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Developing Tailored Supply Strategies

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Summary

Purchased goods and services are an increasingly large proportion of public and private enterprise budgets. Historically, purchased goods and services have accounted for less than a third of an enterprise's budget, but today many enterprises spend more than two-thirds of their budgets on purchased goods and services. Similarly, the Air Force and the Department of Defense (DoD) spend nearly half their budgets for purchased goods and services and an additional sixth on weapon procurement (with only a third going to military and civilian personnel costs). (See pp. 1–6.)

Because of the growing importance of purchasing, many enterprises have sought to develop supply strategies for their purchased goods and services. This monograph is intended as a resource for procurement personnel developing supply strategies for the Air Force or DoD. It does not analyze current military procurement practices but rather synthesizes academic, business, and professional literature on developing and applying supply strategies. Its core is a synthesis of nearly a dozen different processes found in the literature.

Supply Strategies and the Need to Tailor Them

A *supply strategy* is a proactive plan for acquiring and managing a group of goods or services. It outlines how the enterprise intends to ensure cost-effective, responsive, reliable, and high-quality supplies to meet current and future needs. It should be developed *before* there is a requirement. In contrast to traditional purchasing practices that *react* to a requirement, a supply strategy can support such tactics as

- aggregating similar or related requirements
- changing the number, composition, or workload of suppliers
- adjusting purchasing resource levels, capacities, or capabilities
- improving the inventory mix, size, or location
- changing other purchasing policies, practices, operations, or organizations in response to evolving organizational needs and marketplace conditions. (See pp. 6–9.)

For the Air Force, supply strategies should encompass the end-to-end value chain. That is, they should stretch “upstream” to the supply base, encompassing such goods and services as assemblies, subcomponents, and parts, as well as “downstream” to such products as weapon systems and, ultimately, to such customers as differing major commands. In many enterprises, purchasers may look only upstream, and logistics personnel may look only downstream, with both focusing on different objectives. Developing a supply strategy that minimizes total costs and maximizes value to customers requires looking both directions. (See pp. 9–13.)

Supply strategies should be tailored to varying characteristics of purchases, including the characteristics of the product, its importance and technology, supplier preferences and power, the strategic importance of the purchase, the buying power of the purchaser, and the cultures of the buyer and the supplier. For example, goods and services that have little strategic importance to an enterprise and for which little value can be added through supplier relationships will best be handled through efficient “arm’s-length” relationships, while items having the greatest strategic importance and for which supplier relationships might be expected to add the greatest value should be acquired through more-sophisticated partnerships or strategic alliances. (See pp. 15–20.)

A Composite Supply Strategy Development Process

Several different processes and analytic frameworks in the academic, business, and professional literatures describe somewhat different ways to segment goods, services, and suppliers and to develop supply strategies. Many of the same or similar steps occur in more than one framework.

These processes have two primary phases. The first involves assessing and strategically targeting opportunities across an enterprise to improve supply processes and strategies by grouping, prioritizing, and providing resources for prospective supply strategy initiatives, while the second includes specific commodity initiatives tailored to particular needs and ideally selected for their ease of selection, the size and speed of their effects on business, and their ability to free up personnel (e.g., through automation of purchases) for other initiatives. (See pp. 21–22.)

Phase I: Assess, Group, Segment, and Prioritize Enterprisewide Opportunities

The first phase, opportunity assessment, documents current purchases and suppliers through an enterprisewide high-level spending analysis (or “spend” analysis) to determine the total amount the enterprise spends on goods and services and its expenditures by commodity, supplier, and other categories. The total buy identified by this analysis can then be segmented into major categories of direct spending (e.g., inputs to production processes) and indirect spending (e.g., information technology and telecommuni-

cations, overhead and support, facilities). Each category should be large enough to warrant significant resources and to help leverage economies of scale and scope. Relevant employees should be identified and involved in each part of the segmentation process.

The first phase of the supply-strategy development process, ultimately leading to identification and prioritizing of opportunities for applying strategic sourcing, consists of these steps:

- Assign an enterprisewide, cross-functional team to group, segment, and prioritize spending (determining enterprise expenditures by commodity and supplier).
- Document and analyze purchases and spending by category groups or subgroups.
- Document the current supply base and identify prospective risks.
- Segment and classify purchases by their strategic importance and other factors.
- Identify and quantify prospective opportunities.
- Assess capabilities and the ease of internal and external execution.
- Prioritize opportunities by expected benefit and effort.

The following subsections describe each in turn.

Assign an Enterprisewide, Cross-Functional Team to Group, Segment, and Prioritize Spending. The first step toward a supply strategy is establishing an enterprisewide cross-functional team to conduct or oversee analyses of spending, markets, industries, and suppliers and to develop and validate category groups or subgroups for segmenting and prioritizing spending.¹ Team members may represent such functions as purchasing, engineering, manufacturing, customer relations, supplier relations, logistics, quality control, and legal affairs. In particular, the team should include personnel from key functional areas who can provide many broad perspectives on each commodity, its end product, and its reasons for market success, as well as those who can provide funds and staffing for implementing selected strategies. (See pp. 22–23.)

Document and Analyze Purchases and Spending by Category Groups or Subgroups. Once in place, the team should begin by conducting or leading a spending analysis, evaluating spending categories by dollar value, number and type of contracts, contract terms, purchasing organizations, and frequency of purchase. A spending analysis should begin with an enterprisewide extraction of spending data from all available internal and external systems. An effective spending analysis requires aggregation of all spending data into a single consolidated view of the enterprise's overall spending. If it is feasible to do so, analysts should categorize spending data at the item level, providing visibility and allowing comparisons of detailed attributes across commodities and suppliers, including supplier financial viability and stability. The data should also enable a view of what the entire enterprise, as well as each of its divisions, sites, and individual

¹ Appendix A describes a process for grouping or aggregating requirements for sourcing.

buyers, spends with each supplier and for each commodity for the entire enterprise and should allow comparison of price and such other attributes as inflation, contract compliance, and premium cost variance. (See pp. 23–24.)

If item-level data are not available, higher-level data can still be used to illustrate opportunities to leverage purchases and make the case to senior management for allocating resources to implement new purchasing, supply, and supply chain management practices and to create a new purchasing organization or significantly restructure the current one. Within the Air Force, for example, DD350 data, though not optimal for a spending analysis because they lack item-level data, provide information on 97 percent of all Air Force direct purchases in fiscal year 2005. (See pp. 24–25.)

Document the Current Supply Base and Identify Prospective Risks. To document the supply base and identify risks, the team should look at the enterprise's total number of suppliers, its total spend, the portfolio of products it purchases, and the related performance of its suppliers. The buyer should also evaluate the supplier base by industry, firm, geography, market risk (e.g., variations in supply availability, costs, and performance), and other relevant variables. Supplier data should also include geographical issues, dependency (the percentage of a supplier's business associated with a particular buyer and the percentage of a given commodity that a supplier provides that buyer), logistics costs, and other policy variables. In sum, a buyer should identify key indicators for prospective improvements in purchasing and supply management. (See pp. 25–26.)

Segment and Classify Purchases by Their Strategic Importance and Other Factors. Once purchases and the supply base have been documented, they should be categorized by value, volume, risks, and other variables that can affect the performance of an enterprise. Different commodities or buyer goals may dictate different categories. Commodity groups may have varying characteristics, dictating different supply strategies. Portfolio analysis may be used to classify commodities by their vulnerability (e.g., level of supply risk or strategic importance to the enterprise) and value (e.g., relative cost, influence on profits). The resulting segmentation can be used to place commodities in one of four groups:

- *Noncritical* goods and services have low vulnerability and low value (e.g., office supplies and furniture, standard hardware and electrical components, travel services).
- *Leverage* goods and services have high value but low vulnerability (e.g., basic production materials, standard information technology, logistics services).
- *Bottleneck* goods and services have low value but high vulnerability (e.g., unique or specifically engineered parts, capital equipment).
- *Strategic* goods and services have high value and high vulnerability (e.g., aircraft engines, specialized software, pharmaceuticals). (See pp. 26–41.)

Identify and Quantify Prospective Opportunities. Once commodities have been so categorized, buyers can seek to identify and quantify opportunities to improve operations of the enterprise. This can include working through corporate family relationships, interrelated suppliers, and duplicate suppliers while working within the requirements of special policies (e.g., federal mandates for procurement from small and disadvantaged businesses). Evaluating the expected rewards and risks includes identifying expected cost and performance improvements and the timing and required resources to obtain them. Efforts that require too many resources or too much time to produce results are unlikely to sustain interest and support from senior management, particularly for initial efforts. (See pp. 41–42.)

Suppliers with multiple contracts, multiple suppliers providing similar products or services, or different agencies purchasing the same goods or services all indicate prospective opportunities for savings through consolidation of purchases. Corporate family relationships, interrelated suppliers, and duplicate suppliers can likewise indicate possibilities for buyers to consolidate and leverage spending and to reduce transaction costs. Supplier cost growth exceeding that of the Producer Price Index may indicate that a supplier is not doing enough to control costs or to identify opportunities for savings. Supplier performance data demonstrating varied or poor quality, long or inconsistent wait times, little information sharing or supplier innovation, and few multiyear contracts may indicate opportunities for performance improvement. (See pp. 42–43.)

The opportunities an enterprise has to realize savings can vary according to its current spending and to broader market conditions. An enterprise will, for example, have greater potential for savings on a standard commodity for which it pays a great deal than on those for which it pays relatively little. Similarly, a highly fragmented supply base and modest contractual agreements indicate areas for improvement, while strong contractual agreements may indicate a supply base that has already been leveraged. A simple market with few suppliers or one at full capacity indicates limited potential for savings, while a complex competitive market indicates greater potential for savings. (See p. 43.)

Assess Capabilities and the Ease of Internal and External Execution. Enterprises are unlikely at first be able to pursue all prospective opportunities of savings through improvements in purchasing and supply strategies. The team must consider several variables related to the internal and external environments of the enterprise as they consider how to add value to purchasing processes. Internally, enterprise culture, personnel readiness and workload, competitive priorities, functional relationships, reward systems, data availability, and preexisting policy goals can affect the ability of an enterprise to pursue savings through more-innovative supply strategies. Such variables can affect the ability of an organization to gain visibility into its purchasing practices and implement strategies to improve them. Externally, the competition prevalent in the industry and the legal and political circumstances can also affect opportunities for

realizing savings. Competitive factors influencing the ability of an enterprise to realize savings through supply strategies include its core competencies, the characteristics of its customers, the structure of its industry, the sources and levels of its competition, the capabilities of its supply base, the technology of the commodity, and any uncertainty in the market. (See pp. 43–45.)

The degree of effort needed for a successful supply strategy will also vary by enterprise and commodity. Among determinants of necessary effort are the complexity of the good or service, the potential for alternative suppliers, the level of centralization within the enterprise, current contractual obligations, and the ability of the enterprise to change suppliers. (See p. 46.)

Prioritize Opportunities by Expected Benefit and Effort. Once the prospective business effects of and the degree of effort needed to develop and execute a specific supply strategy for a commodity has been estimated, the team can prioritize opportunities for cost savings and performance improvements according to expected effectiveness and effort. One means of doing this is plotting each commodity group on a matrix similar to that used for supply segmentation, with axes representing business effectiveness and degree of effort required. The highest priority targets should be the commodity groups requiring the least effort but having the greatest value. Enterprises may also wish to prioritize initiatives for noncritical items with high numbers of transactions, perhaps automating these so as to free personnel to address other more critical goods and services. (See p. 45.)

Phase II: Develop Supply Strategies for the Commodity Group Initiatives with the Greatest Value and Fastest Payback

Segmenting and prioritizing the commodities prepares buyers to tailor and execute appropriate supply strategies for each, selecting these according to ease of execution and greatest likely benefit to the enterprise. Many of the steps in this second phase parallel those in the first but with more-detailed, more-rigorous, in-depth analysis of specific commodities rather than the entire spending pattern of an enterprise (see pp. 50–51):

- Assign a cross-functional team to and provide resources for each commodity initiative.
- Develop a more-detailed profile of the selected commodity group.
- Analyze the industry and the supply market for the specific commodity group.
- Identify and prioritize prospective risks and vulnerabilities.
- Develop a strategy.
- Execute the strategy.

Assign a Cross-Functional Team to and Provide Resources for Each Commodity Initiative. As before, the first step is to establish an enterprisewide cross-functional team—or rather, in this case, one team for each of the most promising commodity

groups identified in phase I. These cross-functional teams will be more specialized and more focused and will have deeper expertise in the commodity than the team in phase I. The members of each commodity team should have backgrounds and skills that focus more specifically on that commodity and who therefore are better able to analyze it more rigorously. Including members from various enterprise units (for a conglomerate like DoD) and functions in these teams will help ensure support across the enterprise for the supply strategies they develop and will lead to a more-rigorous examination of current requirements, the capabilities of the supply base, and a longer-term view of purchasing decisions.² (See pp. 50–51.)

Develop a More-Detailed Profile of the Selected Commodity Group. The team, once assembled, develops a more-detailed profile of its chosen commodity group. The profile will include user requirements and priorities, the demand, order quantities and patterns, spending, prices and total costs, specifications, the performance of the current supply base, and an initial assessment of opportunities for a supply strategy. (See pp. 51–52.)

Analyze the Industry and the Supply Market for the Specific Commodity Group. After developing a detailed profile of the specific good or service, the team should analyze the industry and the supply market for it. This analysis would include determining how the commodity fits into the value stream of the enterprise; determining supplier costs, capabilities, portfolios, and strategies; assessing the structure of the industry; and determining the relative power of the buyer and supplier. (See pp. 52–56.)

Industry and supply market analysis for a selected commodity group also recognizes that, just as buyers may segment their commodities and suppliers, suppliers may segment buyers and adopt strategies toward them. As suppliers may see it,

- *Nuisance* buyers may lack name recognition or a positive reputation and purchase goods and services of relatively low value. Suppliers are likely to show little interest or support for such customers.
- *Development* buyers have highly attractive businesses but relatively small profits. Suppliers may work hard at first to meet and exceed requirements of such customers in the hope of winning more of their business.
- *Exploitable* buyers have unfavorable operating conditions but purchase goods and services of relatively high value. Suppliers may seek maximum short-term benefit by raising prices.
- *Core* buyers purchase goods and services of high value and are thus highly attractive customers. Suppliers consider such customers to be the foundation of their business. (See pp. 56–57.)

² Appendix B discusses organizing for supply strategy development.

How buyers respond to supplier segmentation and strategies will depend on the structure of the supply industry and the nature and volume of related goods or services. Ideally, buyers would like to move from supplier to buyer dominance of the market and supply relationships. The ability to do so, however, is affected not only by the relative power of the buyer and the supplier but also by possibilities of substitution and the ability of new firms to enter the market. (See pp. 58–59.)

Identify and Prioritize Prospective Risks and Vulnerabilities. After analyzing the industry and the supply market for its commodity group, the commodity team identifies prospective risks and vulnerabilities throughout the value chain that could affect supply, determines the probability of these events, assesses their likely duration, and develops and prioritizes precautions for them. Events affecting supply may include natural disasters, fires, bombings and other terrorist attacks, and cartel actions or strikes that limit supply. (See pp. 59–60.)

Risks may vary by commodity, product, or service, and developing possible responses to them takes time and resources. Efforts to address supply risks are often therefore best focused first on the goods or services that are most strategic to the enterprise. That is, rather than seeking to address all vulnerable areas at once, commodity teams should focus on the precautions that are likely to bring the greatest relief to those most accountable for sales and profit performance. Commodity teams can initially focus on the events with the greatest likelihood of occurrence, that are likely to last the longest, and that would most affect the enterprise, particularly those involving strategic or bottleneck commodities with markets difficult to negotiate. (See pp. 60–63.)

Develop a Strategy. Once it has developed a rigorous commodity profile, analyzed the industry and supply market, and addressed the risks and vulnerabilities, the supply team can write a supply strategy. Supply strategies can vary by buying policy, number of sources, and types of sources. The strategies should define supplier roles, including areas for supplier integration and, in particular, should include buyer responses to supplier segmentation of noncritical, leverage, bottleneck, and strategic goods and services. Different categories of goods and services will require different buyer responses to otherwise similar supplier segmentations. Supply strategies should also set specific and measurable goals, which should extend beyond price to other variables affecting total cost, quality, and delivery, among others. Goals should be based on competitive analysis and comparison with marketplace leaders and be updated to reflect future marketplace trends. (See pp. 64–70.)

Execute the Strategy. Once the supply strategy has been developed and approved, the commodity team executes it. This involves identifying and prequalifying the best suppliers, issuing requests for proposals, selecting one or more suppliers, negotiating fact-based terms and conditions, finalizing the relationship and its metrics and incentives, managing the transition to any new suppliers, and monitoring the performance of both suppliers and the supply strategy. (See pp. 70–72.)

In considering supplier performance, buyers may wish to weigh the variables affecting supplier attractiveness and relationships against each other. If a supplier is attractive, perhaps offering a strategically important good or something difficult to purchase elsewhere, but if the supplier-buyer relationship is also not strong, a buyer might seek to improve the relationship by improving communication, providing the supplier with more volume, or involving it in product development. If the supplier-buyer relationship is relatively strong and if the supplier is also moderately or highly attractive, a buyer might wish to maintain that strong relationship but look for ways to manage it more effectively. If the supplier is not attractive, the buyer may wish to consider different suppliers, although it is also important to consider how the supplier influences its network position. (See pp. 72–73.)

The last component of execution is monitoring results and reviewing performance to determine whether the strategy is achieving its stated objectives or whether it requires modification. Key elements of monitoring and review include the following:

- meeting regularly to determine whether the strategy is well aligned with organizational objectives
- sharing results with top management to ensure that they continue to support the strategy and provide continuing momentum
- assessing internal customer and supplier perceptions
- determining whether key goals are being achieved
- executing contingency plans if accomplishments are lacking
- providing feedback to those involved, including lessons learned.

Supply strategies are iterative. Firms constantly revisit and reassess their decisions based on new information about demand and supply, supplier performance, customer needs, and other changes in market conditions. (See pp. 73–74.)

Conclusions

Leading enterprises are making significant commitments to changing their purchasing and supply management practices. They are analyzing their spending, segmenting it into major commodity groups based on their value to the enterprise and their vulnerability, and prioritizing them for initial purchasing and supply management efforts. The Air Force and DoD can use the same means to develop tailored supply strategies that should better support the warfighter. In fact, both the Air Force and DoD have already launched initiatives based on many of the best practices discussed here. (See pp. 75–76.)

Although some activities are common to most supply strategies, no one process is likely to fit all enterprises and commodities. An approach that delivers the most rewards to the enterprise will require extensive analysis.