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Chrysler Leverages Its Suppliers' Improvement Suggestions

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We examined Chrysler's SCORE (supplier cost reduction effort) supplier-suggestion process from the perspectives of Chrysler and its suppliers. Chrysler used SCORE to save over \$2 billion and to build collaborative relationships with its suppliers. In our study, we observed four elements in Chrysler and its suppliers' organizations that contributed to SCORE's success: (1) designating a process champion, (2) engaging suppliers in the process, (3) motivating employees, and (4) facilitating evaluation and implementation. Companies designing a supplier-suggestion process should consider ways to reduce delays during evaluation, to minimize the number of low value suggestions, and to involve the entire supply chain.

(Industries: transportation. Organizational studies: effectiveness, performance.)

Agile supply chains whose members can devise, evaluate, and implement real improvements are likely to gain long-term competitive advantages. For this reason, many companies help their suppliers to improve their performance and capabilities (Krause 1997, Krause et al. 1998, Watts and Hahn 1993). They do so in several ways. Buyers provide feedback, offer training, share information, and conduct improvement events at suppliers' facilities (Dyer 1996, Krause 1997, Watts and Hahn 1993). However, savvy supply managers realize that ideas for improvements should flow downstream as well as upstream in the supply chain. Suppliers are excellent sources of ideas leading to higher quality, faster delivery, and lower supply chain costs.

In 1998, Chrysler (now a division of Daimler-Chrysler) and its suppliers removed over \$2 billion in costs from their supply chain (Walker 1998). These savings came from real improvements and cost avoidance as part of SCORE (supplier cost reduction effort) rather than from price-reduction ultimatums. Sources of sav-

ings included reductions in packaging materials; use of alternative raw materials, such as plastics; and suppliers' use of lean manufacturing techniques.

Chrysler used SCORE to solicit, track, analyze, evaluate, and provide feedback on suppliers' proposals for making improvements. Improvement suggestions could address many aspects of the supply chain. Suppliers could suggest redesigning products, changing supplier processes, modifying buyer processes, reducing waste in packaging, improving logistics, and redesigning administrative processes governing buyer and supplier interactions. Conceptually, supplier-suggestion processes, such as SCORE, are similar to employee-suggestion processes that are designed to increase employee involvement.

Large companies, such as PPG, Nortel, Honeywell, and Delphi, have formal supplier-suggestion processes (Phillips 1999, Reilly 2000). However, the supply-chain literature provides little guidance on how to design effective supplier-suggestion processes and how to deploy these processes upstream in the supply chain. The

published descriptions of supplier-suggestion processes focus on the buyer's organization without exploring suppliers' perspectives (Dyer 1996, Walker 1998).

SCORE Overview

In 1989, Chrysler started SCORE to save money, reduce waste, and encourage its suppliers to improve (Dyer 1996). Although initially only for first-tier production-materials suppliers, by 1998 SCORE included all of Chrysler's direct suppliers. The SCORE process was a formal mechanism for soliciting improvement proposals from suppliers, for analyzing and evaluating the proposals, for generating engineering change orders if needed, and for ensuring approved proposals were implemented. In addition to reducing costs, Chrysler wanted to move away from adversarial buyer-supplier relationships toward collaborative ones with its first-tier suppliers. In its SCORE philosophy, Chrysler emphasized sharing benefits to build collaborative relationships with its suppliers (Dyer 1996, Fitzgerald 1997).

Each year Chrysler set SCORE goals for its suppliers. In 1998, the SCORE goal was for all first-tier production-materials suppliers to reduce their costs by five percent. Chrysler measured SCORE performance as suppliers' reduced costs from approved SCORE proposals. Suppliers had to lower prices to Chrysler equal to the saving from approved SCORE proposals up to five percent of price. Chrysler and its suppliers shared cost savings above five percent of price. Chrysler included SCORE performance in its supplier overall performance rating scale. SCORE performance counted for 15 percent of the overall rating. Quality, delivery, technology, and customer service were the remaining factors, each counting for a percentage of the overall rating. Chrysler used specific goals and measurement criteria for each factor. It calculated a supplier's overall performance rating by adding the percentages for each of the five factors.

Chrysler encouraged suppliers to look for savings by (1) proposing product design changes, (2) reducing material-handling and transportation costs, (3) exploring internal opportunities, (4) redesigning work on the

factory floor, (5) lowering the cost of purchases, (6) redesigning business practices, and (7) identifying other opportunities. Suppliers could submit SCORE proposals in any of these seven areas. Suppliers earned SCORE credit for approved proposals that resulted in either hard or soft savings. Hard savings were reductions to current costs, such as reducing the number of parts in a subassembly, reducing inventory by adopting cellular manufacturing, and increasing the number of parts per shipment by redesigning packaging. Soft

In 1998, Chrysler and its suppliers removed over \$2 billion in costs from their supply chain.

savings avoided future costs rather than reducing current costs. An example of soft savings was reducing the cost of tooling before production began. When Chrysler approved a SCORE proposal, the supplier had to immediately reduce the price it charged Chrysler. This motivated suppliers to implement approved proposals quickly.

To facilitate the flow of information about SCORE within Chrysler and with its suppliers, Chrysler used an online tracking system based on Lotus notes. Usually, suppliers' personnel accessed the system via the Internet and submitted SCORE proposals. In some cases, buyers at Chrysler entered proposals for suppliers they managed. Although not a SCORE requirement, most suppliers reviewed their proposals with a buyer at Chrysler before submitting them. Once the proposals were in the system, a Chrysler financial analyst verified the cost savings. The analyst immediately approved financially viable proposals that did not change the product or process. A Chrysler engineer reviewed proposals to change production materials, product design, or the supplier's production process. If necessary, Chrysler's engineering department would do testing and issue change orders. After Chrysler approved a proposal, a Chrysler SCORE coordinator worked with the supplier and the appropriate buyer to implement the changes.

Research Approach

As researchers, we conducted this study to understand the elements contributing to SCORE's success. We

Key Elements	Chrysler's Approach	First-Tier Suppliers' Approach
Designating a process champion	<ul style="list-style-type: none"> • Establish a strategy • Develop the suggestion process • Manage the suggestion process 	<ul style="list-style-type: none"> • Monitor performance • Communicate with top management • Develop internal cost-reduction processes
Engaging suppliers in the process	<ul style="list-style-type: none"> • Exhibit a collaborative attitude • Include savings performance in suppliers' overall rating • Share benefits with suppliers 	<ul style="list-style-type: none"> • Solicit ideas from second-tier suppliers and include contributions in their overall rating
Motivating employees	<ul style="list-style-type: none"> • Communicate importance • Set specific company-wide goals • Measure internal performance • Recognize high performing employees 	<ul style="list-style-type: none"> • Emphasize customer request to gain credibility • Set internal cost-reduction goals • Measure internal performance
Facilitating evaluation and implementation	<ul style="list-style-type: none"> • Use information system for monitoring • Encourage open communication • Focus on reducing processing time 	<ul style="list-style-type: none"> • Use continuous improvement tools to improve internal operations • Identify product design changes • Follow up on progress by champion

Table 1: Four elements were evident in Chrysler and its suppliers' organizations. Chrysler and its suppliers used slightly different approaches to accomplish each element.

gathered data by interviewing Chrysler personnel and representatives from six first-tier suppliers of production materials. We interviewed the Chrysler personnel in 1998 and 1999. They told us how to contact several top SCORE performers. We interviewed supplier representatives in 1999 regarding their participation in the 1998 SCORE process. They had been responsible for communication between their companies and Chrysler with respect to SCORE. The 1999 annual sales for these suppliers ranged from \$1 billion to over \$16 billion. Two of those we included in the study produced metal products; four produced interior systems.

We gathered data using structured interviews, interviewing Chrysler employees and two supplier representatives in person and the rest by phone. We asked the Chrysler employees the following questions:

- (1) What is the history of SCORE?
- (2) Can you describe the SCORE process?
- (3) How is SCORE evaluated and used by DaimlerChrysler?
- (4) What types of suppliers participate in SCORE?
- (5) What factors have contributed to the success of SCORE? Why?
- (6) What barriers have been encountered with SCORE? Why?
- (7) What are the characteristics of the most successful SCORE participants?
- (8) What factors contributed to their success?

We asked the supplier representatives the following questions:

- (1) When was your company first involved in SCORE?
- (2) What processes are used within your company to participate in SCORE?
- (3) What factors facilitate SCORE?
- (4) What could be improved with SCORE?
- (5) What programs, if any, do you have with your suppliers? Please describe these.

We analyzed the data using the open-coding qualitative-research techniques described by Strauss and Corbin (1998). We reviewed the interview transcripts for concepts and grouped similar concepts to identify patterns and to draw conclusions.

Elements Contributing to SCORE's Success

We found four key elements in Chrysler and in its supplier organizations that contributed to the success of SCORE: (1) designating a process champion, (2) engaging suppliers in the process, (3) motivating employees, and (4) facilitating evaluation and implementation. Although the elements are similar in Chrysler and in supplier organizations, they used slightly different approaches to accomplish some of them (Table 1).

Designating a Process Champion Within Chrysler

Cost-reduction activities compete with other organizational tasks for resources. Unless an influential person champions the supplier-suggestion process, the organization is likely to give precedence to other activities, such as managing on-going operations or developing new products. Convincing design engineers to test modified designs and to change specifications can be difficult (Hartley 2000). The champion of the supplier-suggestion process must gain support from employees and top managers to acquire resources for cost-reduction activities.

We found that Chrysler and all six first-tier suppliers had designated SCORE champions within their organizations. Within Chrysler, the SCORE champion was the manager of the value-management and continuous-improvement department in Chrysler's corporate procurement and supply group. The Chrysler SCORE champion was responsible for establishing the SCORE strategy, developing the SCORE process, measuring performance, reporting results, conducting training, and providing rewards and recognition. Bernie Bedard, Chrysler's SCORE champion, contributed to the dramatic increase in SCORE savings from \$150 million to \$2 billion from 1994 to 1998. Bernie was highly committed to SCORE, enthusiastic, and was respected by suppliers.

Designating a Process Champion in Suppliers' Organizations

In our interviews, supplier representatives stressed the importance of designated champions within their organizations. One commented that to gain organizational support, a supplier cost-reduction program needed a "charismatic inspirational-type leader." Another stated that his company's SCORE performance greatly improved when the company made someone responsible for SCORE.

Although the champions' roles varied somewhat among suppliers, all of them monitored the progress of their SCORE submissions, tracked their companies' progress toward SCORE goals, and kept their top managers informed about this progress. One described his

job as mirroring that of the SCORE employees within Chrysler. That is, he was responsible for educating the employees in his company about the SCORE process and its importance, and for making their participation fun.

Chrysler's Approaches for Engaging First-Tier Suppliers in SCORE

Suppliers must expend resources to create ideas, to submit feasible proposals, and to implement approved proposals. Chrysler was very successful in motivating suppliers to participate in SCORE. In 1998, over 90 percent of first-tier suppliers of production materials submitted proposals. These, along with proposals from suppliers of nonproduction materials and services, resulted in over 13,000 SCORE submissions, an increase from 9,345 submissions in 1997. Chrysler used a variety of methods to engage suppliers in the SCORE process. However, the supplier representatives agreed that Chrysler's collaborative attitude and its inclusion of SCORE in rating the suppliers' performance were the key factors that motivated the suppliers to participate.

Chrysler allowed suppliers to keep 50 percent of any savings attained that exceeded their annual SCORE cost-reduction goals. During interviews, the supplier representatives focused on Chrysler's collaborative attitude rather than on SCORE's monetary benefits. In fact, only one of the six representatives specifically mentioned monetary gains. However, five of the six representatives stated that Chrysler's collaborative attitude motivated their organizations to participate in SCORE. One explained, "Chrysler gets more savings (than other customers) because of their attitude." Several supplier representatives commented that their other customers required reductions in purchase-order prices without considering suppliers' profit margins. Because SCORE truly reduced costs and did not simply shift costs to suppliers, the representatives claimed that Chrysler obtained greater savings than their competitors did.

Chrysler used measurement and accountability to motivate suppliers by including SCORE performance in suppliers' overall performance ratings. Successful

efforts to develop suppliers require suppliers to improve to retain or increase their sales (Krause 1997, Handfield et al. 2000). Chrysler used a similar approach. For a supplier to be retained by Chrysler in the long run, it needed an overall rating of 90 percent. If a supplier did not participate in SCORE but had otherwise perfect performance, it would get a rating of 85 percent. Chrysler considered awarding new business to suppliers that had an overall performance rating of 95 percent or greater.

First-Tier Suppliers' Approaches with Their Suppliers

Although Chrysler found that it was essential to engage their direct suppliers in SCORE, this was not the case for the first-tier suppliers at the time of our interviews. Four of the supplier representatives acknowledged that they depended on their suppliers for some SCORE opportunities. However, only two had established formal processes for obtaining supplier suggestions, and they modeled them after SCORE. They also integrated their suppliers' performance in reducing costs into the suppliers' overall performance ratings.

These two first-tier suppliers reported that 50 to 70 percent of their suppliers submitted proposals, but only 10 to 20 percent met their cost-reduction goals. Further research may reveal why goal attainment was low. Initial difficulties in learning how to identify and implement cost-reductions may be a normal part of the suggestion-process life cycle; during its first few years, SCORE had similar results. However, the first-tier suppliers devoted fewer resources to their suggestion processes and had less advanced systems than Chrysler. Research on supplier development suggests that upstream suppliers may lack the technical capabilities and resources needed to make improvements (Handfield et al. 2000). We did not study what elements the second-tier suppliers' organizations used.

Motivating Chrysler's Employees

In addition to engaging its suppliers, Chrysler had to engage its own employees in the SCORE process.

Chrysler's buyers had to be committed to SCORE to convince suppliers of the importance of participating, and they had to be open to suppliers' ideas. Chrysler employees in finance, engineering, quality assurance, and manufacturing had to evaluate proposals and change their products and processes. A Chrysler product-design engineer, for example, might be called upon to evaluate proposed changes to a part that he or she had initially designed and have to overcome the natural resistance to change.

Chrysler and its suppliers used internal goals and performance measurement to motivate their employees. Each functional area had its own SCORE goals but

Each year Chrysler set SCORE goals for its suppliers.

SCORE was considered a Chrysler initiative. By persuading the functional areas that SCORE was an important companywide process supported by top management, Chrysler insured that each function would allocate resources to work on SCORE proposals.

In addition to setting goals and measuring performance, Chrysler visibly rewarded its employees and suppliers who performed well. For outstanding SCORE performance, Chrysler gave its employees special luncheons and the use of new Chrysler vehicles. It recognized them with large banners in the workplace and at annual celebrations attended by headquarters employees. The high-profile SCORE celebration in 1998 included members of the Detroit Red Wings hockey team, which had won the Stanley Cup that year. A study of employee-suggestion processes showed that token rewards and recognition are often components of successful processes (Ramelli and Cooksey 1991). Although Chrysler found that recognizing its employees was effective, none of the supplier representatives mentioned recognition as an important motivator within their organizations.

Motivating Suppliers' Employees

The supplier champions had to motivate the supplier employees to participate in the SCORE process. Chrysler's importance as a customer lent credibility and a

sense of urgency to SCORE activities. Within each supplier's organization, individuals and teams had to identify improvement opportunities, develop SCORE proposals, and implement approved proposals.

All six of the suppliers we studied set specific goals and measured performance against those goals to increase employees' participation. One champion provided weekly progress reports to plant managers and to top managers to raise their awareness of SCORE and to promote competition among manufacturing plants. Competition among the supplier's plants increased participation in the SCORE process.

Facilitating Evaluation and Implementation Within Chrysler

The online SCORE tracking system facilitated evaluation. Other automotive companies have also developed Web-based systems to facilitate supplier suggestion processes (Murphy 1999). Such an information system reduces the possibility that proposals will get lost on someone's desk. Chrysler's SCORE champion and the suppliers' SCORE champions all tracked the progress of proposals and intervened when proposals stalled.

Cross-functional communication between Chrysler's employees and the supplier's employees facilitated evaluation. Four of the supplier representatives credited the open communication with Chrysler employees with contributing to SCORE's success. For example, one commented, "Open communication is the big difference (in performance)." Another explained that meeting regularly with Chrysler's engineers enhanced their mutual trust and understanding. This facilitated the evaluation of proposals. However, another supplier representative stated that, although communication with some buyers at Chrysler was excellent, other buyers did not seem to understand the SCORE process. This representative believed that Chrysler's frequent changes in personnel sometimes made communication about SCORE proposals difficult.

Although the approval rate for SCORE proposals was 83 percent in 1998, suppliers thought that Chrysler took too much time to evaluate them, on average, 88 days. The proposals spent most of this time in a queue

waiting to be processed. However, 88 days was 33 percent lower than the 1997 processing time. SCORE's success may have contributed to the long processing time. In 1998, Chrysler received over 13,000 SCORE proposals. Those needing engineering review and testing took 25 to 30 percent longer than those that did not.

This long processing time is a concern. Studies of employee-suggestion processes show that companies must quickly acknowledge, evaluate, and provide feedback on suggestions to insure that employees continue to participate (DuPont 1999, Ramelli and Cooksey 1991). Supplier-suggestion processes probably also require prompt responses. For instance, one supplier representative commented that "to submit the ideas is costing us time and energy, and it won't work if the proposal is sitting on someone's desk not being worked on." Thus, the time lost waiting in a queue represents lost opportunities for savings. Chrysler made reducing processing time a goal and succeeded in reducing processing time by 43 percent in 1999.

Supplier-Facilitated Evaluation and Implementation

Suppliers used structured programs to identify and evaluate ideas to submit to SCORE. Three of the supplier representatives said that ideas came primarily from efforts to improve manufacturing operations. They described using Kaizen events, value analysis, and value engineering to meet SCORE goals. Kaizen events are structured improvement efforts that typically take one week or less. To develop SCORE proposals, one supplier identified the least profitable products at a corporate level. A cross-functional team used Kaizen events to identify ways to reduce costs on those products. Two suppliers took a decentralized approach: Instead of establishing corporate cost-reduction programs, they asked their plants to identify and conduct their own improvement activities. A cross-functional team reviewed plant-level proposals before submitting them to Chrysler.

Another supplier found SCORE opportunities in a combination of changes in product design and improvements in manufacturing. At the corporate level, cross-functional teams identified lower-cost designs

using various techniques, such as product benchmarking and product teardowns. To ensure fresh ideas, the teams relied on a design engineer other than the original design engineer.

Supplier champions followed up on the progress of their proposals toward approval with Chrysler buyers. All six suppliers used the SCORE information system to track their proposals. Proactive suppliers could work with Chrysler employees to move stalled proposals along. If a proposal appeared to be stalled, the supplier champion would meet with the person at Chrysler who was evaluating the proposal. The supplier champion could then answer questions concerning the proposal. The supplier representatives found such meetings to be very helpful in gaining approval for their proposals and in determining whether they needed to submit further proposals to meet SCORE goals.

Implications for Managers

An effective supplier-suggestion process can remove waste from the supply chain and thus benefit both buyers and suppliers. Based on our study of SCORE, we believe buyer and supplier organizations should have four key elements to successfully use a supplier-suggestion process: (1) designating a process champion, (2) engaging suppliers in the process, (3) motivating employees, and (4) facilitating evaluation and

A supplier cost-reduction program needed a "charismatic inspirational-type" leader.

implementation. These elements are required in the buyer's and suppliers' organizations. The buyer, its suppliers, and the suppliers' suppliers must invest in the suggestion process together to reduce costs.

However, to reduce costs within the supply chain, managers must also consider the alternative of demanding price concessions from their suppliers. Powerful buyers, such as Wal-Mart and Ford, demanded that their suppliers reduce prices or risk a loss of business (Smith 1995, Negley 2001). After its acquisition by Daimler Benz, Chrysler reverted to this strategy for reducing costs. In December 2000, the new CEO of

DaimlerChrysler, Dieter Zetsche, demanded a five percent purchase-price reduction from its suppliers beginning in January 2001 with a further 10 percent cut in 2002 (Green 2000).

A powerful buyer can force suppliers to comply with such demands and quickly reduce its purchasing costs. By forcing its suppliers to make such price concessions, the buying organization shifts the entire burden of reducing costs to its suppliers. Suppliers are left to find ways to reduce real costs independently or suffer margin losses. The buyer does not have to invest in processes, systems, and personnel to manage the supplier-suggestion process. Its administrative costs are therefore lower than with a supplier-suggestion process.

However, demanding price concessions is risky. Only a powerful buyer is likely to gain compliance. Relationships suffer when suppliers believe that the buyer is profiting at their expense (Smith 1995, Negley 2001). Landry (1998) writes that balancing power rather than leveraging power is a characteristic of successful buyer-supplier alliances in the automotive industry. In addition, suppliers may make price concessions without effectively removing waste from the supply chain and without taking advantage of many opportunities to reduce costs. Some ways of reducing costs, such as changing specifications, substituting materials, and redesigning packaging, may affect the product's quality or performance and require the buyer's approval. By simply requiring suppliers to make price concessions, buyers provide no mechanism to help suppliers navigate the buyer's approval process. A supplier-suggestion process is a formal mechanism that ensures that the buyer's staff members evaluate proposals. Thus, after weighing the costs and benefits, many organizations will find a supplier-suggestion process to be the preferred alternative for reducing their costs.

Supplier-suggestion processes can be improved. Many suffer from delays in processing and approving proposals. Companies can reduce these delays in several ways. To avoid being overwhelmed with low value suggestions, the buyer could set a threshold value for suggested savings opportunities. Alternatively, it could limit participation to its strategic suppliers. Another alternative would be to evaluate only

changes that affect product quality or performance, leaving suppliers to make other changes on their own.

To remove waste effectively, supply-chain members could institute a single chain-wide suggestion process, thus reducing duplication of effort. However, to do this, members would have to share detailed cost information, which would require a high level of trust. In addition, some upstream suppliers might need training in using continuous-improvement tools, such as Kaizen, value analysis, value engineering, and product benchmarking.

Because we focused on a single suggestion process and a small number of suppliers, we consider the results of our study to be exploratory. In addition, the six suppliers we interviewed were good SCORE performers based on 1998 measures. Because we did not include suppliers that did not perform as well on SCORE, the elements we describe may not explain all of the differences in SCORE performance among suppliers. However, our study shows that a successful supplier-suggestion process can reduce supply-chain costs. Larger-scale studies are needed to identify effective cost-reduction initiatives that can be applied across the supply chain.

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