Good Buy!

Part I: Strategic sourcing opportunities considering TCO

By Alexander Wirth and Joachim Klein

Old but valid Concepts

In times of shrinking margins and a harsh market climate, procurement offers manifold possibilities to optimize a company's profitability The lower the EBIT, the more powerful the lever of procurement becomes. The reduction of procurement-spend by only 1% improves the EBIT of a typical Pulp and Paper company by 10%[1].

Due to this significance, the general attention towards procurement has changed during the last decades. The growing awareness regarding the importance of the strategic and financial levers, which procurement offers within a company, have lead to fundamental changes in the organizational role of this function. While sourcing describes all activities of finding an appropriate supplier, purchasing includes all activities with regard to the buying process. 'Procurement' covers sourcing, purchasing and further activities related to the supply process (e.g. forecasting, demand management). As an integral business function, procurement extensively supports the competitive position and the profitability of a company. In many companies, the role of procurement has gradually switched from an administrative function towards an essential strategic part of Supply Chain Management.

Procurement models were developed and published already decades ago. To provide a prominent example, one of the first models emphasizing the strategic importance was published by Kraljic in 1983. He calls for "purchasing must become supply management" and offers a four phase supply strategy shaping model (Classification, Market Analysis, Strategic Positioning and Planning Actions). This model also includes a procurement matrix that consists of four segments aligned to the profit impact and the supply risk of categories sourced. It was designed to help procurement managers to categorize their materials and choose appropriate procurement strategies.

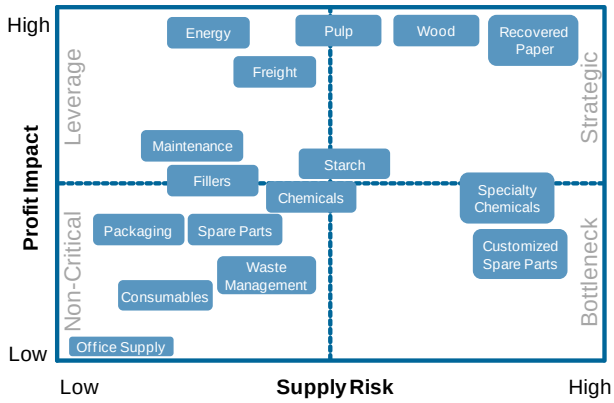

Figure 1: Procurement Matrix with Categories (Matrix based on Kraljic, HBR, 1983)

Even though benefits from procurement can be significant and plenty of models, like the given example, have been published, many companies still do not take full advantage of procurement opportunities today. Models like the Kraljic Model are important since they provide initial guidance. The detailed sourcing strategy needs to be defined for each category.

Often procurement departments have followed default concepts. Procurement is influenced by business strategy, the scope of business activities and the degree of vertical integration. As a result, it is important to take all cost drivers into consideration and evaluate the availability of know-how to for sourcing each category.

A comprehensive approach taking all aspects of cost and benefit into consideration can highlight considerable economic potentials. The Total Cost of Ownership model (TCO) provides a universal basis to improve procurement performance. Combining a TCO approach with the Kraljic Model offers customized opportunity for each sourcing category.

This article provides an overview of procurement strategies in the context of the Pulp, Paper and Packaging industry.

A simple model: Total Cost of Ownership

The main challenge is to get an exhaustive picture of all elements influencing costs. The Total Cost of Ownership (TCO) approach scrutinizes all cost drivers with regard to their direct and indirect cost effects. Holistic procurement optimization always targets the reduction of full costs per ton or unit produced, considering all costs and related benefits across the value chain. Taking only the price of procured goods into consideration is not sufficient.

In addition to price, process costs and usage drivers make up the TCO triangle (see Figure 1). These fac-

[1] Assuming 50% material cost and an average EBIT of 5%, the reduction of procurement spend by 1% hits the bottom line by 0,5% (1% of 50%), which equals 10% of the assumed 5% EBIT.

tors are typically dependent on each other. The framework offers a comprehensive approach to determine a company's cost-benefit-optimum for each supplier. Identifying the price-process-usage equilibrium (TCO-optimum) will lead to the lowest cost sourcing strategy.

The TCO model supports the procurement manager to make strategic and operational procurement decisions. It offsets shrinking margins and helps to safeguard a company's competitive position. It also offers collaborative opportunities to improve continuously along the supply chain - together with suppliers.

All categories like raw materials, services, energy, operating supplies and others categories procured will be assessed in a structured, balanced and fact based way. Managing according to TCO has the character of continuous improvement process as the optimum often changes with the market environments in each category (logistic costs, process improvement, yield improvements, etc…)

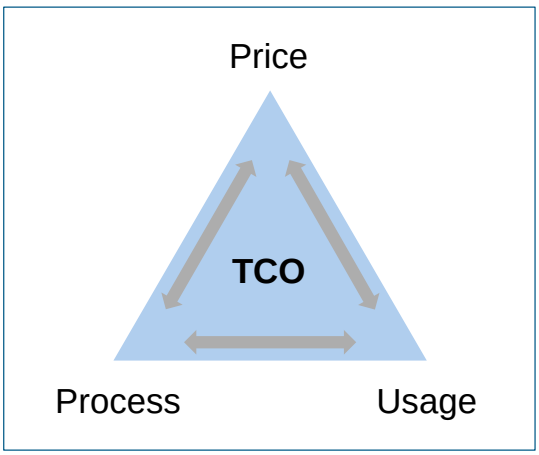

Figure 2: Total Cost of Ownership Triangle

1. Price

The first and still foremost element to consider in the TCO-Triangle is the direct cost per unit – the price. The amount of money that has to be paid for a good or service depends on the net price per unit and on additional price factors such as discounts, rebates, bonuses and payment terms. The higher the profit impact of a material or service, the more emphasis has to be put the price.

1.1 Price per unit

The price of a good or service is determined by supply and demand, quality provided, services included and volume purchased. Required volumes and the supply and demand balance in the supplying markets drive the bargaining power of a company. At this stage it is important to understand the positioning of a category in the Kraljic Matrix. Details per category are discussed at a later stage in this paper. Different procurement approaches exist to achieve better net-prices. Examples are tendering procedures (e.g. freight), competitive sourcing, the usage of reverse auctioning, marginal sourcing (e.g. scarce RCP markets) or long term contracts with fixed/index based price conditions. Continuous price monitoring is the basis for reducing the overall net price per unit.

1.2 Additional costs and savings opportunities

The net price is affected by discounts, tariffs, taxes, insurances and delivery costs (see "2. Process Costs"). To balance these influencers, decisions on country of origin and commercial conditions have to be made. As an example, payment terms influence both the price (discounts & rebates) and the costs of financing (credit) and, consequently, the total costs of goods procured. Payments terms influence the cash-conversion-cycle and capital cost, while cash discounts directly influence the procurement price paid (EBIT).

Depending on the liquidity and capital cost of a company, payment strategies can differ. Cash discounts are typically a much stronger lever compared to net payments for companies with solid balance sheets and access to capital (1% cash discount per month = 12% annualized interest rate). However, for companies with low liquidity or for those operating in regions with low liquidity it may be favorable to buy at net prices. Overall it can be stated that payment terms have become more important in recent years and procurement organizations have had to include the cost of financing in their purchasing decisions to a much higher degree than before the crisis.

1.3 Procured volumes

The price offered for a product or service depends mostly on the volume ordered. Despite specific exceptions (wood, waste paper, specialty raw materials or chemicals) in the Pulp and Paper industry, the price per unit typically declines as volumes increase with economies of scale and often related to volume bonuses. One opportunity for increasing procurement volumes is demand aggregation across production sites or organizational units through consolidated management of demand. As this principle is true in general many companies have failed to capture benefits long term if the aggregation approach has been applied too simplistically to all categories in a one-size-fits-all approach. A detailed understanding of the dynamics in each sourcing category is required. Short term benefits achieved in one year through

aggregation of demand without a category specific sourcing approach can be offset by rebounding costs in later years.

Bundling and volume aggregation is not a guarantee for successful procurement - it is merely one option available. If local sourcing leads to a lower TCO for some categories, it would be counterproductive to bundle this demand centrally. If an aggregation approach does not fit with the position and availability of supply in the Kraljic Matrix the approach taken may actually backfire.

2. Process Costs

Process costs depend on how procurement and supply chain processes influence total costs. Influencers are sourcing methods, demand management, collaboration with suppliers, administrative processes, organizational structure, information exchange and monitoring and overall efforts required to manage suppliers.

2.1 Sourcing Methods

The decision about a specific sourcing method depends on the category of goods or services sourced. The approach to be selected depends strongly on process complexity, storage cost, costs for tendering, fees for sourcing portals or costs for supplier selection and evaluation. Based on a holistic analysis taking all these parameters into consideration, the optimal sourcing method must be determined. The most important sourcing methods are listed below:

- make-or-buy – insourcing / outsourcing
- single- / dual- / multi-sourcing
- local / regional / global sourcing
- collective / individual sourcing

The make or buy decision is the foremost decision to be taken. The decision taken is if a category is procured externally or produced/provided internally. As outsourcing does not necessarily optimize business processes or generate saving in itself, it has to be ensured that either processes are streamlined in advance, or that close collaboration between outsourcing partner and customer enable process optimizations and therefore reduced overall costs. Outsourcing decisions need to be monitored continuously in order to maintain competitiveness. Maintaining control is essential in order to keep costs low in the long run.

Single-, dual- and multi-sourcing describes the number of suppliers to be selected. While single sourcing may reduce flexibility in the long run it has to offer the lowest total costs and additional potentials to customize processes and gain bonuses. Single sourcing may be the only option in some cases and a deliberate decision in other cases. Similar to outsourcing, single-sourcing processes must be closely monitored to maintain competitiveness. A multi-supplier sourcing approach increases competition and therefore may offer lower purchase prices and higher flexibility. On the other side a partnering approach becomes more difficult and the volatility of prices may increase. Volume benefits may not be captured fully. For example, in a market environment with high supply risk, a multi sourcing concept is recommended to increase supply security, although higher process costs may occur. The cost, risks and complexity of switching suppliers must be considered.

A Tendering process is a further approach for supplier selection. The result of a tender can lead to single or multi sourcing concepts, depending on price range and quality of goods and services offered. A tender offers the advantage that in addition to price and volume requirements additional service and process requirements can be included. Consequently, in commodity markets with low supply risk and low lock-in effects, tendering turns out to be beneficial to achieve improved pricing conditions at predictable process cost.

Local, regional and global sourcing takes the geographic sourcing radius into consideration. Local sourcing offers short communication channels, low transport cost and the possibility of close collaboration, global sourcing increases the competition between suppliers, flexibility of the buyer in terms of supplier selection but drives delivery cost and process complexity. In principal cost savings should offset the additional logistic costs and potentially longer lead times, higher storage and management costs.

Collective and individual sourcing describes the number of legally independent organizations that act together as a unit. A partnership approach or the creation of a legally independent purchasing organization may increase bargaining power by aggregating demand of the stakeholders. This requires collaboration between the stakeholder organizations that may even be competitors. Legal implications of such an approach have to be considered to avoid anti-competitive impacts.

2.2 Organizational Structure & Administration

The organizational structure needs to support the procurement strategy. The more employees involved in the sourcing process, the more complex and costly it typically gets. Lean hierarchies, clear responsibili-

ties, transparent approval procedures, defined processes and supporting systems are key elements for an efficient and cost effective procurement process.

Various alternatives exist: Central Sourcing, Local Sourcing or a combination of both (e.g. lead buyer concepts). The question about the right structure is dependent on each category and should be driven by the question how the highest economic benefit will be achieved. The organizational design of procurement and the relevant responsibilities determine the complexity, flexibility and responsiveness of internal processes, procurement performance and administration cost. In principle a central control should be taken in all major categories that strategically influence the bottom line of a company. Whether they are actually centrally sourced depends on the category. In some cases it is necessary to maintain a central overview but source locally (with a centrally provided framework) due to the lack of availability of central suppliers. In other cases it may be possible to coordinate all sourcing centrally (e.g. pulp) as suppliers are available globally. The guiding principle is to centralize where possible but keep local procurement wherever necessary. Independently of the emphasis of a structure – all procurement functions in an organization need to follow the same standards and process guidelines and need to monitor and report spend in the same way. A central sourcing of some categories and a central functional coordination of all others is recommended in either case. A clear definition of responsibilities for central and local procurement departments must be ensured.

2.3 Empowerment

Management empowerment provides authority to the of a procurement organization. Procurement is sometimes still seen as an administrative function with little authority to influence sourcing in some categories. Especially technical categories are often still predetermined by operations functions. While the knowledge and expertise certainly lies with engineers and technical specialists following a standardized sourcing approach by involving (technical) procurement will unleash opportunities for improvement. Procurement must be seen as an integral part of the value chain as the opportunity to influence the bottom line is tremendous.

The TCO concept also requires the procurement organizations to develop their skills beyond price and volume negotiations. A more thorough understanding of supply chain concepts is required and a further integration of the procurement function into the overall organization is advisable. Too often central procurement organizations are operationally too disconnected which often leads to a

Apart from negotiation skills, procurement organizations need to improve their category specific knowledge and skills in order to act as internal consultants in order to close the gap between central sourcing strategy and local execution.

Demand Management & Forecasting

Turbulent market situations, complex product portfolios and short term order changes cause demand volatility. The modification of recipes may change raw material consumption (see section ‘usage’). An efficient procurement organization manages such challenges through demand management and forecasting systems. The result is increased security of supply at reduced safety stock levels leading to lower Working Capital level and lower total costs.

Although information about storage levels and consumption is mostly available in the modern IT environment, it is often not utilized for proper forecasting and planning. For example, a planned change in the consumption of raw materials due to a change in the product portfolio may not be passed on to the procurement or replenishment function. Consequently stock levels will not be aligned to operational requirements. In the worst case the required raw material is not replenished in time and may have to be procured last minute (at a higher cost). Numerous examples exist where a closer link and exchange of forecast information between operations and the procurement function will improve TCO. Neither function is to blame – the target has to be a tighter integration of the functions to ensure a seamless flow of information.

2.4 Performance Management

Measuring supplier and procurement performance is cornerstone to assess the success of sourcing strategies. Agreeing terms and conditions of a contract is only a part of the picture. The reality is then shown in the actual execution. Therefore it is essential to measure performance continuously both with suppliers as well as internally. The performance data will also provide valuable input for future improvements.

a) Supplier Performance

Quality, quantity and punctuality of deliveries must be in accordance with the order. Compliance with agreed contracts is essential for the efficiency of a supply chain. The supplier’s impact on the performance of a company must not be underestimated. Related process costs are mainly driven by

- security and reliability of supply

- quality of goods delivered
- compliance with delivery slots

For example, delivery failure, incomplete delivery, bad quality of delivered goods or deviations from delivery schedules can lead to additional costs as a result of stock outs or even unplanned downtime.

To understand detailed supplier performance a tracking and performance management system needs to be in place. A performance framework based on service level agreements and penalty-systems will support proper claim management, including penalty payments and processing. The system will also provide information over time whether suppliers adhere to the overall requirements ultimately need to be replaced. Performance monitoring is especially important when big contracts are signed centrally but execution and goods receipt is handled locally. A reverse invoicing process (credit note process) is a solution where payments are automatically adjusted for quality deviations (e.g. contamination or moisture content in recovered paper).

b) Internal Performance Management

In addition to the external management of performance an internal performance management and incentive model should be installed.

Setting up a process in accordance with the TCO concept will reward procurement managers to continuously seek for cost saving potentials along the whole supply chain. Incentives and Key Performance Indicators (KPIs) have to be set up along the TCO principles and have to take annual cost savings targets as well as strategic and operational execution into consideration.

2.5 Collaboration

The level of collaboration and integration between suppliers and customers can have a fundamental impact on process costs. Models of collaboration can be Electronic Data Interchange (EDI), Vendor Managed Inventory (VMI) and integrated models like Collaborative Planning, Forecasting and Replenishment (CPFR). On the one hand, time-consuming manual work can be reduced depending on the level of automation; on the other hand there can be more visibility on the supplier side to changing demand.

For example, suppliers can get important information on customer demand through interconnected inventory management systems. This allows the supplier to react to changing conditions, to trigger shipments on time, to keep agreed stock levels or to extrapolate and forecast demand. Furthermore, information exchange enables joint forecasting, automatic replenishment or VMI solutions. Technical enablers for consumption tracking and forecasting are linked systems or the implementation of telemetry or scanner systems.

Another example for collaboration is the implementation of semi-automated invoicing processes like credit note procedures. These offer potentials to shorten processes reduce errors and risk and unveil hidden payment term potentials.

All of these arrangements reduce efforts in the procurement organization and significantly reduce process costs by automating information exchange. Collaboration can take place for instance with frame contracts or call order contracts. Long term price agreements (e.g. fixed price / index pricing / cap&floor) and customized delivery conditions reduce the workload with regard to negotiation and administration enabling focus on the other areas of TCO.

2.6 Supporting Element: Information & Reporting

A performance management system, providing information, reports and tracking mechanisms is essential to monitor spend and overall cost effectiveness. Procurement reporting has to support external and internal incentive systems. Often disconnected and manual reports can be found within organizational units that support local requirements but do not support overall management reporting requirements. It is advisable to support standard processes with standard systems. Considering the money transacted it is strongly advisable to invest in systems that support sourcing, execution and performance management.

Many companies have invested heavily in large scale ERP systems. Still it can be observed that the available functionality in these systems is often not fully utilized or bypassed with manual solutions.

A common system providing a transparent view about procurement KPIs and their development over time provides the basis for making decisions, reacting to trends and tracking the success of actions taken. The system must enable stakeholder specific Reporting:

- Procurement KPIs as part of top management business reports. The main elements mostly are fiber, energy, chemical and freight costs and prices in addition developments and trends. Especially raw materials with a massive impact on the top or bottom line need to be reported continuously

- Departmental reports with extended KPIs and detailed information. On a more detailed level, reports should contain historic cost and price development, detailed supplier performance, marginal prices and payment terms.
- Reports on operational level may highlight replenishment cycles, inventory levels, inventory coverage in days and frame contract data. They are designed to support daily business procedures and decisions.

Additional IT infrastructure is the prerequisite for reporting, process transparency or the implementation of certain procurement concepts. Examples are price monitoring, order approval, contract management, processing of purchase requisitions or inventory management systems. Furthermore, inventory management systems can be supported by telemetry systems or integrated scanner systems that allow real-time tracking of inventory levels and demand variation. Therefore, they support forecasting, demand management, replenishment or VMI. Another example for supporting procurement systems are desktop purchasing systems, allowing the requestor to enter purchase requisitions in a procurement system which are automatically forwarded for approval and processed accordingly. Overall a proper system landscape is a necessary foundation that can holistically support analysis, collaboration, decision-making and reporting.

3. Usage

The third element in the TCO concept reflects the usage of the amount or volume of materials and external services. The usage factor is directly related to the quality or efficiency of the input factor for a given amount of targeted output. For example while some chemicals or raw materials may have a low cost per purchase unit the overall consumption may be higher compared to other raw materials. Understanding usage and yield (input/output relations) is important to assess TCO and lowest cost. In some cases detailed testing is required to assess TCO.

3.1 Quantity

This aspect describes the quantity of materials, energy and services consumed. As costs of input factors increase over time, quantity of usage becomes even more important.

Recipes drive the specifications of a product and may offer a potential to reduce the consumption of expensive raw materials or substitute with cheaper ones. Prerequisite for such decisions is the careful re-evaluation of TCO before taking the final decision.

Raw material composition and material efficiencies are the most important levers for the ‘quantity’ aspect – although typically not driven by the procurement function. Wasteful use of input factors drives costs significantly. Reducing quantities of goods and services consumed reduces costs directly. Although these topics are primarily driven outside of the procurement function it is necessary to maintain close coordination between operational and procurement functions to capture potentials. Understanding substitution alternatives is necessary information for the procurement function in order to evaluate TCO. An example is improving a product’s recipe and optimizing the raw material mix by determining which material combination lead to lowest input cost. Another opportunity is joint development of raw materials with suppliers to adapt and customize material attributes to increase compatibility with the production process.

3.2 Quality

Insufficient quality of services and raw materials leads to claims, reduced yield, lower efficiency and potentially to reduced machinery lifetime. The consequences are avoidable additional costs. Raw material quality issues can lead to finished goods quality issues and higher production cost due to increased waste and may additionally even impact machinery.

Quality of input factors must fulfill the given requirements, but to safeguard the margin, it must not exceed specifications unless it leads to a lower TCO. The TCO approach is key to determine the appropriate level of quality to optimize the cost-benefit-ratio. Naturally the fact base must be known to take the necessary decisions.

3.3 Standardization

Standardization of products and services across production sites leads to decreased material and supplier complexity, which causes less management effort. Reduced material diversity enables more efficient inventory management processes and increases the security of supply at lower overall cost. Standardization can also increase the volumes ordered per material and supplier. For example, harmonization of chemicals, consumables and raw materials sourced from different providers helps to reduce complexity.

Summary

The TCO approach is applicable in all areas of sourcing and procurement and offers a powerful, structured and consistent tool to comprehensively analyze options and deliver measurable bottom line results. A customized approach for each category based on finding the optimum between price process and usage is required to unleash all benefits. A one-size-fits-all approach is not sufficient as individual conditions, strategies and challenges can differ significantly.

The main target is to achieve an overall improvement of competitiveness and profitability. Sourcing structures systems and processes need to be aligned to support this goal. Performance management systems need to be established to support measurement of results both internally and with suppliers. Procurement functions need to be empowered centrally and integrated into the operations locally.

Managing TCO is an ongoing and continuous learning process which needs to be established in daily business activities. This is crucial to maintain long-term economic success and competitive strength.

There is still much to be achieved in many categories within the pulp, paper and packaging industry. Procurement savings in certain categories can yield an additional 2% to 5% in cost reduction.

Using a transparent and measurable TCO approach, the procurement function can help to safeguard profitability in difficult times.

StepChange Consulting is an industry focused and independent management consulting company with a proven track record in supporting clients to achieve sustainable value. StepChange provides support to top tier organizations in the industry from strategy development to implementation of operational improvements. With our international team of industry experts we hit the ground running. We provide innovative and yet pragmatic solutions, placing an emphasis on delivering measurable business results.

For further inquiries and comments regarding this Point of View please contact us at *leapfrog@stepchange.com*