMC operations may not have been in as dire financial straits as they were

²⁰ While the overall number of \$1.7 billion seems equitable, the "fire sale" nature of the transaction, driven by Renault's eagerness to exit the USA, is revealed in the details of the deal. Chrysler paid Renault only \$35 million in cash for AMC, with the rest of its compensation being made up of a \$200 million promissory note, a pledge to pay up to \$350 million more in future years in accordance with AMC profitability, assumption of AMC's full debt load of \$750 million, and issuance of \$525 million of its own stock to obtain the AMC shares that Renault did not own.

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generally perceived to be. While the company had lost money for eight straight years, accumulating losses of \$767 million from 1980 to 1986, Joe Cappy, the president of AMC in 1987 has said, "The fact is, American Motors had (already) turned the corner. In the fourth quarter of 1986 we made \$20 million..."²¹ In the first two quarters of 1987 AMC earned nearly \$54 million. However, given the fact that AMC had been unable to achieve lasting profitability throughout the 1970s and 1980s, it's turnaround from the end of 1986 may not have been sustainable in the long term without the restructuring that was done after the merger. But in any case, at the time of the transaction AMC's bleeding had (at least temporarily) come to a halt.

One of the leaders of the post-acquisition restructuring of AMC's operations was Chrysler's Manufacturing Chief Richard Dauch, who said, "We knew how to fix Chrysler in 1980 and we know how to fix AMC now."²² Restructuring measures that were taken included closing the AMC plant in Kenosha, Wisconsin in 1988 and renegotiating the labor contract at the Jeep Cherokee plant in Toledo, Ohio. In addition, the Renault-developed vehicles (Alliance, Encore, and Premier) were all dropped by the end of 1990. All of the Eagle dealers (the name applied to AMC dealers carrying the

²¹ Source: Automotive News, October 20, 2003, Vol. 78, Issue 6062, p. 6

²² Source: Mercer (2001), p. 3

Renault products) were also phased out by 1997. AMC's newly completed passenger car plant²³ in Bramalea, Ontario was converted to produce Chrysler's LH sedans (the Chrysler Concorde and LHS, Dodge Intrepid, and Eagle Vision), which sold well from the early 1990s onward.

In 1988, the year following the acquisition, Chrysler saw its first payoff: profit attributable to AMC reached \$200 million due to an average \$1,000 profit on each of 250,000 Jeeps sold. These funds plus minivan profits helped Chrysler weather an automobile market downturn in the late 1980s and early 1990s. It was especially gratifying to Chrysler management that they had foreseen this growing market opportunity for Jeep. In 1987, Chrysler president Hal Sperlich said, "The fundamental reason for our interest in AMC was one word: Jeep. The core of the acquisition was aimed at that brand.... We think its position... will explode, from a market standpoint."²⁴ In an industry not known for its forecasting abilities, Sperlich proved to be uncannily on the mark.

Jeep's success centered on the Grand Cherokee model, an upscale revision of its basic Cherokee off-roader and the first incarnation of the novel concept of the "civilized" SUV, one that combined car-like comfort with utility vehicle robustness. The Grand Cherokee almost did not see the light of day, as some Chrysler sales and marketing managers feared cannibalization of the base

²³ This plant was jointly constructed by AMC and Renault, with assistance from Fuji Heavy Industries.

²⁴ Source: Mercer (2001), p. 4

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model Cherokee's sales and therefore were opposed to expanding the Jeep lineup to include this upscale model. The Grand Cherokee had been in development at AMC from 1986, under the ZJ project headed by Francois Castaing.²⁵ Although the vehicle's first skinned prototypes were already being built in 1987,²⁶ opposition at Chrysler delayed the project for two years, from 1989 to 1991.²⁷ The vehicle was finally put on sale in the Spring of 1992 and was an immediate hit, helping propel sales of Jeep vehicles from under 200,000 units in 1991 (slightly less than the amount sold in 1987) to 400,000 units by 1993. Sales continued at or above this level into the 2000s. Total Jeep operating profit per unit was estimated to be \$5000 (for the Cherokee, Grand Cherokee, and the third model, the Wrangler) in 1998.²⁸

Jeep development at AMC used the cross-functional "platform-team" practice, where engineers, designers, purchasing personnel, marketing managers and supplier representatives all work closely together. This practice mirrored the product development organization that had been

²⁵ Source: Automotive News, November 8, 1999, Vol. 74, Issue 5847, p. 36. Castaing had been initially dispatched from Renault to AMC in 1980 as a product engineering director to support the 1982 production launch of the Renault Alliance subcompact.

²⁶ Source: Automotive News, August 4, 1997, Vol. 71, Issue 5725, p. 27

²⁷ Source: Automotive News, November 8, 1999, Vol. 74, Issue 5847, p. 36 AMC had planned to assemble the vehicle in an extension at its Kenosha plant. However, the vehicle was ultimately produced in a new plant on Jefferson Avenue in Detroit after the Kenosha plant was closed in 1988.

²⁸ Source: Mercer (2001), p. 4

employed by leading Japanese automakers from the 1970s to increase product integrity, speed development time, and lower costs (Clark and Fujimoto, 1991). The platform-team practice was first used by Castaing at AMC to develop the 1985 Jeep Cherokee Limited. Castaing kept his 700 engineers together at Chrysler, as the first “platform” team at the merged company. It is interesting to realize that AMC’s learning from Japan in this regard was driven not by curiosity or the desire to improve performance, but simply to save money at the financially-ailing firm. As an AMC executive is quoted as saying, “We were already operating with teams at AMC, if for no other reason that we didn’t have enough money or personnel to do otherwise.”²⁹

Bob Lutz, president of Chrysler from the late 1980s, pushed to expand the platform-team development practice further within Chrysler, and accordingly five platform teams (small car, large car, minivan, Jeep, and truck) were created.³⁰ Platform teams produced such vehicles as the Viper concept muscle car, the LH sedans, the ensuing generation of the minivan, the hugely-successful Dodge Ram pick-up, and the compact Neon. Chrysler received widespread praise in the 1990s for its “great styling, low cost structure, (and) nimble product teams.”³¹

²⁹ Source: Mercer (2001), p. 3

³⁰ Nobeoka (1996) and Cusumano and Nobeoka (1998) describe platform teams at Chrysler in more detail.

³¹ Source: Automotive News, September 1, 1997, Vol. 71, Issue 5729, p. 14. See also Belzowski (1998).

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Chrysler's learning of the platform team and other practices from AMC was aided by most of AMC's talented managers and executives having remained on at the merged company. Many went on to be promoted to leading positions at Chrysler (e.g., Castaing as vice president of vehicle engineering, and Rex Franson as vice president of quality and serviceability). These people remained at Chrysler despite the initial cold treatment they received from many at the larger firm. Castaing said that most at Chrysler looked at AMC as "this little lousy company that was barely making money, that was associated with the French, and everybody knew they were not doing too well."³² Also, "initially the small band (of AMC managers)... was treated more like refugees from a defeated nation" from whom little could be learned.³³ Bob Eaton, who joined Chrysler in March 1992 as vice chairman & COO and later succeeded Lee Iacocca as chairman on January 1, 1993, is credited with further encouraging the Chrysler organization to adopt successful AMC practices whenever possible. Some observers have gone so far as to assert that in terms of product development at least, AMC executed a "reverse takeover" of Chrysler, as little of the latter's prior R&D system survived the widespread adoption of AMC processes. The minivan, developed by Chrysler (although admittedly with strong guidance from some ex-Ford employees who had jumped ship), had saved the company;

³² Source: Automotive News, August 4, 1997, Vol. 71, Issue 5725, p. 25

³³ Source: Mercer (2001), p. 6 and Automotive News, August 4, 1997, Vol. 71, Issue 5725, p. 25

but the Grand Cherokee Jeep and the product development processes which created it ensured Chrysler's success for years to come.

Lessons from the Case Studies: M&A activity as an opportunity for mutual learning

The case studies described above suggest how mergers and acquisitions (ranging from equity-stake alliances to full acquisitions) may positively affect the capability building of organizations in the auto industry.

In the first two cases, the M&A activity was limited to minority equity stakes. As such, each automaker in the two pairs has remained a distinct organizational entity.³⁴ This organizational separation has been maintained despite high levels of inter-organizational cooperation between partners in the form of joint ventures, joint product development projects, distribution channel cooperation, and the dispatching of managers and executives to work inside each partner's organizational hierarchy. As is described above, the widespread mutual learning of the capability strengths of the partners has been seen as a "win" for both sides.

³⁴ Organizational separation remains true for Renault and Nissan even after June 2005 when Ghosn became the CEO of both automakers.

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The pattern of cooperation found in these first two cases differs from what has traditionally been observed in equity-stake alliances, where the dominant partner tends to reject learning from the subordinate firm. Heller and Fujimoto (2004) describe one of the key differences in these more successful cases as the ongoing existence of day-to-day contact between top managers of each partner both within and across organizational boundaries. This top-level interaction exists together with similar interaction that occurs between people at lower hierarchical levels in the partners. Since cooperation thus occurs at all hierarchical levels, the inter-organizational learning of capabilities can more readily take place: middle managers see from the example of cooperative top management that collaboration at their own level will be endorsed as the right thing to do rather than condemned as inappropriate for the “winning” or “losing” firm. The extent to which such learning has taken place in each of the firms in the cases suggests the inherent strength and confidence of the learning organizations of each automaker.

In contrast to these first two cases, in the third case AMC was fully acquired and integrated into the Chrysler organization, though some level of autonomy was kept for the Jeep product development team. This post-merger integration was accomplished without the large-scale departure of AMC management from the merged company, which is also relatively unusual. In fact, many

former AMC managers went on to take key leadership positions in Chrysler. Over time, the strengths of the AMC organization, particularly in product development, were diffused throughout Chrysler.

Here we do not see Chrysler and AMC continuing to exist as separate learning organizations.

Nevertheless, we do see Chrysler's learning organization stimulated through the acquisition.

In all three cases examined in this paper, extensive and ongoing contact between people from the acquired and the acquiring automaker occurred at all managerial levels, with explicit encouragement from the top. Obtaining positive learning results from such interaction required the creation of a work environment conducive to mutual learning. Employees and managers needed to view the alliance or merger as an opportunity to learn, both individually and as an organization, through the prolonged exposure to new ways of thinking and the inevitable struggles that happen when people with different backgrounds and corporate cultures work closely together. The view that “the other guys” were threats to incumbent managers had to be skillfully overcome. Furthermore, this cooperation needed to be based on accurate evaluations of the relative organizational strengths and weaknesses of the people and structures involved. It would seem to have been especially important for talented executives and managers to be given the appropriate opportunities in the allied or merged organization(s), regardless of the firm from which they originally hailed.

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The analysis of this paper suggests that ultimately the number of learning organizations in an automobile group may not be particularly important: that is, both multiple and singular models work. A larger automotive group does not necessarily have an advantage over a single firm which has superior learning skills, as the Chrysler/AMC case shows. The critical issue is whether or not a firm's learning organization functions properly. Are organizational capabilities consistently being improved qualitatively? Is there an internal drive propelling this capability building? Is an organization acquiring the outside knowledge and stimulation that is needed to stay vibrant?³⁵ Such learning from the outside does not necessarily require equity ties between organizations.³⁶ However, as shown in these cases, an equity tie may be one effective way to stimulate organizational learning.

In this paper we have argued that the long-term value of automotive M&A is determined in at least these cases by how it is used to enhance learning organizations.³⁷ The learning-organization perspective described here complements the traditional financial-based perspective to give a fuller picture of the competitive state of an industry, particularly one like the auto industry (i.e., global with

³⁵ See Rosenkopf and Nerkar (2001) for further discussion of the important role outside knowledge plays in maintaining a learning organization.

³⁶ Fujimoto (2003) and Fujimoto and Takeishi (1997) discuss the role played by alliances, including non-equity alliances, in the movement of organizational capabilities among automakers.

³⁷ It may be instructive to examine further mergers involving these same firms to see if the same fortunate story was repeated: there is certainly evidence to show that neither the Daimler/Chrysler merger nor the Ford/Jaguar merger involved such positive learning experiences.

relatively stable product architecture) where the existence or absence of capability building within a firm is so critical. By considering the capability-building effects of M&A, we may obtain a lens through which to analyze the long-run competitiveness of industry players.

Ultimately, the automaker that is able to use both internal efforts and inter-firm ties to strengthen its learning organization and spur its own capability building will likely have the advantage. Thus, we should not overreact to changes in the structures of auto groups, such as the Fiat-GM or DaimlerChrysler-Hyundai breakups or the DaimlerChrysler-MMC cooling off. None of these firms are necessarily worse off because of the changes in ownership positions. In each of these cases, the firms may actually now be better able to build up their own capabilities, having exited from relationships that had only weak and perhaps even dysfunctional learning orientations. Although some short-term difficulties may have been caused by these disengagements, if as a result the firms become better able to strengthen their learning organizations, then this would be quite positive in the long run.

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Table 1: Major Players in the World Auto Industry

Group/Firm	Organization/Brand	Equity ownership	'04 Production Volume	Independent Learning Ord.
GM 10,998,199	Chevrolet/GMC/Buick/Pontiac/Cadillac/Saturn/Hummer	100%	6,161,934	*
	Opel/Vauxhall	100%	1,667,970	*
	Suzuki	20%	1,318,681	*
	Subaru	21%	595,325	*
	GM-Daewoo	67%	561,988	*
	Isuzu	12%	406,261	*
	Holden	100%	165,552	*
	SAAB	100%	120,488	*
FORD 7,791,165	Ford/Lincoln/Mercury	100%	5,893,259	*
	Mazda	33%	1,162,229	*
	Volvo	100%	461,967	*
	Jaguar/Land Rover	100%	273,710	*
TOYOTA 7,516,713	Toyota/Lexus/Scion	100%	6,784,047	*
	Daihatsu	51%	732,666	*
RENAULT-NISSAN 5,907,233	Nissan/Infiniti	44% (by Renault)	3,359,218	*
	Renault/Dacia/RSM	15% (by Nissan)	2,548,015	*
VOLKSWAGEN 5,102,325	VW	100%	3,335,554	*
	Audi	100%	849,173	*
	Skoda	100%	459,154	(*)
	SEAT	100%	458,444	(*)
DAIMLERCHRYSLER 4,245,181	Chrysler/Jeep/Dodge	100%	2,729,694	*
	Mercedes-Benz/smart	100%	1,515,487	*
HYUNDAI	Hyundai/Kia	100%	3,510,060	*
PSA	Peugot/Citroen	100%	3,333,489	*
HONDA	Honda/Acura	100%	3,177,201	*
FIAT	Fiat/AlfaRomeo/Lancia	100%	1,875,743	*
BMW	BMW/Mini	100%	1,273,305	*
MITSUBISHI MOTORS	Mitsubishi	100%	1,169,261	*
SSANGYONG	Ssangyong	100%	135,375	*
PORSCHE	Porsche	100%	84,095	*
# of Groups/Companies: 14	(2004 World Auto Sales = 61,991,002)	Total	56,119,345	28~30

NOTES: Only groups/firms headquartered in Japan, the U.S., Europe, and South Korea have been included. Production and sales figures are for passenger cars and light commercial vehicles for the 2004 calendar year. Some figures are estimates, and production by local affiliates in third countries may have been excluded in some cases. Production of light commercial vehicles by Hino (Toyota affiliate) and Nissan Diesel have been excluded. Low volume specialty brands (e.g., Aston Martin, Lamborghini, TVR, etc.) have been excluded. Equity ownership percentages are current as of June 2005. Designations of "learning organizations" are subject to change based on automakers' integration strategies and other factors. Sources: Global Insight, Hoover's, Press

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