Exploring Supply Base Integration after Mergers and Acquisitions*

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This study investigates how companies integrate their supply bases after mergers or acquisitions. Findings from two cases are reported. The first describes an acquisition in the automotive industry and the second examines a merger in the pharmaceutical industry. Key issues with supply base design and opportunities for future research are discussed.

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I. Introduction

In the face of global competition, organizations have downsized, focused on core competencies, and attempted to achieve a competitive advantage through supply chain management. Trends such as increased outsourcing, supply base reduction, and consolidation have increased the reliance of buyers on their suppliers [4] [5] [19]. A supply base refers to a firm's total number of direct suppliers [10] [16], and a recent trend has been to reduce this number [8] [10] [15]. A smaller supplier base allows firms to work more closely with the remaining suppliers [2]. Close cooperation can increase quality, reduce lead time, decrease costs, and accelerate the development of

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new products [9] [17]. Therefore, supply base design and management are important for many firms so suppliers can make a significant contribution to the achievement of performance objectives.

The purpose of this paper is to investigate how companies integrate and reorganize their supply bases after mergers or acquisitions (M&A). There is often a high level of redundancy among suppliers when companies in the same industry are combined by M&A. Effective supply base design can lead to increased competitiveness through cost reduction, quality improvement, and delivery improvement. Our literature review, however, did not find any published research that addresses the question of how to integrate supply bases following a merger or acquisition. This paper reports the findings from two cases of supply base integration after an M&A. The first describes an acquisition in the Korean automotive industry and the process it used for supply base integration. The second is the case of a merger between a US and UK firm in the pharmaceutical industry. The study identifies some of the key issues with supply base design and opportunities for future research.

II. Literature review

The impact on suppliers is beginning to be addressed in the M&A literature. Birkinshaw et al. [6] categorize M&A research into four areas: 1) a macro-level view of the firm's value or its return to the shareholders [3] [13] [14], 2) an organization-level strategic management view [11] [12], 3) an organizational behavior perspective examining the human-side of M&A [7], and 4) a process view of integration after M&A. Our research focuses on the fourth category with a process view of supply base rationalization.

Researchers have started to explore the impact of external relationships with customers and suppliers during an M&A [1]. Based on a case study in the graphics industry, Anderson et al., [1] suggest that M&A can have intended and unintended

consequences on external relationships. They suggest that relationships with customers and suppliers must be considered both prior to the M&A and during integration. This study contributes to current research by exploring the process of supply base reorganization of M&A companies.

III. Research method

This exploratory research used a case study approach. The objectives are to explore the reasons for supply base reorganization, the chosen process, the obstacles encountered, and the lessons learned. This research analyzed two case studies. The first explored a major acquisition that occurred in the Korean automotive industry. The second investigated a merger between a U.S. and U.K. firm in the pharmaceutical industry. Data were gathered by reviewing company documents and interviewing supply managers who were responsible for supply base design decisions. A structured interview format was used. In the next section, the cases are briefly described.

1. Case Description: Automotive Acquisition

In 2002, a major Korean automotive assembler (Company A) acquired a smaller Korean competitor with a similar product line (Company B). Company A's purchases were 57% of sales and Company B's purchases were 63% of sales. Table 1 shows the profile of Company A and Company B. After the acquisition, the integration of the supply base involved three key stages. In the first stage, supply base data were gathered from the companies. Then, a new purchasing organization structure was developed. Finally, the supply base integration decisions were made according to the results collected in the first two stages.

Table 1. Company Profile of Company A and Company B

	Company A	Company B
Established in	1967	1944
Location	Seoul, Korea	Seoul, Korea
Product	Cars and Commercial Vehicles	Cars and Commercial Vehicles
Capacity/year(Domestic)	1,895,000 units	1,170,000 units
Employee	51,000 people	31,000 people
Production(2002)	1,702,000 units	872,000 units
Sales(2002)	22 billion US \$	12 billion US \$
Purchase(2003)	12.61 billion US \$	7.56 billion US \$

Source: Internal Data of Company A and Company B

A team consisting of two managers from each company, a representative from the Korea Standards Association, and a representative from an International approval service agency designed the process for evaluating the existing suppliers of both companies. The objectives were designed to compare the capabilities of the two supplier groups and to gather data for the integration of the supply bases. Planning for the supplier evaluation took about two months. During this time, the team decided upon the evaluation criteria and metrics to measure. They also developed a survey questionnaire to gather data from suppliers. Ten evaluation teams were organized and trained to perform the evaluation. Each evaluation team was composed of one employee from Company A, one employee from Company B, and one external specialist from Korean Standard Association or the International approval service agency. The external specialists were included in the evaluation team to ensure objectivity and public trust of the evaluation. The team assessed the suppliers based on supplier-provided information, third-party information, and supplier site visits.

The evaluation criteria developed by the team addressed seven areas: 1) management systems, 2) financial conditions and stability, 3) product development and design capabilities, 4) production technology, 5) volume flexibility, 6) service capabilities, and 7) contribution to the customer. Table 2 shows the evaluation criteria

Table 2. The Evaluation Criteria and Points Allocated

Category	Evaluation Criteria	point	Specific Evaluation Item
General Management	Management Systems	15	<ul style="list-style-type: none"> • Personnel management • Labor management • Education & training • In-house Standardization
	Financial Conditions and Stability	15	<ul style="list-style-type: none"> • Stability • Profitability • Activity • Productivity • Growth
Quality & Productivity Managing Capability	Product Development and Design Capabilities	20	<ul style="list-style-type: none"> • New product development • Design & engineering • Prototyping & testing
	Production Technology	15	<ul style="list-style-type: none"> • Process planning • Outsourcing management • Equipment and tooling management
	Volume Flexibility	30	<ul style="list-style-type: none"> • Work environment • 3 Right & 5 S • Materials management • Production management • Process management • Inspection & test
	Service Capabilities	5	<ul style="list-style-type: none"> • In-house quality audit • Customer service • Claim resolution • Customer assets care
Longer-term Relationship Potential	Contribution to the Customer	3	<ul style="list-style-type: none"> • Defects rate • Stock-out rates • Suggestions for cost reduction • Portion of sales to the customer
Total		103	

Source: Internal Data of Company A and Company B

and points allocated to each evaluation criteria.

Company A's 873 purchasing organization employees reported to the Parts Development Division under the control of the Research and Development group

before the acquisition. Company B had 470 people in its purchasing department. But the two companies' purchasing organizations independently interacted with the suppliers in their own supply bases before the integration of supply base. Figure 1 shows the process of supplier selection and parts development before the supply base integration and figure 2 shows the process of supplier selection and parts development after the supply base integration on the other hand. Within two years of the acquisition, the number of employees in purchasing had been reduced by 20% and the average spend per employee had increased by 61%.

After the acquisition, purchasing was centralized under the control of one executive and a Purchasing Coordination group was established in the Planning Department of the company. The goal of the Purchasing Coordination group was to create synergy across the company in supply management practices including standardization of

Source: Internal Data of Company A and Company B

Fig. 1. The process of supplier selection and parts development before the supply base integration

Source: Internal Data of Company A and Company B

Fig. 2. The process of supplier selection and parts development after the supply base integration

purchasing systems, purchasing organizational structure, business standards and terminology, supplier selection, and supplier development. The Purchasing Coordination Group consisted of three teams. Each Purchasing Coordinating Team was responsible for developing standard business practices, including terminology, expectations for supplier performance, purchasing system and organization, and centralized purchasing of commodities. Two strategic purchasing teams were formed. These teams were designed to evaluate and select suppliers for the major part families and for new products.

A team for supply base integration was organized after integration of the purchasing organization. The team's objective was to develop and implement a process for supply base integration. The team was composed of 12 power train, chassis, trim, electrical, and body internal specialists. The team categorized all the parts into three groups: 1) core part, 2) technical part, and 3) general part. Then the team developed a strategy

and decided the number of suppliers to maintain in the supply base according to categories. For example, they decided to maintain two suppliers for each core part, two to three suppliers for each technical part, and three to five suppliers for each general part. Table 3 shows the categorization of parts, the characteristics of parts, number of suppliers to be maintained by part in principle, and supplier development policy in each category.

Table 3. The Categorization of parts

Category	Characteristics of Parts	# of Suppliers by part (Standard)	Supplier Development Policy
Core part	<ul style="list-style-type: none"> • System/Module parts requiring high-technology • Core functional parts relating to safety, environment, and regulations • Major parts affecting marketability e.g. Cockpit module, Engine control unit, Seats	2 suppliers	<ul style="list-style-type: none"> • Develops strategically as global companies • Develops as leading 1st tier suppliers by expanding the adoption of module/system components
Technical Part	<ul style="list-style-type: none"> • Parts mainly requiring design technology • Parts having major affects on the quality of car • Major functional parts e.g. Starter, Alternator, Bumper, Cluster	2~3 suppliers	<ul style="list-style-type: none"> • Volume purchase for the economy of size (especially for R&D) • Support to be self-independent regarding R&D and design technology • Support to be specialized in production technology and quality control
General Part	<ul style="list-style-type: none"> • Parts requiring mainly manufacturing technology • Parts requiring simple technology • Standardized parts e.g. Small size stamping item, small size plastic injection item, hardware	3~5 suppliers	<ul style="list-style-type: none"> • Support to improve manufacturing technology • Free competition between suppliers • Exclusion from supplying parts of new product by the periodical evaluation of suppliers
Average		2.3	

Source: Internal Data of Company A and Company B

The team used the initial data gathered on suppliers, existing reports (on financial condition, technology, business, CEO or owner, etc.), and visits to the suppliers' plants to evaluate each supplier. The evaluations were presented at the meetings of all managing directors within the Headquarters of Joint Purchasing. The final decisions on the suppliers to be supported and developed or removed from the supply base were made on a part by part basis.

A plan to reduce the number of first tier suppliers by 32% was developed to cover a six year period. Contracts with some suppliers were terminated. However, a gradual transition was needed because some of the suppliers to be dropped were still making parts of vehicles in production. As a result, these suppliers were not included in any new development projects. Other suppliers were transitioned to second tier suppliers through mergers and acquisitions with similar parts suppliers.

The suppliers retained in the supply base benefited from the integration process. The average size of suppliers and the average amount of spend with each supplier increased. The integration also caused the average debt ratios to decrease and the number of suppliers with foreign investment to increase. Four years after the acquisition, the average purchases by the company from the retained suppliers increased by 60%. More common parts were used across products increasing economies of scale. Suppliers also experienced synergy effects such as increased investment on R&D. Across the merger, the competitive power of suppliers increased as the size of suppliers increased and became more specialized. Supplier quality performance also improved. Table 4, table 5 and table 6 show these results.

Table 4. The change of the number of 1st tier suppliers

Year	1998(Before Integration)	1999	2000	2001	2002	2003	2004(expected)
Suppliers	434	407	394	367	345	317	293

Source: Internal Data of Company A and Company B

Table 5. The change of the characteristics of the suppliers

	1999	2000	2001	2002	2003
Average Amount Spend (Korean Won)	33.9 Bil.	42.6 Bil.	47.6 Bil.	54.2 Bil.	66.0 Bil.
Average Debt ratio	244%	219%	176%	160%	
Average Profit ratio	5.1%	5.0%	4.7%	4.9%	
# of suppliers with foreign capital and/or technology			101	103	106

Source: Internal Data of Company A and Company B

Table 6. The performance of supply management group

	1998	2000	2003
# of Supply management employee	1,343	1,075	974
Amount Purchased per Supply management employee(Korean Won)	9.8 Bil.	15.8 Bil.	29.1 Bil.

Source: Internal Data of Company A and Company B

2. Case Description: Pharmaceutical Merger

This case explores supply base integration following the merger of two large pharmaceutical companies in the US and UK. The planning stages for supply base integration began within two months after the merger was announced. Integration of the supply base and purchasing was targeted to result in a 10% cost reduction in spend over a three year period. This target was exceeded in less than three years.

A team of 80 sourcing group managers with representatives from each merging company was formed to integrate the supply base. Teams of buyers provided support to the sourcing group manager (SGM) team. The SGM team categorized purchases into seven major areas: 1) manufacturing, 2) commercial and general for North America, 3) commercial and general for Europe, 4) capital equipment, 5) information

technology, 6) R&D, and 7) international. The SGM team performed a spend analysis to determine what was being purchased from which suppliers within each of the seven areas.

The exact number of suppliers used prior to the merger is not certain, but is estimated it to be at least 120,000 total direct suppliers for all of the spend categories across the two companies. About two-thirds of the suppliers were common between the two companies. Using a commodity coding process, the SGM team focused on identifying cases of identical purchases with multiple suppliers across the two heritage companies. The goal was to consolidate spend if possible to one common supplier for each commodity group. In addition, when both companies were purchasing identical items from the same supplier, the team determined which company had the better contract terms in relation to the lowest price. This was the starting point for negotiation or bidding to select the supplier for the merged company. The suppliers were then evaluated for performance in assurance of supply, quality, service, cost and innovations. Those suppliers who scored the highest were given the opportunities to bid for new business from the merged company. Within three years after integration, the supply base was reduced by 50%. The retained suppliers were either large multinational suppliers or small diverse suppliers. The greatest impact was on medium-sized suppliers who were removed from the supply base.

The merger was also used as an opportunity to create a more strategic purchasing organization for the new company. Prior to the merger, an estimated 40% of spend was done without any purchasing involvement. Purchasing was primarily a site-level support function. New purchasing systems and information technology tools were developed or adopted as a result of the merger that facilitated the move to strategic purchasing. For example, an e-procurement system was adopted to allow for the spend tracking that was critical to the integration process and control of purchasing spend. However, integration resulted in a reduction of the number of employees in purchasing and purchasing administrative costs. The company would not share the actual number of purchasing positions lost. As a result, the level of spend per purchasing employee

increased by 32%.

IV. Discussion and conclusions

In both cases, the external pressures to deliver productivity increases among shareholders after M&A appear to be strong drivers of change. Reorganization of the purchasing functions occurred after both M&As. In the pharmaceutical merger, purchasing had been decentralized before the merger. However, the pressure to quickly deliver costs savings facilitated the adoption of e-procurement systems and centralized purchasing to leverage spend.

Integration of the purchasing function and the supply base were important sources of savings for both companies after the M&As. By reducing the supply base and consolidating purchasing with fewer suppliers, the companies and their suppliers were able to benefit from economies of scale. The result was a smaller supply base with larger, more capable suppliers. In the case of the pharmaceutical merger, the companies had a high number of overlapping suppliers and single sourcing strategy. The company was able to reduce the supply base to a greater extent than the automotive acquisition. In the automotive case, the integrated company maintained two or more suppliers for all components. After integration, the amount of spend per buyer increased with fewer suppliers. Both companies' purchasing administration costs were reduced because they needed fewer buyers.

Gathering and analyzing spend data was an important part of the supply base integration process. Both companies used a team approach involving members of each company to review suppliers. The teams categorized suppliers, analyzed spend, and determined which suppliers to retain.

This exploratory study is at its beginning stage. There is much to learn about purchasing and supplier integration after mergers and acquisitions. For example, what are the best ways to integrate the supply base? What barriers are encountered in the

integration process? What impact does integration have on long term supplier performance? These are questions that we will attempt to address as we continue with the case studies in this exploratory research.

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