

CHAPTER 2

Supply Strategy

Topics Covered

Levels of Strategic Planning

Major Challenges in Setting Supply Objectives and Strategies

Strategic Planning in Supply Management

Risk Management

Operational Risk: Supply Interruptions and Delays

Financial Risk

Reputational Risk

Managing Supply Risks

The Corporate Context

Strategic Components

What?

Quality?

How Much?

Who?

When?

What Price?

Where?

How?

Why?

Conclusion

Questions for Review and Discussion

References

Cases

2-1 Spartan Heat Exchangers Inc.

2-2 Sabor Inc.

2-3 Ford Motor Company: Aligned Business Framework

QUIZ RESPONSES

- E 1. Linking current and future needs with current and future markets is the primary focus of:
- a. internal users of purchased goods and services.
 - b. each individual buyer.
 - c. an effective marketing strategy.
 - d. an effective organizational strategy.
 - e. an effective supply strategy.
- C 2. If organizational objectives and supply objectives are incongruent:
- a. it will be easy to translate organizational objectives into supply objectives.
 - b. it is likely that many organizational resources will be made available to supply.
 - c. it will be difficult to translate organizational objectives into supply objectives.
 - d. it will be easy to define quality, quantity, price, delivery and service goals.
 - e. it will be easy to convey objectives to suppliers.
- A 3. Strategies designed to make available the knowledge and capabilities of supply chain members to others in the buying organization are called:
- a. supply-chain-support strategies.
 - b. environmental-change strategies.
 - c. assurance-of-supply strategies.
 - d. risk-management strategies.
 - e. cost-reduction strategies.
- D 4. The answer to the question, “How much to buy?” depends on:
- a. the relative power of each supply chain member.
 - b. decisions made inside the buying organization.
 - c. decisions made inside the first tier supplier.
 - d. the level of uncertainty throughout the supply chain.
 - e. trends in inventory management.

- D 5. Supply strategies that are designed to exploit market opportunities and organizational strengths to give the buying organization an advantage in the marketplace are known as:
- risk-management strategies.
 - assurance-of-supply strategies.
 - cost-reduction strategies.
 - competitive-edge strategies.
 - supply chain support strategies.
- B 6. Strategic planning can be defined as:
- how each functional area will achieve its specific goals and objectives.
 - an action plan to achieve specific long-term goals and objectives.
 - an action plan to achieve specific operational and tactical goals.
 - a procedure for allocating resources to appropriate functions in the organization.
 - taking big risks to maximize current period benefits.
- A 7. To effectively manage supply risks, the supply manager must:
- identify and classify risks, assess the potential impact, and develop a risk mitigation strategy.
 - inform the corporate risk officer of a potential risk, await instructions, and implement the directive.
 - seek input from senior executives in other functional areas, propose a risk mitigation plan, and await instructions from senior management.
 - review the commodity strategy, revise it as needed, and implement the strategy revision.
 - confer with the organization's management consultant, provide all requested data, and implement the consultant's plan.
- C 8. Linking supply strategy to corporate strategy is:
- non-essential in most types of organizations.
 - essential in all organizations, and most have the mechanisms to link them.
 - essential in all organizations, and many lack the mechanisms to link them.
 - essential only in manufacturing, and most have the mechanisms to link them.
 - essential only in the service sector, and most lack the mechanisms to link them.

- E 9. Three major challenges exist when setting supply objectives and strategies:
- a. identifying internal stakeholders, building consensus among these stakeholders, and selling top management on the results.
 - b. adopting efficient electronic transaction systems, designing effective strategic supply processes, and increasing internal compliance with both.
 - c. hiring professionals educated specifically in supply management, providing them with technical expertise, and developing leadership skills for the long-term.
 - d. emphasizing strategic cost management, involving key suppliers early in the process, and measuring the reduction in total cost of ownership.
 - e. effectively interpreting corporate and supply objectives, selecting appropriate actions to achieve objectives, and integrating supply information into organizational strategies.
- D 10. The key question in strategic supply management is:
- a. How can the supply manager develop a network of suppliers that contribute to the supply department's goals?
 - b. How can first tier suppliers contribute to the buying organization's objectives and strategy?
 - c. How can first, second, and subsequent tiers of suppliers contribute to the buying organization's objectives and strategy?
 - d. How can supply and supply chains contribute effectively to organizational objectives and strategy?
 - e. How can supply strategy be kept separate from, but equal to, organizational strategy?

True and False

- F 1. Supply managers may be able to provide information to identify risks to the organization, but they can seldom develop strategies to mitigate those risks.
- T 2. Assurance-of-supply strategies emphasize quality and quantity over all other considerations.
- T 3. The actions of supply managers may impact the organization's reputation negatively or positively.
- T 4. Some operational risks in a supply chain are beyond the control of the purchaser or supplier, and some are within their control.
- F 5. The most fundamental question facing an organization is whether to buy domestically or globally.
- F 6. The three levels of strategic planning are: individual, function, and corporate.
- T 7. Environmental-change strategies are designed to anticipate and recognize shifts in the economy, the organization, people, laws, governmental regulations, and systems availability.
- F 8. There is increased emphasis on purchase transactions and less on strategic supply management processes.
- F 9. The trend is to decentralize risk management and allow each function to assess its risk exposure and develop strategies to best manage functional risks.
- T 10. If a supply manager identifies and eliminates the causes of uncertainty and risk in the supply chain, the organization may be able to reduce the level of inventory.

Case 2-1: Spartan Heat Exchangers Inc.

Teaching Note

IMMEDIATE ISSUE

Prepare strategy for the materials group to support the new business strategy of the company.

BASIC ISSUES

1. Congruency between corporate and functional strategies
2. Operations transformation
3. Supply chain management
4. Inventory management
5. Strategic planning

SUGGESTED STUDENT ASSIGNMENT

If you were in the position of Rick Coyne, what would be your response to Max Brisco's request? What recommendations would you make and why?

POSSIBLE DISCUSSION QUESTIONS

1. What are the implications for the change in corporate strategy on Spartan's operations? How easy a task will it be to make this change?
2. How does a change from a job shop to a flow operation impact the requirements on the materials function and Spartan's suppliers? What changes will have to be made?
3. Is it reasonable to expect an improvement inventory turns from four times to twenty times? How can this be accomplished?
4. Should Rick Coyne commit to a 10 percent reduction in prices from suppliers? Do you think this target is achievable? If so, how?
5. Can we cut lead times from 14 weeks to six weeks? What changes will have to be made to Spartan's the supply chain to achieve this objective?

ANALYSIS

Senior management has decided on a wholesale change to the Spartan's corporate strategy. They intend to move the company from one that competes on customized products (flexibility of design and service) to a company that competes on low cost and fast delivery lead times (standardized products). It is not the selection of the new strategy that is at issue in the case, it is the execution of

the strategy in operations and supply. Students, therefore, need to recognize the implications of the change in corporate strategy for company operations. Some examples are provided in Table TN-1.

TABLE TN-1
IMPLICATIONS OF CHANGE IN STRATEGY
FROM MAKE-TO-ORDER TO MAKE-TO-STOCK

	Make-to-Order	Make-to-Stock
Basis of competition	<ul style="list-style-type: none"> • Custom design 	<ul style="list-style-type: none"> • Availability/delivery lead time, cost
Margins	<ul style="list-style-type: none"> • High 	<ul style="list-style-type: none"> • Low
Products	<ul style="list-style-type: none"> • Custom 	<ul style="list-style-type: none"> • Standard
Production Scheduling	<ul style="list-style-type: none"> • Flexible, custom orders 	<ul style="list-style-type: none"> • Level, fixed schedule
Finished goods inventory	<ul style="list-style-type: none"> • Limited 	<ul style="list-style-type: none"> • Some inventory held in stock in anticipation of customer orders and used to smooth production
Demand	<ul style="list-style-type: none"> • Highly variable 	<ul style="list-style-type: none"> • More stable across a limited range of products; production smoothed through the use of inventory
Labour	<ul style="list-style-type: none"> • Variable in workforce size; flexible skills and cross trained 	<ul style="list-style-type: none"> • Stable in size and composition; less skilled
Supply	<ul style="list-style-type: none"> • Many suppliers across a wide range of products and services 	<ul style="list-style-type: none"> • Narrower supply base and fewer types raw material requirements
Systems	<ul style="list-style-type: none"> • Flexible and simple 	<ul style="list-style-type: none"> • More rigid, low cost and capable of handling repeat transactions

To the credit of senior management, they appear to recognize that appropriate changes will have to be made to operations and supply. Furthermore, certain deliverables have been built into the business plan and the tough part will be executing the strategy. Rick Coyne, the materials manager, needs a plan that will support a reduction in lead times, low supply costs and higher inventory turns.

Inventory Management

Spartan is currently turning its inventory four times per year, which is not bad for a company in a make-to-order industry segment. The case states that raw materials are \$3.5 million, of which 40 percent, or \$1.4 million was in raw material and the balance, \$2.1 million, was in WIP. At four turns per year, the company purchases of raw materials are approximately \$14 million, or 56 percent of revenues. Meanwhile holding costs of the inventory would be approximately \$875,000 per year, assuming 25 percent inventory carrying costs.

The corporate objective is to improve inventory turns to 20 times. Although a specific timeframe is not stated, it is presumably up to Rick Coyne to clarify how and when this objective will be met. This represents a significant improvement in performance, with targeted inventory levels of \$700,000, or a reduction of \$2.8 million, or 80 percent. Achieving this objective will require action in the following areas:

- Presumably, standardization of products will lead to standardization of raw materials and components. The case indicated that the company has approximately 350 vendors for raw materials. This number will have to be reduced substantially, maybe to as few as 20 to 40 suppliers. Consolidation of supply will make it simpler to schedule JIT delivery arrangements and vendor managed inventory relationships.
- Product standardization and a move to a line flow process should make production scheduling more predictable, thereby helping with raw material requirements planning.
- A major problem in achieving this objective will be management of the fulfillment processes, including materials management processes. There may be some concerns that more frequent supplier deliveries will create more work/transactions and add to material ordering and delivery costs. Rick needs to examine current fulfillment processes and make appropriate changes that are consistent with the new operations strategy of Spartan. For example, automating ordering processes with key suppliers through an Internet based system or EDI. This option becomes attractive as the company moves towards standardized raw materials and fewer suppliers.
- In the current job shop environment, production staff seem prepared to adapt any material available at any given point in time. For example, in the case of aluminum tubing, if the proper stock is not available, production staff will likely select something close to their requirements and cut it to length. The production staff will have to adopt a disciplined approach, using only specified material and documenting inventory usage in the materials system, in order to keep an accurate record of material on-hand. Setting up material staging areas as part of the new production layout can help with materials management.

Production Lead Times

In a make-to-order environment, material requirements cannot be determined until design is finalized. Production can be delayed by long raw material lead times. In a make-to-stock environment, the company should be able to forecast production requirements and avoid production delays caused by supply shortages. Long supply lead times can theoretically be managed in this environment, but may result in variability and necessitate investments in safety stock. For example, importing aluminum tubes from Europe versus using a local source. Rick will need to examine his supply lines and assess trade offs in the areas of lead time, safety stock and pricing.

Cost Reductions

One of the oldest purchasing strategies is standardization of purchases and consolidation of supply to achieve price reductions. Rick will have to accept that many of the company's existing supply relationships will have to be replaced with a smaller group of suppliers, responsible for higher dollar

value purchases, presumably in exchange for lower prices. Single sourcing may be an attractive option, in some cases.

Total cost of ownership considerations need to play a role in vendor negotiations. For example, JIT delivery arrangements and vendor managed inventories to keep inventory holding costs down.

Committing to a Plan

A key point is that there is not much that Rick can do independently of other people in the organization. He needs involvement and input from marketing and sales, engineering, production operations, finance/accounting and information systems. For example, before decisions can be made concerning supply base reductions and consolidation of purchases, Rick needs to know what products Spartan intends to make, what the expected demand will be and details regarding design and bills of material. He needs to understand Spartan's requirements fully – what will be bought (e.g., specifications), how much, and when.

The type and volume of information managed by the materials group will be changing. Consequently, other administrative functions, such as the finance/accounting and information systems groups also need to be involved. These areas can help with changes to fulfillment processes and assist with systems development.

Rick will need to address material control systems with production operations. Release of material into the production system will need to be controlled in a manner that supports integrity of the inventory data. Inventory warehousing and staging areas in the plant will likely need to be reviewed.

In the meantime, Rick can start collecting data about suppliers (e.g. delivery lead times, product lines, quality and costs). Which vendors are willing and capable of becoming a single source? This information will be useful when making assessments about future supply relations.

In short, it might be too early to start committing to specific financial objectives. Similar to the cross-functional approach used to develop the new corporate strategy, Max and Rick need to develop taskforce teams to implement and execute the strategy. It is reasonable to assume that the company can lower its costs and reduce inventories. However, timing and execution is going to take a lot of hard work, planning and cross-functional coordination. Negotiations with vendors and depleting existing inventories will also take several months.

Case 2-2: Sabor Inc.

Teaching Note

IMMEDIATE ISSUE

What strategy should Sabor Inc. follow to protect its future marconil needs?

BASIC ISSUE

What purchasing strategy can a purchaser of major raw materials take to protect itself over cycles of abundance and shortages?

SUGGESTED STUDENT ASSIGNMENT

If you were in the position of Ray Soles, what would be your assessment of the marconil situation and what strategy would you adopt?

POSSIBLE DISCUSSION QUESTIONS

1. What is the price that a purchaser has to pay for procurement flexibility?
2. How can supply be guaranteed in a period of market shortages?
3. What should the criteria be for establishing long-term contracts?
4. What are the real risks of being without marconil for Sabor?
5. Why are the suppliers interested in obtaining long-term contracts?
6. What strategies are available to Ray Soles in this situation?

ANALYSIS

The purpose of purchasing strategy is (A) internally to be congruent with and supportive of corporate strategy as well as an input into strategic threats and opportunities and (B) to assure that future markets will meet future corporate needs. This case is a fine illustration of the strategic role supply can play on both fronts.

It appears that Sabor, which traditionally has had as its core strength the provision of equipment capable of temperature control (heating and cooling) has moved into a different thrust.

TN-1

MARCONIL HISTORY AND PROJECTIONS
(In Millions of Dollars and Percentages)

Year	1	2	3	4	5	6	7	8
Marketing's Dollar Projections	1	15	40	86	103	123	148	178
Growth Percent Forecast		35%	37%	20%	20%	20%	20%	20%
Actual Dollar Sales	11	29	72	?	?	?	?	?
Growth Percent Actual	1100+	160	180	?	?	?	?	?
Alternative Growth Projections using Optimistic Dollars				156	312	562	900	1260
Alternative Growth Projections using Optimistic Percent				120	100	80	60	40
Optimistic \$				108	162	227	294	353
Optimistic %				+60%	+50%	+40%	+30%	+20%
Pessimistic \$				79	79	60	44	26
Pessimistic %				+10%	0	-20	-30	-40

The point is that marketing seems incapable of giving a decent forecast (the best they have done is 160% off and too low each time). Nor is purchasing in any position to create a more reliable forecast.

One thing is certain, however, Purchasing is responsible for supply for actual sales regardless of what those sales turn out to be. Thus, with respect to quantities, supply needs to worry about the extreme positions, rather than forecast.

From a company standpoint, the very best alternative would be the most optimistic scenario shown in TN-1. Were that to occur, filters would become the number one product in Sabor's line by the sixth or seventh year (actually only three or four years from now).

It is possible to look at the financial impact on the company of marconil filters (see TN-2) during the first three years. By the third year filter sales were contributing almost \$34 million to profit and provided a total of almost \$40 million to fixed costs and profits!

Extending these figures into the variety of forecasts provided in TN-1 suggests that potentially on the very optimistic side with sales at \$156 million for the current year contribution to fixed costs and profits could be \$89 million, and at \$562 million the contribution could be 320 million!

TN-2

**FINANCIAL IMPACT OF MARCONIL
ON SABOR INC.**

	Year 1	Year 2	Year 3
Filter Sales	\$11 million	\$29 million	\$72 million
Marconil Purchases lbs.	5,000	13,000	32,000
Marconil Purchases dollars	195,000	546,000	1,408,000
Sales/lb. of marconil	\$2,200	\$2,230	\$2,250
Sales/\$ of marconil	\$564	\$531	\$511
Marconil \$ as % of sales	1.77%	1.88%	1.96%
Manufacturing Cost 28% of sales (given)	\$3.08 million	\$8.12 million	\$20.16 million
Estimated Selling and Administrative 25% of sales (guess)	\$2.75 million	\$7.25 million	\$18.00 million
Contribution to Profit Before Tax	\$5.17 million	\$13.63 million	\$33.84 million
Contribution to Fixed Costs (Manufacturing and Sales and Administration) 10% (guess)	\$1.1 million	\$2.9 million	\$7.2 million

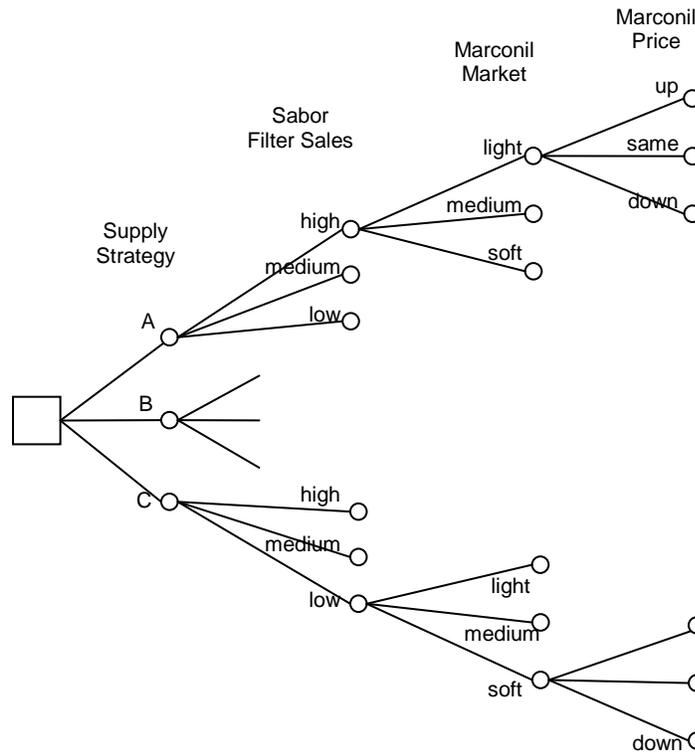
There is no profit information provided for Sabor's standard heating and air conditioning lines, but even at 10% of sales on \$800 million - \$72 million or \$728 million of non-marconil sales, an annual profit of \$73 million would be reasonable. Therefore, marconil potentially could be the pot of gold at the end of the rainbow!

Thus, the challenge for purchasing becomes to assure supply no matter what the sales demand turns out to be. The price of marconil is below two percent of selling price and is practically immaterial.

It is possible to create a decision tree for the potential scenarios which Sabor might face with respect to marconil as is done in TN-3. Thus, the supply strategy which needs to be developed should be able to deal with the full set of scenarios.

TN-3

MARCONIL PURCHASING STRATEGY
DECISION TREE



Broadly speaking, what is it that Ray Soles is most likely to get fired for? There are two major consequences of any purchasing strategy in the face of demand uncertainty. One is that purchasing fails to meet actual (not projected) demand and the company incurs opportunity costs.

The other is that purchasing commits too much and the company faces the actual costs of disposing of the excess. Let's examine the consequences of each possibility.

(A) Failure to provide enough marconil – 20,000 lbs. example

Suppose marconil sales could have sold 20,000 lbs of extra marconil (converted into filters) but supply was not available. These 20,000 pounds of marconil could have produced additional sales of about \$45 million in filters. (TN-1 - \$2,250 sales/lb). These \$45 million in sales could have contributed over \$25 million (\$25,650,000) in contribution to fixed costs and profits (TN-2 — 57% of sales).

(B) Provided too much material +20,000 lbs example

On the other extreme an overage of 20,000 lbs of marconil would have cost of approximately \$1 to \$1.2 million. One option would be to return this to the seller. Even without any return value as proposed by Bilt Chemical, this would be the maximum cost.

Other disposal options could be selling on the open market. A discount of ten percent would cost about \$120,000 and 20%, \$240,000. Holding on to the material (is there a shelf life?) at an annual carrying cost of 24% and an annual usage rate of 40 million lbs would mean a carrying cost of about \$72,000 for the average of three months that the full 1,200,000 would be carried.

A Comparison of Consequences

Under scenarios (A) and (B) an underage cost of over \$25 million compares to an overage cost of \$72,000 and this would suggest a service level of

$$\frac{K_U}{K_U + K_O} = \frac{\$25,000,000}{\$25,000,000 + \$72,000} = 99.7\%$$

Which, as expected, suggest that assuring availability is practically 100% essential.

What Scenario is the Very Best for Supply?

Given such high uncertainty on demand and supply, it is a good question to ask: Which scenario would provide the toughest challenge for supply?

As per TN-3 this would be the top combination of (1) filter sales high, marconil market tight and marconil price up.

If Ray Soles can develop a strategy that deals with this alternative, at least the worst consequences of underages would be avoided.

Therefore, let us define the requirements for a high sales scenario.

As per TN-1, this would be the \$156 million sales this year, \$312 million next year and \$562 million the year thereafter. Translating these sales dollars into quantities of maraconil gives the following figures assuming a sales volume of \$2,250 per pound of marconil.

This year 69,000 lbs.

Next year 139,000 lbs.

The following year 250,000 lbs.

Comparing these figures to current market capacities as per Exhibit 1 in the case shows:

	<u>Capacity</u>
Bilt Chemical	80,000 lbs.
Warton Inc.	40,000 lbs.
G.K. Specialties	20,000 lbs.
Total	140,000 lbs.

Given Sabor's current volume of 32,000 lbs (Exhibit 1 in the case) or about 23% of total industry capacity, the potential requirements of Sabor for the coming years greatly exceed the current three suppliers' capability of supplying. Potentially, at 250,000 lbs. two years from now Sabor would have to find additional capacity of 220,000 lbs., assuming no growth in demand from any other customers and users of the current three suppliers.

Thus, the challenge changes from: Should we sign a long-term contract or not to? How can we assure the industry will have sufficient supply if we need it? Even for the current year what the suppliers are proposing would fall far short of Sabor's marconil requirements.

The Capacity Challenge

Given the size of Sabor's potential marconil needs, the option of make or buy certainly deserves consideration.

If G.K. Specialties can economically invest in a 20,000 lb. plant and Warton in 40,000 lbs. and Bilt Chemical in 80,000 lbs., what are the economics of investing in a much larger facility? Given the profit margin on marconil filters it is quite possible that Sabor is better off investing in increasing filter sales than making its own marconil. Moreover, if the raw materials going into marconil are by-products of stable other processes, supply of these materials might also become an issue.

Given the reliance of Sabor's profit dreams on marconil supply, Ray Soles is woefully inadequately equipped right now to deal effectively with a comprehensive marconil supply strategy.

Without knowledge of marconil raw material markets and investments required for the make or buy question, about all Ray Soles can do in the short term is show willingness to purchase any quantities he can get his hands on and to work in the meantime on a serious proposal to Bilt Chemical.

Given that Bilt Chemical holds the patent and is large and has been a good supplier, the president of Sabor should probably meet with the president of Bilt Chemical. The discussion would be as follows. "Unfortunately, we at Sabor are unable to forecast with any accuracy what our marconil requirements are going to be over the next three to five years. We hope they will increase significantly, but we are not sure. Let's take a look at your lead times and investments required to get additional capacity on stream in a hurry. We are willing to commit a very significant percentage of

our marconil requirements to you, if you can assure us that, should very high requirements materialize, you will be able to supply.

This kind of message should be music to Bilt Chemicals's ears, because their patent position is really starting to pay off. Grabbing a customer like Sabor with such high growth potential is a smart move. If it turns out that Bilt Chemical requires extra funds to invest in additional plant, perhaps a joint venture is the way to go. With the high contribution that Sabor expects for filter sales, cash should not be a problem for Sabor.

CONCLUSION

The key points in this case are:

1. The role of supply strategy to contribute effectively to organizational goals and strategies.
2. The low cost of marconil and the high contribution from filter sales place emphasis on availability.
3. Ray Soles' job is not to forecast filter sales or marconil process or market conditions, but to assure supply no matter what happens.
4. It is already very late to be addressing the availability of marconil. It should have been on supply's radar screen earlier.
5. The current supply challenge clearly requires top management involvement.
6. The lack of information about marconil, costs, investments, raw materials, etc. is terrifying.
7. There still is an opportunity for supply to turn around and start doing what it should have been doing much earlier — start thinking strategically.

Case 2-3: Ford Motor Company Aligned Business Framework

Teaching Note

Tony Brown, senior vice-president of global sourcing at Ford Motor Company (Ford), was preparing to launch the company's new supply chain strategy – “Aligned Business Framework” (ABF). ABF was a bold step that would significantly change in the relationships between Ford and its suppliers. However, after decades of confrontational relationships with its suppliers, Tony faced a challenge of how to convince suppliers to accept his new strategy.

IMMEDIATE ISSUE

Getting buy-in from suppliers on a new supply chain strategy that would change buyer-supplier relationships from confrontational to collaborative.

BASIC ISSUES

1. Supply strategy
2. Buyer-supplier relationships
3. Supply base consolidation
4. Total cost of ownership
5. Automotive industry
6. Change management

SUGGESTED STUDENT ASSIGNMENT

1. As Tony Brown, how would you proceed with implementation of ABF?
2. How would you build trust with your suppliers and address their concerns regarding the new relationship between Ford and its suppliers?

POSSIBLE DISCUSSION QUESTIONS

1. Ford Motor Company is more than 100 years old? Why take the step to change supplier relationships now?
2. If you were a Ford supplier, how would you react to ABF? What would be your major concerns?
3. Is it possible for suppliers to take advantage of Ford under the ABF?
4. What are the costs to Ford if ABF fails?
5. How long do you think Tony has before he needs to start showing results from ABF?

6. How does Ford expect to get \$7 billion in annual cost savings from ABF?
7. With the significant challenges in the global automotive industry, is this the right time to implement ABF?

ANALYSIS

In August 2005 Ford was entering one of the most critical periods of its 100-year history. Its market share was declining, during the most recent 12 months the company's stock price had lost 40% of its value (declining from more than \$16 to \$10.50) and the company lost more than \$1 billion in the most recent quarter. If the company was to survive it needed a massive turnaround.

The importance of Ford's supply network is clear from the how much it spends with suppliers – \$70 billion on production parts and an additional \$20 billion on indirect purchases. As indicated in the data from the case, purchases represent approximately 50% of sales revenues. Additionally, Ford estimated that purchases from suppliers represented approximately 60% of the cost of a Ford vehicle.¹ It should also be noted that suppliers affect the competitiveness of Ford in areas other than costs, such as new product development, speed to market, quality and inventory levels. In many ways, a successful turnaround at Ford is dependent on its suppliers.

After decades of confrontational supplier relationships, the “Aligned Business Framework” (ABF) was an attempt by Ford to adopt a collaborative style, similar to the approach used by Toyota and Honda. Unlike Ford, both of these competitors were profitable and expanding their market shares globally and in North America, at the expense of the “Detroit 3.” However, Toyota and Honda had a history of collaboration with their suppliers and a track record. Ford did not and the questions for Tony Brown were how could he get suppliers to buy-in to his new supply chain strategy and how quickly could he deliver significant results?

As described in the case, the traditional approach by Ford was a request for annual price reductions from its suppliers in the range of 3%, without consideration for market conditions or the ability of the suppliers to sustain price reductions. Suppliers, concerned that Ford would change suppliers if the buyer felt he or she could get the part cheaper from a competitor, hesitated to invest in technology and capital, which affected both price and quality. In contrast, Toyota and Honda worked jointly with suppliers to identify opportunities to reduce waste in the supply chain, invested in capital and technology with a long-term perspective and focused on total cost of ownership, not prices alone. There should be ample knowledge from the students to talk about how Toyota managed its supply chain, which can be used during class discussion to contrast the two styles of supplier management (e.g., Ford vs. Toyota).

¹ Source: Amy Wilson, “Ford Wants to Repair Supplier Relationships,” *Automotive News*, vol. 82, no. 6,292, January 28, 2008, p. 8.

Toyota not only had a track record of supplier collaboration, but also had a much smaller supplier base. Consequently, not only did Tony have to change the nature of Ford's supplier relationships, he also wanted to reduce the total number of production suppliers by roughly 60%, from 2,500 to 1,000.

For Tony Brown there is a risk that, given Ford's historical relationship with its supply base, suppliers would see ABF as a new attempt by Ford to extract further price concessions. To participate as a preferred ABF supplier, will companies need to commit to price reduction targets upfront (e.g., cut your prices or no more future business from Ford)? Suppliers that do not sign-up risk losing all of their Ford business, which could result in plant closers and possibly bankruptcy.

Based on the data provided in the case, the ABC rule applies to Ford purchasing: approximately 200 of its 2,500 production suppliers represent \$35 billion or 50% of purchases. As indicated in the case, Tony expected to start ABF implementation on its high spend production commodities. An interesting aspect of ABF is that it focused on production (or direct) purchases and ignored opportunities on the indirect side. While direct purchases represented approximately 78% of total purchases, Ford likely has significant costs in areas such as healthcare and logistics that could yield substantial reductions in total costs.

Leading Change

A number of issues can be raised during class discussion concerning the challenge facing Tony Brown. The central issue in the case is how will suppliers react to ABF and how can Tony convince them to participate? It should be evident that Tony cannot successfully implement ABF single handedly. Two key aspects for ABF are executive leadership and a cultural change from top to bottom of the organization.

First, it will take extraordinary leadership from Ford executives to engage suppliers in ABF, starting with the CEO, Bill Ford (and subsequently Alan Mulally). However, it does not stop there. Executives in manufacturing operations, product development, engineering and finance all need to be actively engaged. To the extent that ABF is "Tony Brown's project," suppliers and Ford managers will see it as a short-lived fad and will expect Ford to return to its traditional approach as soon as Tony leaves his post as head of purchasing.

While Tony can layout the principles of ABF, it is the purchasing managers that handle the day-to-day contact with suppliers and award supply contracts. At the time of the case, Ford buyers were rewarded for achieving annual cost/price reduction targets. While a favorite comment by many of my students over the years during case discussions has been to "change the incentive system," this is certainly a situation where the reward (or incentive) systems need to be "aligned" with the new strategy and based on collaborative goals and total cost of ownership objectives. A major concern that should be addressed in class discussion is the ability of Ford buyers to adapt to the new way of doing business. My expectation is that a successful cultural change will not happen without replacing some buyers. At the buyer level, major challenge will be to move from a dictatorial style

focused on price concessions to a management style that is participatory and actively engages suppliers with cross-functional teams at Ford. In many ways the new role of the buyer will be to act more as a facilitator to extract maximum value from Ford suppliers and their collaborations with other members of the organization, such as new product development and manufacturing operations.

Lastly, selecting a supplier to be a member of the ABF network represents a long-term commitment if the new strategy was to be credible. In 2005, Ford buyers were able to competitively bid parts and they were able to select the suppliers with the most competitive proposals. How is it possible to ensure that ABF suppliers will continue to remain globally competitive in the areas of cost, technology, delivery and quality? What would happen if new, more competitive suppliers were identified based on global benchmarking data? This is an age-old problem of single sourcing – how to keep suppliers at the leading edge of technology and cost competitiveness. Ford will need to monitor supplier performance versus global benchmarks.

The Opportunity for Ford

Clearly Tony Brown and Bill Ford believe that the company's current supply management strategy isn't working, as indicated by Tony's comments in the case: "We have a problem with the business model in this industry. It is not working effectively for our suppliers. It is not working effectively for us. When my day is dominated by issues related to financially distressed suppliers, commodity price shocks, quality problems and costs issues, it's clear to me that there must be a better approach."² Consequently, there are opportunities for greater savings than the 3% Ford currently getting from suppliers by focusing on total cost of ownership versus prices. Furthermore, the relentless focus on year-over-year price reductions was increasing the costs of supply through the resulting inefficiencies caused by supplier bankruptcies (e.g., supply disruptions, switching costs, legal fees, etc.). Tony Brown estimated that there were approximately 30 supplier bankruptcies per year and estimated that one-third of automotive suppliers were at risk of filing for bankruptcy.³

A question that should be raised in class is what (and how much) can be gained by Ford by treating suppliers as partners as opposed to adversaries? Can Ford, for example, expect double-digit reductions in total costs of ownership versus its low single-digit annual price reductions? Can Ford expect lower up-front product costs by working with suppliers to invest in technology and capital? Will Ford be successful in engaging suppliers early in the product design stage to eliminate costs and waste before designs are finalized?

WHAT HAPPENED

ABF was formally announced on September 29, 2005. When ABF was announced John Henke, who conducted the supplier survey referenced in the case, made the following comment: "Luckily, when I

² Source: Tom Stundza, "Ford Has a Better Idea," *Purchasing*, vol. 135, no. 12, 2006, p. 49.

³ Source: Ford Motor Company press release, Speech: Tony Brown at Traverse City Management Briefing Seminar, www.ford.com/about-ford/news-announcements/press-releases, August 15, 2008.

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first heard of the plan yesterday, I had a scotch sitting next to me so I was able to avoid a heart attack. Thank God they've seen the light. This is the first step in Ford seeing what their supplier can really do for them.”⁴

At a meeting with Ford's 100 largest suppliers on December 1, 2005, Tony Brown indicated that he intended to:

- Create “matching pairs” of engineers and buyers for specific components to work collaboratively on cost, quality and other criteria,
- Bring products to market 12 to 14 months faster by adopting Mazda's development process. It reportedly took Mazda 38 months to develop a product versus 51 months at Ford.
- Improve engineering efficiency drastically.
- Involve suppliers earlier in the new product development process: at the pre-planning and research stage approximately 60 to 70 months before start of production versus approximately 32 to 46 months under the existing system.
- Reduce the number of late engineering changes.⁵

Bill Ford hired Alan Mulally from Boeing as Ford's new president and CEO in September 2006, one year after ABF was announced. Bill Ford remained with Ford as executive chairman and chairman of the board. Mulally had a reputation at Boeing for being highly engaged with corporate purchasing and building collaborative relationships with key suppliers. During his first year on the job, Mulally focused on understanding company operations and preparing a strategic plan: “One Ford,” which required all functions – product development, purchasing, information technology, manufacturing, etc. – across the globe to work together as a single, cohesive team and be accountable to meet performance goals.⁶

Three years later, in August 2008, Ford had 65 ABF suppliers, including several non-production suppliers such as Microsoft.⁷ Supplier relationships, as measured by the Planning Perspectives survey referenced in the case, however, were mixed. Ford's score of 191 in 2008 was improved from 157 in 2005. It also had the highest score among the Detroit 3 that year (GM = 163; Chrysler = 161). However, Ford still lagged considerably behind Toyota (367) and Honda (359) (See Figure TN1).⁸ In 2008, Ford was looking for \$1.2 billion in supplier related cost reductions.⁹

⁴ Source: L. Chappell, “Revival II: Bill Ford's Big Test; Ford Makes Peace with Suppliers,” *Automotive News*, October 3, 2005.

⁵ Source: Amy Wilson, A New Way to Pay Purchasing Execs; Ford Buyers Rewarded for Improving Supplier Relations,” *Automotive News*, vol. 80, no. 6179, December 5, 2005, p. 1.

⁶ Source: SEC Form 10K, Ford Motor Company, for the fiscal year ended December 31, 2007.

⁷ Source: Ford Motor Company press release, Ford Motor Company names seven additional member to key supplier network, www.ford.com/about-ford/news-announcements/press-releases, August 15, 2008.

⁸ Source: John Henke, *Planning Perspectives*, Birmingham Michigan, 2008.

⁹ Source: Amy Wilson, “Ford Wants to Repair Supplier Relationships,” *Automotive News*, vol. 82, no. 6,292, January 28, 2008, p. 8.

Figure TN1
Supplier Working Relations Index 2002-2008

