

THOUGHT LEADERSHIP WHITE PAPER

# DIRECT MATERIALS AND COMMODITY SOURCING STRATEGIES: Improving Results with Advanced Sourcing

sciQuest®

# TABLE OF CONTENTS

Abstract	03
Direct Materials and the Commodity Conundrum	04
Sourcing Strategies for Direct Materials	05
The Direct Materials Sourcing Challenge	06
SciQuest's Advanced Sourcing Optimizer	07
Examples of Advanced Sourcing in Direct Materials: Two Case Studies	08
Case Study #1: Food Manufacturer Sources Steel for Packaging	08
Case Study #2: CPG Company Sources Barrier Films	09
Summary	10
About Sciquest	11

## ABSTRACT

For manufacturers in every industry, the cost of direct materials is a constant challenge to bottom-line results. Accounting for 20 to 80 percent of the cost of finished goods, the materials that make up the final product that is sold to the market are often commodity items, beyond the immediate control of the manufacturer. Yet the organization has a responsibility to its customers, its shareholders and its partners, to make every effort to minimize the impact of commodity price volatility on its supply chain operations. Hedging is one strategy that some companies have undertaken to reduce the risk of commodity volatility, but the strategy of advanced sourcing through the use of enabling technology has proven, in many cases, to have a more significant and beneficial impact on the supply chain as a whole. This SciQuest white paper looks at the challenges in this area and highlights two case studies where advanced sourcing has provided strong results and risk mitigation.

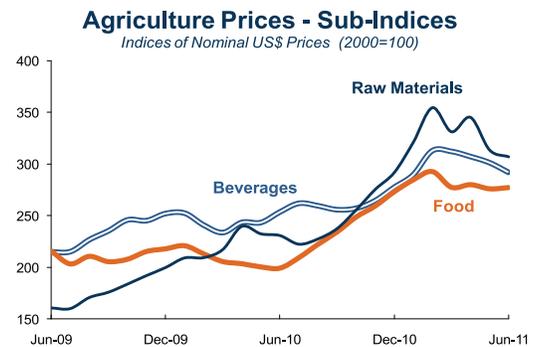
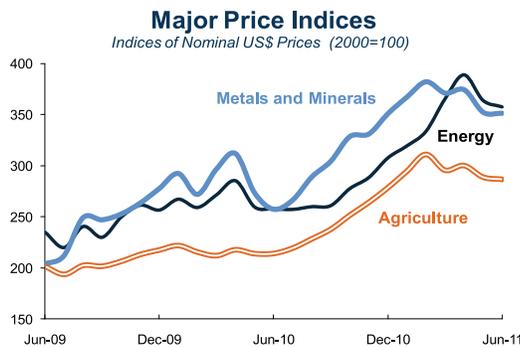
## DIRECT MATERIALS AND THE COMMODITY CONUNDRUM

Direct materials are the raw and processed materials that manufacturers use in the production of the goods they sell. Depending on the industry, there can be multiple tiers of direct materials in a single product, from raw materials to manufactured components to the packaging that presents the finished product to consumers in the retail aisles.

For manufacturers across all industries, whether they are buying food ingredients, chemicals, metals, resins, plastics and rubber materials, lumber and paper products, or manufactured components, the price of these direct materials is often set by commodity markets well outside of their control. And for the last few years, the cost of commodities has been rising across the board.

For the average consumer, commodity price indices aren't even on their radar screen, but they recognize that the cost of goods they buy regularly are increasing. Gasoline is often the most visible to consumers, as its price fluctuation is felt daily or weekly when they fill up the tank of their automobile. Food products are another visible example, yet the commodity pricing that lies beneath the cost of the milk, bread, cereal and other products purchased at the grocery store is still invisible to consumers.

The charts below from the World Bank clearly illustrate the pricing growth and volatility seen globally for energy, metals and minerals, and agriculture commodities over the past two years:



Source: World Bank, Commodity Markets Review, July 13, 2011. [www.worldbank.org/prospect/commodities](http://www.worldbank.org/prospect/commodities)

For sourcing and supply chain professionals with responsibility for direct materials, however, commodity prices are an area of constant focus and consternation, as commodity price volatility introduces variability and unpredictability into the cost of goods sold (COGS).

Even for nonmanufacturing companies, including retailers, wholesalers, distribution and transportation providers, the commodity market has a real impact on their cost of business, as the goods and services they buy and the energy they consume (whether it be electricity, natural gas or fuel) are impacted by rising commodity markets.

The fact is, depending on your industry and what goods you bring to market, 20 to 80 percent of your COGS are tied up in commodities, where sourcing has little control. The remaining costs are split among processing and manufacturing, labor, inventory and transportation. And this is where a savvy organization can have the biggest impact on its costs and competitiveness in the market.

## SOURCING STRATEGIES FOR DIRECT MATERIALS

When the materials an organization buys are tied to commodity markets or other sources of price volatility, sourcing and supply chain professionals should focus on the elements of the COGS that they can directly control: options in the supply base for material selection, origin location, manufacturing process and movement of goods within the supply chain.

Advanced Sourcing is the process of working with the supply base to identify areas of cost reduction and efficiency improvements through a more collaborative and strategic process.

Working more closely with key suppliers can introduce new innovation and efficiency in the supply chain. Suppliers of one type of material may have suitable alternatives that can reduce costs through more efficient manufacturing techniques, material substitutions or economies of scale.

By collaborating with R&D and other stakeholders within organizations, suppliers have helped to consolidate material formulations to reduce large numbers of similar materials when an alternative material could provide the same properties at a lower cost.

More efficient supply options can also help reduce COGS by finding suppliers who have upgraded to more efficient equipment or offer new state of the art production facilities, moving supply locations to origins that are closer to the production facilities in order to reduce transportation costs, or taking advantage of innovative processes that suppliers are performing for their other customers.

If a key aspect of strategic sourcing encompasses leveraging a company's total spend on materials across a common supply base to reduce costs, then advanced sourcing is the process of working with the supply base to identify areas of cost reduction and efficiency improvements through a more collaborative and strategic process.

By engaging suppliers in advanced sourcing activities, the buying organization is in effect asking the suppliers to help them meet a broad set of needs with more creative and innovative proposals for conducting business together.

## THE DIRECT MATERIALS SOURCING CHALLENGE

Advanced sourcing can help organizations work more closely with their supply base to reduce costs beyond the price of an individual item. Unlike indirect materials (the goods and services an organization consumes to support its business), direct materials pose a sourcing challenge that is fraught with risk and uncertainty. Advanced sourcing provides the strategic approach needed to help understand and balance those risks with the potential rewards.

For example, choosing a new supplier to provide office supplies, MRO items or facility maintenance services incurs a short-term change impact to the business, but has little to do with your relationship with your customer at the point of purchase or consumption of your product. Direct materials are more strategic to your business; after all, they are what go

into your company's product. Product quality and consistency are tied directly to your brand and the customer experience, and ultimately to their desire to purchase your product in the future.

Switching the supplier of a key material or component within your manufacturing process can have a significant impact on the end product. Moving from a trusted, long-time supplier to a lower-cost upstart has a certain element of risk. Will the upstart provide the same quality of service as the incumbent? Can they meet your long term needs for expanded capacity or short lead times when order volumes increase? Will they create a true partnership with your business or are they looking for quick wins and market share?

Similarly, choosing an alternative material with a lower raw material cost requires an investment to qualify the new material and its substitutability. Are there switching costs in the manufacturing process required to handle the new material and produce the same outcome in the finished product?

These are serious considerations in the direct materials sourcing business, but they should be explored when appropriate using the right information to evaluate the risk/reward profile. Advanced sourcing technologies play a key role here as well, not only opening up the process of engaging with suppliers in a more open, creative and expressive marketplace, but by providing the analytical capabilities necessary to evaluate those options with an eye towards the total impact on the organization.

## **SCIQUEST'S ADVANCED SOURCING OPTIMIZER**

SciQuest's Advanced Sourcing Optimizer opens the sourcing process between buyers and suppliers of direct materials (and other spend categories) to a more collaborative, creative and expressive marketplace. Within the advanced sourcing process enabled by Advanced Sourcing Optimizer, sourcing teams can explore the opportunities to reduce costs and create efficiencies on the direct material cost elements that can be controlled, not just the commodity price.

Via the Expressive Bidding® capabilities found in SciQuest's Advanced Sourcing Optimizer, buyers and suppliers can be creative in solving problems by proposing and evaluating alternate materials for lower cost substitutions, new and more efficient manufacturing processes, and alternative supply options. The supply base knows their business very well, and some suppliers have unique capabilities to innovate and drive efficiency into your supply chain. Those suppliers are rewarded for creating innovation in the supply chain and reducing the COGS for direct materials by taking advantage of their strengths and creativity.

And through advanced optimization-enabled analysis, sourcing and supply chain teams can weigh the potential cost savings of these supply options against risks, switching costs and other decision factors to understand the total cost impact on their organization.

## **EXAMPLES OF ADVANCED SOURCING IN DIRECT MATERIALS: TWO CASE STUDIES**

### **CASE STUDY #1: FOOD MANUFACTURER SOURCES STEEL FOR PACKAGING**

A large food manufacturer provides one example of a very successful advanced sourcing strategy enabled through SciQuest's Advanced Sourcing Optimizer. In this case study, the food manufacturer not only faced rising commodity costs for food ingredients, but also faced double-digit commodity cost increases from the steel cans used to package many of its finished products.

The company's practice at the time was to source the steel from multiple suppliers, both foreign and domestic, accepting deliveries of steel coils at one of its manufacturing plants for preprocessing. The steel coils were cut into plates and then laminated to protect the food products from reacting with the steel cans. The laminated plates were next shipped to a separate plant to be manufactured into cans before being delivered to the food processing facilities for final packaging.

By taking an advanced sourcing strategy, the company found that a new sourcing approach would create supply chain efficiencies, cost savings, and reduced supply chain risk.

Using SciQuest's Advanced Sourcing Optimizer as an enabling platform, the company's supply chain team collaborated with suppliers to explore alternative supply options, including the steel suppliers' capabilities for managing some of the preprocessing of the steel. Using the Expressive Bidding capabilities of Advanced Sourcing Optimizer, the suppliers provided pricing for the steel coils the company traditionally purchased, while also providing options for pre-laminated steel coils as well as delivery of precut and pre-laminated steel plates directly to the can manufacturing plant. Additionally, the suppliers provided yield guarantees and shipping costs for each of the supply options to show a total delivered cost of the steel.

At the end of the advanced sourcing process, the company decided to switch its supply operations from buying steel coils to buying precut and pre-laminated steel plates. The company was able to model the total cost impact on its business that included removing its own preprocessing manufacturing from the supply chain and taking advantage of its suppliers' capabilities to handle this part of the process more efficiently and at a lower "cost per can."

## **CASE STUDY #2: CPG COMPANY SOURCES BARRIER FILMS**

Another example of how advanced sourcing can impact direct materials involves a consumer packaged goods (CPG) company and its barrier film supply. (Barrier films are often plastic or foil films that separate a product from its external packaging.)

This company had more than 3,000 individual film specifications in use across its product lines, with dozens of suppliers providing material to its many locations. Working with the R&D department, the sourcing team was able to engage the supply base in an advanced sourcing project that sought to consolidate the large number of film specifications with alternative materials that could be used across multiple product lines.

Using SciQuest's Advanced Sourcing Optimizer and its built-in Expressive Bidding approach, the suppliers were able to create expressive offers that combined similar film specifications under a smaller number of substitute film materials. The sourcing and R&D teams were able to evaluate the suppliers' offers for alternative materials using the optimization capabilities of Advanced Sourcing Optimizer to understand the cost impact and potential risks of changing suppliers and material specifications for different product lines.

At the end of the process, the company was able to achieve cost savings and efficiency benefits by moving from 3,000 specifications to nearly 300, significantly reducing its total cost for films and reducing the overhead of managing such a large number of materials.

## SUMMARY

Direct materials are strategic to a business and the brands they bring to the market. As companies continue to compete for customers and market share, the organizations that can better manage their COGS often realize a competitive advantage as commodity costs burden less savvy sourcing and supply chain teams. Those who will win in this market of rising commodity costs are those that are taking a more advanced and strategic approach to managing the costs they can control by evaluating options for supply efficiencies, manufacturing processes, supply alternatives and costs that lay beyond the commodity indices.

Advanced sourcing technologies like SciQuest's Advanced Sourcing Optimizer provide the ability to engage with suppliers and stakeholders to identify and evaluate options for reducing costs and increasing supply chain efficiency, with a direct impact on the COGS and the company's bottom line.

## ABOUT SCIQUEST

SciQuest (NASDAQ:SQI) is the largest publicly held pure-play provider of cloud-based business automation solutions for spend management—offering deep domain knowledge and a leading, customer-driven portfolio. SciQuest solutions enable greater visibility and compliance organization-wide to help you gain control, optimize efficiencies and reduce spend. These cloud-based solutions are easy to implement and proven to deliver measurable, sustainable value with SciQuest’s high-touch support, analysis and automation.

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