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# Implementing Purchasing and Supply Chain Management

Best Practices in Market Research

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## Summary

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The U.S. Air Force is adopting widely accepted commercial “best practices” to change the way it purchases goods and services, with the goals of reducing costs and improving performance to better support its missions. Specifically, the Air Force wants to increase aircraft availability (i.e., the number of Air Force aircraft that are maintained and ready to fly at any time) by 20 percent over the next five years while at the same time reducing costs by 10 percent<sup>1</sup>—all in a changing security environment that requires the Air Force to be ready to respond to a variety of international and domestic threats and emergencies.

Part of the Air Force effort involves the establishment of “commodity councils” (or commodity teams), cross-functional teams of stakeholders who develop and implement Air Force-wide strategies for purchasing specific categories of commodities such as computers or medical supplies. Commodity councils will enable the Air Force to leverage its purchasing power and manage its contracts more effectively.

Commodity teams need information and analyses in order to do their jobs effectively. First, the commodity teams need information to help them understand their own enterprise (i.e., the Air Force) and develop purchasing strategies that are consistent with the enterprise’s mission, culture, strategic goals, internal capabilities, budget, etc. Then, through market research, the councils need to understand the industry related to the required good or service, who the potential suppliers of the good or service are, how to select the best suppliers, and how to manage the enterprise-supplier relationship. Market research is essential to assembling and maintaining a supply base that best meets the Air Force’s needs.

This monograph provides both background material about market research and an introductory “how-to” guide. Market research should be ongoing—in that it continues beyond initial supplier selection to supplier management and development. Clearly, however, the first iteration will be the most time intensive.

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<sup>1</sup> These goals are from the Fiscal Year Defense Plan (fiscal year 11) U.S. Air Force Deputy Chief of Staff for Logistics, Installations, and Mission Support (AF/A4/7) goals (U.S. Air Force, 2005). “Stretch” goals for purchasing and supply chain management are a 20 percent increase in aircraft availability with a 20 percent decrease in costs.

## Focus Market Research Resources and Efforts Where They Are Most Needed

The first task for the commodity teams is not a core part of market research, but it is necessary before market research can be effective (pp. 9–19). The teams must understand various aspects of the Air Force itself before looking outward at the industry and potential suppliers. Information about the Air Force will help the commodity teams decide how to allocate costly market research efforts. For example, the commodity teams must understand the following:

- Strategic goals, competencies, and requirements:
  - Strategic goals—Air Force strategic goals include increasing aircraft availability at reduced costs; in the commercial sector, a goal might be to increase market share.
  - Core competencies—what can or should the enterprise produce itself and what should it buy?
  - Requirements—what goods and services are needed? What specifications and level of performance are necessary to achieve the enterprise’s goals?
- Spend—a spend analysis explores the total amount the enterprise spends to obtain goods and services and analyzes expenditures by commodity, supplier, and other relevant categories. Two common tools are useful for analysis of the data and making informed decisions about allocating market research resources and efforts:
  - Pareto analysis groups goods and services into categories based on spend and volume.
  - Portfolio analysis focuses on vulnerability and value, quantifying the relative risks and rewards of each good or service and characterizing their importance to the enterprise.
- Sourcing strategy—the approach developed by the enterprise to procure a good or service. The four main elements of a sourcing strategy are:
  - the buying policy
  - the number of sources
  - the type of source
  - the nature of the enterprise-supplier relationship.

## Analyze the Industry

The first step in market research is to develop an understanding of the industry pertinent to the good or service (pp. 21–46).<sup>2</sup> This industry analysis touches upon factors that affect sourcing: the competitiveness of an industry, industry standards and norms, and costs. It is useful to start the market research process with this general overview of the industry and then work toward a more detailed investigation of the factors that are most relevant. The industry analysis will then also shape the identification, evaluation, and management of suppliers described in later chapters.

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<sup>2</sup> *Market* and *industry* are not synonymous. A supplier from another industry may offer a substitute product that would be in the “market.” However, we will use the term *industry* here to encompass an industry and its substitutes in order to avoid confusion with the market research terminology.

First, the commodity team should assess how competitive an industry is and how that competitiveness affects sourcing. For example, if an industry report indicates that the industry is declining (e.g., the market is shrinking), then there should be competition among suppliers for remaining demand. This competition, in turn, should improve sourcing opportunities with respect to cost and other performance indicators. A declining industry may also involve increased risk of exit. The analysis should then examine more deeply which suppliers are most competitive and viable (i.e., those that have a limited risk of exit) and why. The analysis may reveal economies of scope—production synergies for suppliers who produce two or more related products—which are essential to lowering supplier costs and ensuring suppliers’ long-term financial health. The enterprise may then identify and evaluate suppliers keeping in mind that those who produce multiple products may offer lower prices and may represent less supply risk.

Second, it is important that an industry analysis “benchmark”—identify and measure—industry standards and norms. Benchmarks are useful rules-of-thumb that can guide the sourcing strategy and assist in evaluating suppliers. Benchmarking industry standards and norms can touch upon standardization, production, purchasing practices, and a number of other areas.

Finally, with respect to costs, an industry analysis must address the selling price and the total cost of ownership. An understanding of production inputs and their prices is necessary to construct the selling price. Total cost of ownership is more comprehensive and includes not only the selling price, but all potential costs related to the good or service before, during, and after the transaction.

While an analysis of the industry in its current state is useful, the factors are not static. Looking only at the current situation leaves the enterprise vulnerable to future supply disruptions, cost increases, and other hazards. It also limits the ability of the enterprise to take advantage of upcoming opportunities. Analysis of historical trends, cycles, and forecasts allows the commodity team to identify and address risks as well as opportunities.

## Identify Potential Suppliers

The next step in market research is to identify and make a list of suppliers of the goods and/or services needed (pp. 47–51).<sup>3</sup> If viable substitute products are available, suppliers of these products should be included on the list of potential suppliers.

Potential suppliers can include current suppliers, former suppliers, and new suppliers.<sup>4</sup> Current and former suppliers are clear candidates, with whom the buyer has previous experi-

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<sup>3</sup> This process is described for an industry with a number of suppliers, but some industries may have limited competition.

<sup>4</sup> There may be some cases in which all existing suppliers for a product do not meet the needs of the buyer. In these cases, the enterprise may work with a supplier to develop the capabilities to meet the enterprise’s needs. Alternatively, the enterprise may also develop a new supplier—perhaps from suppliers producing similar goods or using similar technologies. Such supplier development activities can be costly in terms of effort and resources and so are dependent on the costs and benefits.

ence. New suppliers have not previously contracted with the enterprise; these suppliers may be new entrants, operate in different locations, or offer functional substitutes.

The key to supplier identification is to find and develop good sources of information about suppliers. Some useful resources are an internal supplier database (or other internal forms of supplier records), supplier Web sites and materials such as annual reports and catalogs, personnel within the enterprise and at the supplier, industry sources, trade organizations, journals, and phone directories.

## Evaluate Potential Suppliers

Potential suppliers must be evaluated to determine their suitability. Supplier evaluation is an expensive and resource-intensive process that should be tailored to the importance of the purchase (pp. 53–64). The initial stages of the evaluation process (described below) may be sufficient for noncritical purchases. Supplier evaluation is also an iterative process that eliminates unsuitable suppliers at each stage. Only qualified suppliers advance to more resource-intensive stages of the market research process. The process proceeds as follows:

First, collect basic data on potential suppliers. This preliminary analysis should include a brief evaluation of the following elements: management, finances, references, size, trends, future plans, and other relevant issues (e.g., quality certification). Based on the results, eliminate unqualified suppliers.

Second, conduct a financial evaluation of suppliers. Financial stability is critical because it ensures that the supplier can meet delivery requirements, respond to changes, and meet other demands such as sustained support of the product. Some sample indicators of a supplier's financial health are liquidity measures, funds management ratios, profitability measures, and measures of long-term strength. Eliminate financially unstable suppliers.

Third, analyze the supplier's performance, costs, and capabilities, as follows. Eliminate suppliers who do not meet the necessary requirements:

- Evaluate performance data. Use past performance data for suppliers currently or formerly in the supply base. Use third-party data, supplier data, and supplier "scorecards" for new or potential suppliers.
- Compare the selling price and the total cost of ownership across suppliers.
- Analyze capabilities relevant to the particular good or service required. The most common capabilities assessed are quality, delivery, capacity, and cost. Other capabilities (e.g., technology) should be assessed if they are relevant to the purchase.

Finally, for critical purchases, conduct evaluation conferences between management of the enterprise and each of the remaining suppliers if such meetings would be helpful to the enterprise in making a final selection of the appropriate supplier(s).



## **Manage Suppliers**

Much of the market research literature focuses on information gathering for source selection (as well as negotiations), but market research does not end when suppliers are selected and the contracts are signed (pp. 65–68). Commercial enterprises use market research to monitor suppliers and changes in markets, ensure that current suppliers remain their best option by tracking performance and other factors, and recognize supplier development needs for current and potential suppliers.

## **Where to Look for Relevant Market Research Information**

This monograph lists numerous resources for obtaining information for market research. For example, enterprises should have information about their own goals, capabilities, requirements, and sourcing strategies and should have compiled information in their supplier databases on all suppliers who currently or formerly have contracted with the enterprise. External sources—including supplier Web sites and third-party industry observers—can provide a variety of information about the industry in general and about specific suppliers. The commodity teams may also need to collect some data directly from suppliers through requests for information and site visits (i.e., primary data collection).

## **Next Steps for the Air Force**

The Air Force has made progress toward the implementation of purchasing and supply chain management and market research, including training at Defense Acquisition University and Acquisition Centers of Excellence (such as Warner Robins Air Logistics Center) and provision of online resources. But the implementation of the market research process outlined in this monograph requires additional support from the Air Force. The overriding lessons from the literature and interviews with commercial enterprises are relevant to ensuring the Air Force's success: (1) improve data availability, quality, and utilization; (2) provide training for commodity teams; and (3) ensure the support of top management and buy in among personnel (pp. 69–71).