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Supply Chain Excellence in the Utility Industry

By Andrew Glassberg, Dana Hanson and Barry Jennings

In this issue:

The authors advise executives on how the latest approaches to procurement, demand planning and fulfillment can help utility companies reduce operating costs and improve performance.

No company or industry is immune to escalating customer demands, changing markets, shifting competition and the challenges of leveraging new technology. But few would disagree that utilities have it tougher than most. The principal reason is a difficult, protracted and often unclear deregulation process that forces some utilities to split apart operations and adopt market-driven business models. This alone changes the utility business's entire perspective: In an increasingly competitive industry, scale is imperative, mergers and acquisitions are unavoidable, and legacy infrastructures and stranded costs impose a decided disadvantage on established entities.

Given these hurdles, it is not surprising that many utilities are unclear about how to respond. Nevertheless, there appears to be a consensus that bigger is better. Thus, many smaller utilities seek business niches and merger partners, while larger ones acquire competitors and carve out broader service domains. Many companies strive to develop distinctive new services and products, and even to enter other commodity service markets such as cable and telephone. All utilities are focused on reducing costs.

Despite these efforts, notably few utilities have fully leveraged one of the most beneficial cost-reduction sources available to them—the supply chain. This is surprising because supply chain improvements have the documentable power to

increase shareholder value, regardless of how the industry unfolds, and regardless of who buys, sells or merges with whom. No matter which path they take, utilities with superior supply chains are more flexible, more desirable to acquirers, more efficient, more merger-friendly and significantly more profitable. In fact, Accenture research shows that savings from a typical utilities supply chain rationalization initiative can range from \$20 million to \$30 million for every \$1 billion in regulated revenue.

Admittedly, supply chain optimization is innately more difficult for utilities than for other industries. In a regulated environment, utility executives traditionally focused on network expansion, reliability, security and continuity of supply,

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renewable fuels, and conformance to environmental requirements. Controlling costs was not a top priority, so the supply chain often did not receive significant attention. Plus, executives' concern that supply chain belt-tightening might compromise, for example, the dependability of energy delivery or the provision of repair and maintenance services led to hesitation about implementing supply chain improvements. Lastly, the typical utility always has been small by other industries' standards, and thus the ability to reach broad economies of scale has been difficult.

Today, however, deregulation, changing economics and the emergence of new technologies have greatly amplified utilities' need to fully leverage the supply chain's potential to improve efficiency, reduce costs and enhance service levels. Advancements in three areas of supply chain management stand out as opportunities for improving utility performance:

- Procurement
- Collaborative Demand Management
- Fulfillment

Procurement

Exceptional short- and long-term benefits can result from the enhancement of utilities' procurement capabilities. Utility operations tend to be decentralized, and need to deploy purchased materials to a wide range of field locations. This means that significant rewards can follow consolidation of the procurement organization,

rationalization of the supplier base, and implementation of leading technologies and procurement processes.

A cornerstone of improved procurement performance is strategic sourcing (see Figure 1). The mission of strategic sourcing is to maximize the value of suppliers and minimize the total cost of ownership (TCO) of materials and services. Enhanced sourcing capabilities include the ability to:

- Make procurement decisions based on TCO considerations, such as price, quality, service needs and expected lifespan, rather than on purchase price alone.
- Develop a broader, deeper view of the supplier marketplace.
- Identify the optimal mix of suppliers.
- Negotiate and implement contracts with selected suppliers.
- Monitor and improve ongoing supplier relationships.
- Reduce TCO by improving the way materials and services are specified or used.

Overall, strategic sourcing cost reductions of 5 percent to 20 percent are common, which is no small number, given that a typical utility's sourcing costs are between 12 percent and 18 percent of its regulated revenue. More importantly, companies often benefit from strategic sourcing initiatives on a repeated basis. As companies become more astute and more strategic about

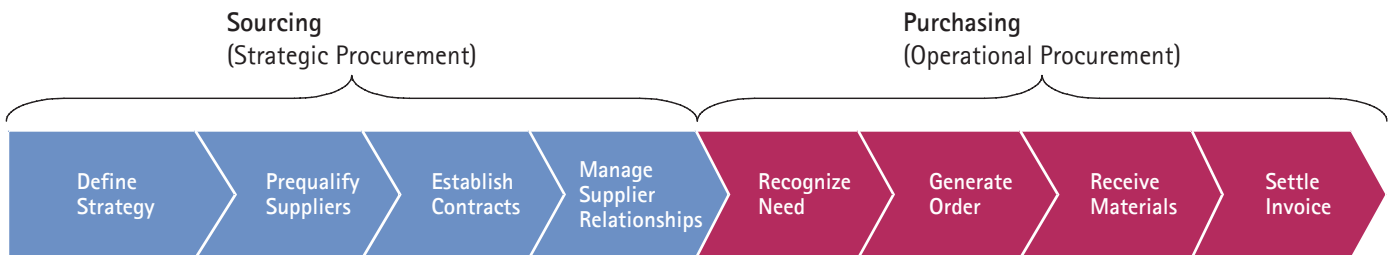


Figure 1: High-level procurement processes.

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using acquired supplier performance information, second- and third-generation sourcing programs frequently produce savings that equal or exceed those of the first initiative.

Taking a holistic approach to an integrated procurement improvement program can help utility executives to:

- Consolidate buying power across divisions and operating companies.
- Slash buying cycle times and minimize off-contract (rogue) buying by leveraging eProcurement tools.
- Reduce the overall expense of procurement administration.
- Shrink actual item costs by leveraging eAuction tools.
- Consolidate purchases with other utility companies through eMarkets.

Such a program includes three key components:

- Implementing strategic sourcing principles.
- Adopting leading practices and organizational approaches, such as "global commodity" teams.
- Leveraging new technologies, such as eProcurement tools.

A superior practitioner of procurement optimization is Electrabel, a leading European utility, which recently consolidated its purchasing operations and applied strategic sourcing principles to optimize procurement performance and reduce the TCO for purchased materials. The initiative resulted in total savings in excess of 9 percent (reducing operating costs and capital tied up in inventory), secured by long-term supply agreements with a reduced supplier base.

Collaborative Demand Management

Compared to other industries, many utilities' businesses are managed in a largely fragmented way. Autonomous, silo-type oversight of processes, such as finance, asset management, dispatching and materials management, is common. Not surprisingly, the resulting lack of holistic, cohesive

planning can have significant cost and service implications. These include potentially higher prices to mask uncertainty; multiple forecasts across the decentralized organization; ongoing misalignment of resources with demand; increased materials budgets; and problems with over- and under-utilization of personnel and materials.

The "collaborative planning, forecasting and replenishment" (CPFR) approaches adopted in some industries can be leveraged by utilities to overcome many of these issues. CPFR involves the sharing of relevant operating data and supply chain information across internal business units, as well as with suppliers, customers and channel partners. What CPFR aspires to—and what many non-utility companies have achieved—is the development of a single planning and forecasting approach that is adopted by all supply chain participants.

By adopting more integrated and collaborative approaches to managing demand, utilities can reduce contractor spend and material costs significantly. Contributing to these savings are a variety of potential improvements, including:

- Shorter construction times.
- Greater asset reliability.
- Improved, cross-functional input.
- Enhanced customer service.
- Better forward visibility of field workloads.
- More comprehensive deployment of historical data and algorithms.
- Work schedules that align more closely with requirements.
- Faster responses to unplanned events.
- Additional flexibility to reshape activities in response to changing priorities.
- Improved ability to collaboratively develop "what-if" planning scenarios.

Not surprisingly, technology is an important part of collaborative demand management. At a base level, this means leveraging tools to link different management and execution systems (e.g., asset management, budgeting, work and maintenance management, procurement, and materials

Electrabel replaced 55 staffed secondary warehouses with a network of 150 unstaffed pickup points. Since this initiative's launch, picking rates have increased by nearly 100 percent, while inventory levels have been dramatically reduced.

management) and data to provide a common, integrated view of the demand plan. Later, utilities may opt to manage demand via shared, Internet-based repositories of data or by linking mobile field devices to help generate and increase access to real-time information, thereby providing the opportunity to improve service levels as well as operational efficiency. The primary benefit is a common technical platform and common applications that can be accessed by all involved parties, with no confusion over standards and version control.

One of the most illustrative successes in collaborative demand management is Reynolds Metals. Following its implementation of demand planning and inventory planning technologies, the company's worldwide inventories were reduced by more than \$250 million, and forecast error rates dropped by an average of two-thirds.¹ Even greater rewards are possible in utility companies, given the autonomy and fragmentation of their demand-management processes.

Fulfillment

Successful fulfillment requires a variety of integrated capabilities, such as inventory and order visibility; consistent, affordable distribution and delivery operations; and easily accessible, cost-efficient customer service and support. In many cases, significant rewards can emanate from initiatives that are neither costly nor technologically complex. These include rationalizing stocking points, implementing direct deliveries to crews and jobs, and kitting. A real-life example of the latter is Electrabel, which replaced 55 staffed secondary warehouses with a network of 150 unstaffed pickup points. Now, kitted goods are assembled at a new distribution center and delivered overnight to one of the pickup points. Since this initiative's launch, picking rates have increased by nearly 100 percent, while inventory levels have been dramatically reduced.

¹ Logility, Inc.

Despite such successes, most utilities lag other industries with respect to fulfillment effectiveness. One problem is that in most utility companies the physical supply chain is managed in a decentralized way. As a result, fulfillment-related rewards such as the following often have been elusive:

- Sustainable inventory reductions.
- Minimization of crew material pickup time.
- Fewer material stock-outs.
- Reduced order-entry cycle times.
- Faster, more economical responses to spot-replenishment requirements.
- Higher levels of inventory visibility.

Often, fulfillment-improvement initiatives focus on a migration from regional or secondary warehousing approaches to centralized (hub-and-spoke) systems. This has been an attractive alternative for recently merged utilities that have not yet rationalized their distribution operations, and to utilities that are moving to a shared services model for supply chain management. Such was the case with Transco, which recently reduced its number of stocking points from 230 to 14, pared the number of distribution centers from three to one without compromising service levels, and subsequently cut its inventories in half.

Alabama Power also went this route: Following its implementation of a new hub-and-spoke logistics solution, the utility's inventory levels were reduced by \$9.5 million (a 46 percent reduction) and crew wait times for material dropped approximately 50 percent, all while improving overall field customer service levels.

The experiences of Electrabel, Transco and Alabama Power are not anomalies, even though few utilities have attempted to fully rationalize their fulfillment operations. In fact, Accenture research demonstrates that, with improved fulfillment operations, most utilities can achieve inventory reductions of 25 percent to 50 percent, and increase fill rates to 97 percent or higher.

Clearly, there are many characteristics and concerns to which only the utility industry can lay claim. However, the dramatic business improvement potential of utility-focused supply

chain management also is exceptional. To a significant degree, the innovative deployment of supply chain practices and applications can alter the fortunes of today's utilities.

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