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# **Part II**

## **Key Domains of Supply Chains**

# Chapter 4

## Purchasing and Supply Management



Holger Schiele

**Abstract** Purchasing is the function in a firm responsible for the professional management of a firm's interface with the supply market, to ensure its supply with the necessary goods and services provided by other organisations, i.e. suppliers. Industrial firms spend more than half of their turnover on supplies, which is why the purchasing function has become a central success factor for modern firms. Purchasing can be distinguished into strategic sourcing (supply planning, supplier selection and contracting) and operative procurement (material ordering, expediting and paying). The activities of a purchasing department can be organised in a purchasing year cycle, which repeats on an annual basis. Next to ensuring a safe and timely supply, purchasing has the target to achieve good costs as well as to contribute to innovation and improve the strategic position of a firm. For that several tools have been developed, such as the Kraljić-Matrix (which helps to develop sourcing tactics), the lever analysis (used to systematically achieve cost savings) or the preferred customer approach (used to achieve competitive advantages through smart purchasing).

### 4.1 History and Relevance (Basic)

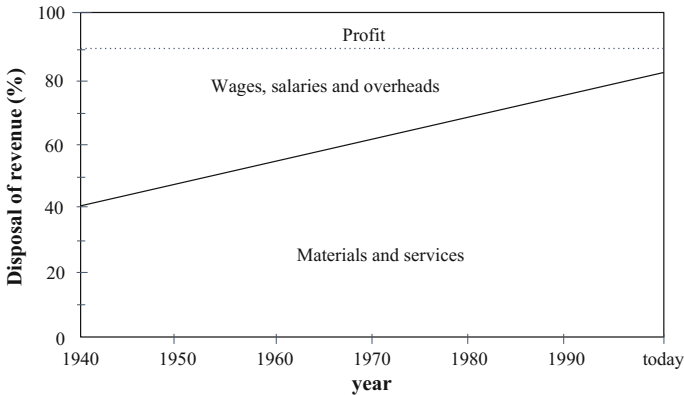
The installation of the inter-state railways in the U.S. has provided much impulse—not only for the development of the management function in general but also for the development of the purchasing function. For instance, at the Pennsylvania Railroad Company purchasing was given departmental status as early as in 1866. Also, the allegedly first management book in the English language that was fully dedicated to purchasing was published a few years later by a railway executive, Marshall Kirkman: “The handling of railway supplies: their purchase and disposition” (1887). Concerning the establishment of a dedicated purchasing department already by 1910 Redtmann noted in a dedicated journal article: “It should be regarded as a big mistake to neglect the significant advantages of a well-organized purchasing

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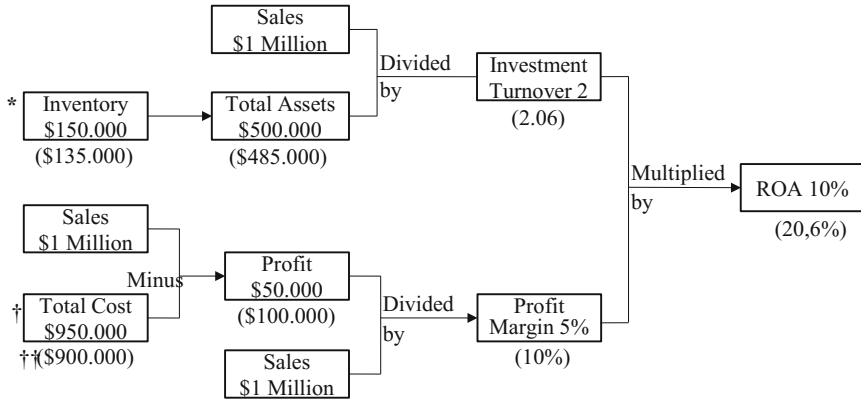
**Fig. 4.1** Growing importance of purchasing (Baily et al. 2008, p. 12)

department. Experience shows that this negatively impacts organisational success. Every experienced businessman will establish a purchasing department.” (Redtmann 1910, p. 55). Despite these and sporadic other beginnings every few years, though, the purchasing function largely remained in a state of the “sleeping beauty” that was only really awakened in the 1990s.

Today, an industrial company on average spends about 60% of its turnover on supplies (see Fig. 4.1). A few decades ago, this was completely different. For instance, in its early days Volkswagen ran its own farm that grew pigs, then produced the sausages, and then served those sausages as lunch for the workers. Today, catering is usually outsourced to firms concentrated on the core competence of running canteens, who again rely on specialists for diverse types of food and so on. The early VW Beetle purchased no more than 15% of its supplies. The remaining value was added by the VW factory. Porsche Cayenne is the exact opposite. This contemporary car relies on 85% of purchased components, and only the smaller fraction is value added by the manufacturer. Similar to the automotive industry, the depth of production has decreased substantially in virtually all industries; manufacturing leads the way, and service companies follow.

Because of the growing importance of a well-managed purchasing function, it can be derived that “Firms exist by selling, but earn profits by buying.” This statement becomes clear by a simple calculation. Assuming a typical industrial firm reduces its purchasing costs by 10%, then it would double its return on assets. Figure 4.2 illustrates how savings in purchasing lead to improvement in a company’s bottom-line.

It has been found that more mature purchasing organisations achieve significantly higher savings and that the relation maturity—savings can be measured (Schiele 2007). This means that from a firm’s perspective, it is worth to invest in increasing the sophistication of the purchasing department (i.e., to have better planning tools, well-defined processes, an adequate organisational structure, differentiated roles,



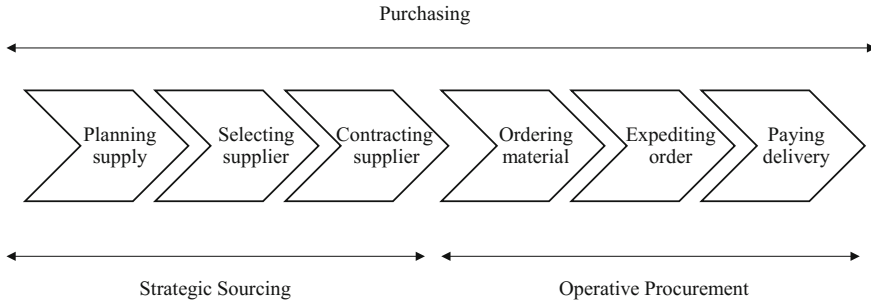
**Fig. 4.2** Small reductions purchasing volume substantially increase bottom-line results (Johnson et al. 2011)

well-educated purchasers) and rely on an efficient controlling system enabling continuous improvement.

## 4.2 Definition and Objectives (Basic)

There are several definitions of purchasing, which have been used somewhat differently in Europe and in North America. To make things more complicated, these definitions have also changed over time. A development of particular importance in this context is to split the purchasing function into a more strategically oriented set of activities around selecting and contracting suppliers and more operatively oriented activities ensuring the ordering and delivery of materials and services. The reason for this split is twofold: on the one hand, an often observed phenomenon is that if strategic and operative activities are bundled in one job, the preponderance of operative day-to-day activities prevent the execution of more strategic and long-term activities. On the other hand, strategic and operative activities require different skills and differently educated people. This is illustrated in Fig. 4.3.

*Strategic sourcing* comprises the process of planning supply, selecting suppliers and contracting them in order to establish the potential for supply. *Operative procurement* encompasses the ordering of material and services, ensuring its delivery and, finally, activating the payment, thus executing the order. Strategic sourcing and operative procurement together represent *purchasing*. Thus, a purchasing department is responsible for both operative and strategic activities. *Purchasing* (or *supply man-*



**Fig. 4.3** Strategic sourcing and operative procurement

*agement*) is the strategic and operative process of supplying an organisation with materials and services from sources external to that organisation; the purchasing department is active in all situations, which require a payment to third parties.

In principle, it is possible to run the strategic sourcing process without following it by operative procurement activities, for instance, if the demand for a good unexpectedly disappears but a supplier had previously been selected. At the same time, in some cases, it is also possible to execute operative procurement activities without relying on strategic sourcing activities. Ordering material without relying on a contract or, more generally, without following the established corporate process is called *maverick buying*. Maverick buying is considered to be detrimental to purchasing success, because uncontrolled purchases cannot professionally be handled. For instance, volume discounts are made impossible if users order material independently from each other and independent from established processes. In order to make it possible for an organisation to maximally leverage its purchasing power, all activities that result in an invoice from an external organisation should be managed by a professional purchasing department, hence: no payment without a purchase order.

Traditionally, purchasing has three main objectives: (1) ensuring safe, timely and sufficient supply at (2) appropriate quality with (3) the lowest possible costs. Reflecting the growing importance of suppliers for the prosperity of a firm, two novel objectives may be added, namely, (4) facilitating innovations from and with suppliers and (5) ensuring competitive advantage to the firm by guaranteeing privileged access to sources of supply.

1. *Safe supply*: the most basic objective of purchasing is to provide the materials or services needed to execute the transformation process of the respective organisation (i.e., the right goods need to be at the right quantity at the right time and, of course, at the right place, if needed with the required flexibility to adjust to changes). Stopping an assembly line, for instance, causes substantial costs that far exceed the value of missing components; hence, the emphasis on this objective is a necessary condition.



2. *Quality*: is another necessary condition, because a product that does not match required quality criteria cannot be sold. Sustainability of the supply chain has recently been included as a special and distinguished manifestation of quality.
3. *Cost*: is traditionally the main sufficient condition to make a sourcing project feasible. Regarding the importance of the cost block “supplies” in a modern firm, this criterion gains in importance. It is worth noting that costs exceed the price of a component but include logistics costs (transport, handling, storage) and several other types of costs including costs of utilisation, maintenance and extending to recycling costs (*total costs of ownership*) as well.
4. *Innovation*: Since the 1990s, there has been a fundamental change in how innovations have occurred. In-house research and development laboratories are no longer responsible for the bulk of novelties; instead, often buyer-supplier networks or specialised suppliers are. Hence, a novel objective for purchasing arose, namely, (a) to ensure the flow of innovation from suppliers into the buying firm and (b) to establish the conditions and to manage buyer-supplier collaborative innovation processes.
5. *Strategic positioning*: In a firm where the purchasing volume is of substantial size and where there is a scarcity of suitable suppliers, a further objective for purchasing emerges, namely, to ensure a competitive advantage for the firm by designing and maintaining a performant supply network to which the firm has privileged access, i.e. better access than its competitors in order to achieve competitive advantages.

In summary, purchasing refers to the supply of goods and services to the firm, complying to the above named objectives. Purchasing can substantially contribute to a firm’s business success.

### 4.3 Case Study Purchasing at Volkswagen: Building a Global Leader

Volkswagen followed a strategy called “Mach 18”, with the aim to become the largest car manufacturer in the world by 2018. Already in the first half of 2016, this target was reached: no other firm sold as many cars as VW. At the centre of this development stands a revolution in purchasing, which coined what the former speaker of VW, Ferdinand Piëch, called “the third industrial revolution in the automotive industry”.

When Piëch took over the chairmanship of the Volkswagen board more than 20 years ago, the company was far away from this goal; rather, he found it in poor condition, producing expensive cars in expensive factories. A traditional manager, at that time, would have tried to cut costs in production. But Piëch was no traditional manager. Rather, he had accumulated a rare experience for board members at that time: purchasing experience. While working for Audi (part of the Volkswagen group), Piëch had also served as chief purchaser. He

explains his key experience, which would later save the Volkswagen group, with the case of tires: The most popular—but by no means only—tire with Audi’s customers was size 195-10. However, this was also true for Daimler. “I only had to calculate: If we just threw out the smaller tires in the Audi 100, we will reach volume leadership against Daimler and BMW, and Audi can largely dictate the driving properties of the tires. This is how the idea was born.” (Piëch 2002, p. 59) By this move, the larger tires became cheaper than the smaller ones, which were then also replaced with the smaller car model Audi 80, again increasing volume. Later, this exercise was extended to other models like the Golf, and the Volkswagen group in the end bought eight times more such tires than its nearest competitor.

Two things in this example are remarkable: first is the typical price effect of volume bundling. VW not only used pooling of demand and price comparison and thus saved 15% of the price (in addition to benefits in logistics and production complexity reduction, which should be added in a total cost calculation), but also product improvement was applied, as they could now “dictate the properties of the tyres”. In the end, the idea of volume increase by using the same components with many different models led to the modularisation of the car and the introduction of Volkswagen’s platform strategy.

From this background, when taking over the chairmanship with Volkswagen, Piëch’s logical first priority was to improve purchasing and to hire the best purchasing manager available. He chose Ignacio Lopez, who had to be headhunted from the competitor General Motors (which later even went into a lawsuit against its former purchasing manager).

Lopez was installed at the board level and fundamentally changed the Volkswagen purchasing organisation. Many elements he discussed later became or are becoming “industry standard”, including the following:

- **Organisation:** Instead of having an independent purchasing department at each factory, a matrix organisation is established, where decisions for the entire company are taken in a joined sourcing committee. Thus, organisational conditions for pooling are established.
- **Advanced sourcing:** Instead of waiting for engineering personnel to design the product, members from the new department of advanced sourcing join the new product development team right from the beginning, conducting value analysis workshops, defining the specification, selecting suppliers but also managing the expensive change orders, which may be forwarded from the technical side but are commercially not very desirable. An important task of advanced sourcing is to avoid over-engineering, which is essentially an organisational issue requiring a dedicated process and structural organisation.
- **Module sourcing:** Instead of buying individual components, pre-assembled modules are bought. Modules are parts consisting of several components

that typically represent one physical unit and can jointly be installed in the final product and take over a certain technical function. In the automotive example, the cockpit would be a module, consisting of several components like the driving wheel, speedometer etc. Buying entire modules instead of their individual components reduces the depth of production of the OEM (original equipment manufacturer, e.g. the car company) and the number of suppliers, thereby making it possible for purchasing to dedicate sufficient time to each supplier and applying the entire available purchasing tool set.

These are only a few of the components of the purchasing revolution; others include global sourcing and its twin risk management, continuous improvement, supply chain optimisation, etc.

To conclude the case study on how Volkswagen's purchasing function led the way to this firm's ascension, there is one important remaining remark: while most certainly the introduction of a modern purchasing organisation by Ignazio Lopez represented the game-changing first spark, it is worth remembering that Volkswagen also applies the idea of continuous improvement not only to technical components improvement but to the development of the purchasing function as such. Volkswagen has installed the AutoUni, an automotive university in which its executive board functions have their own institutes. The institute of purchasing (alongside its peer institutes representing other corporate functions) administrates a Ph.D. programme, which not only nurtures the next generation of corporate leaders but also constantly pursues the application and development of new purchasing practices.

## 4.4 Different Purchasing Situations and Different Purchaser Roles (Basic)

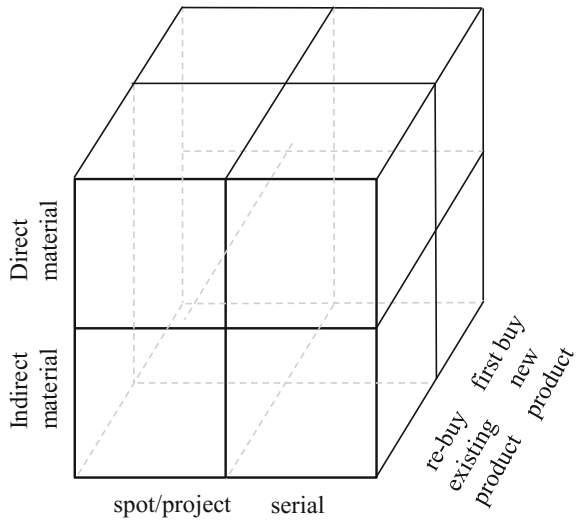
### 4.4.1 *Different Purchasing Situations*

Based on the type of purchased objects and its intended contribution in the buying organisation, several purchasing situations can be distinguished. Each situation requires different skills from the purchaser; hence, different purchasing roles emerge (see Fig. 4.4).

A purchasing object (material or service) can be distinguished as either direct and indirect material and project or serial products.

*Direct materials* are those that directly contribute to the final product the buying firm provides. Hence, direct materials are built into and disappear in the final product. *Indirect materials* are those purchasing objects that do not end up in the

**Fig. 4.4** Different purchasing situations



final product but are needed to support the production of the final good. From a managerial perspective, typically, the logistics of direct and indirect materials differ. For instance, just-in-time models, consignment storage, etc., typically refer to direct material. Hence, purchasers responsible for direct materials may benefit more from knowledge on logistics models than purchasers responsible for indirect materials.

Another distinction based on the contribution of the purchased object is whether the product is a one-time buy (spot or project) or repeated buy (serial product). A *serial* purchasing object is ordered in large quantities of equal units for repeated use in similar products. A *spot or a project* purchasing object is characterised by a single purchasing situation used only for a specific product. From a managerial perspective, the handling of serial as opposed to project goods differs substantially. For instance, serial products typically are sourced with a frame contract valid for a period of time (e.g., one year), whereas project purchasers typically make single contracts for each object. The relative time spent on strategic sourcing is typically higher with project buying, whereas the operative procurement component is often more important in serial production. Direct materials are often serial materials, but this is not necessarily always the case. For instance, in the case of machine building or shipbuilding, direct materials are sourced in the form of project buying, because each of the final products is unique.

Finally, based on the nature of the purchased material or service, a distinction between an existing product and a new product can be made. In the case of an already *existing purchasing object*, at least one supplier on the market is already offering the required material or service in the required form. In the case of a *new product*, no adequate supply can be found on the market, and a supplier must be contracted to develop it. From the perspective of the buying firm, an existing product can be a straight re-buy, because it had already been sourced before or it already

exists on the market but has not been sourced by this firm. With new products, an important distinction can again be made between those new products that only have to be adapted slightly according to the requirements of the buyer and those that have the character of a completely new product development.

Again, important differences in management arise based on this distinction, for instance, in controlling. With re-buy objects, the price paid before is known, and the difference towards the new price is called *savings* in the case that the price is lowered. Savings are more difficult to calculate for newly developed products, since no direct reference price exists.

#### 4.4.2 *Role Models in Purchasing*

Based on the different purchasing situations described above, several roles for purchasers can be distinguished. Often, these roles also differ in their main internal cross-functional partners. Typically, these roles require different skill sets and hence different educational backgrounds or different personnel development efforts:

- *Operative procurement*: is responsible for operational activities, i.e., ordering material and expediting the order. In manufacturing firms, the most common cross-functional interface partners are in production and (inbound) logistics.
- *Purchaser for direct materials/serial purchaser*: This is the most common role in a manufacturing firm. The serial purchaser is responsible for sourcing direct materials for production, developing a sourcing strategy and selecting and contracting suppliers. Typically, such a purchaser is dedicated to all materials from one category of purchased goods.
- *Purchaser for indirect materials*: This person is responsible for sourcing indirect materials, developing a sourcing strategy and selecting and contracting suppliers. Several variants—each with different skills requirements and different cross-functional interface partners in the firm—can be distinguished, for instance, service purchaser, investment purchaser and MRO purchaser (maintenance, repair, and overhaul).
- *Public procurement*: Most of the purchasing activities in the public and the private sector overlap. However, concerning the legal framework in particular on contracting issues, substantial differences exist, which result in a specialised job profile for public procurement.
- *Purchasing engineer*: The procurement or purchasing engineer—sometimes also called advanced sourcer—joins a new product development team as a permanent team member and interfaces with other development team members on the one side, and other purchasers responsible for specific materials on the other side. The purchasing engineer's main interface partner in the firm is the research and development (R&D) function.
- *Chief purchasing officer (CPO)*: organises the purchasing department and gives leadership to the purchasers, representing the purchasing function in the board of

directors of the firm. In smaller organisations, the CPO also executes several of the roles subsequently described in “other roles”.

- *Other roles*: Depending on the size of the organisation, a further specialisation of roles is often found, for instance, into *purchasing controller* (evaluates purchasing and supplier performance, monitors strategy execution), *supply risk manager* (operates the preventive risk assessment in the supply chain and manages the reactive risk mitigation), *purchasing HR agent* (recruits purchasers and supports their skills development), *systems and strategy* (implements and update purchasing IT systems as well as purchasing processes, organises strategy development), *supplier development engineer* (detached to support suppliers to improve their services), *supply chain finance* (supports suppliers with favourable financing conditions), *sourcing market analyst* (conducts market analyses and identifies new suppliers), *innovation purchaser* (systematically searches for supplier innovations) and others.

Depending on the size of the firm, these roles are expected to be executed by one person (in the case of a very small company) or are fulfilled by specially trained individuals. The most common model is a distinction between strategic sourcing and operative buying and a CPO who is given some support from a systems and strategy assistant or group. In high-tech firms, the role of purchasing engineers is gaining prominence.

## 4.5 The Year Cycle of Purchasing (Basic)

### 4.5.1 Overview

Regular purchasing activities can be depicted in the “purchasing year cycle”. Based on corporate planning that reflects the firm strategy, purchasing plans the supply for materials and services and selects and contracts suppliers (strategic sourcing; steps 1–4 in the category sourcing cycle depicted in Fig. 4.5). Subsequently, these plans are executed (operative procurement step 5), and their performance is evaluated (step 6).

While this set of sequential activities in the category sourcing cycle is executed at a category level, another set of activities is executed at the level of the entire purchasing department, hence, the “purchasing department cycle”. The overall success of purchasing activities is monitored through controlling activities (1) that contribute to strategic planning (2). Based on the new plans, process and structural organisation must be adapted, and personnel choices are made (3–6). Then, the cycle, which usually is repeated on an annual base, starts again. The category sourcing cycle is executed by strategic sourcing and operative procurement personnel from a particular category group, whereas the purchasing department cycle is administered by the management of the purchasing department, possibly supported by staff personnel, and refers to all category groups in a feedback process with both the department and external stakeholders.

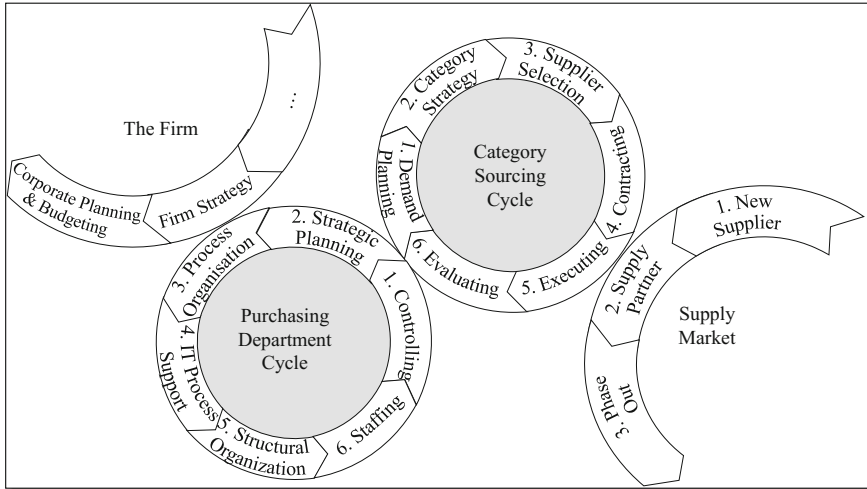


Fig. 4.5 Purchasing year cycle

Fundamental to the understanding of the purchasing year cycle is the understanding of the basic organisational unit of purchasing: the sourcing category (also called commodity group, product family, family of materials or material group). The term sourcing category seems best suited to describe the phenomenon, as it avoids the narrowness of definition implied by the word “material groups”, because they also include services. Likewise, it avoids the misconception implied with the term commodity groups, since sometimes simple market-traded goods (i.e., stocks) like raw oil or wheat are called “commodities”.

*Sourcing categories* are general groups of purchased items, including materials or services of a similar type provided by the same group of suppliers that constitute a single supply market. These groups are not formed based on technical characteristics, product characteristics, tax considerations or other sorting criteria but instead reflect the alternatives in the supply market. Suppliers that could serve as alternatives for each other belong to one sourcing category. If supplies are not administered in such category groups, professional purchasing activities face challenges, e.g., pooling of demand becomes difficult.

In a traditional purchasing department, purchasers were often responsible for all type of materials required at a certain location or from a certain group of users. As a consequence, such purchasers cannot develop particular industry expertise because they are responsible for many different materials. Second, the same supplier may have been contacted by different purchasers from different factories but from a single company, and they may have even offered different conditions. Third, the buying firm could not use its full purchasing power if several small quantities were negotiated instead of once a large volume. Because of these and other reasons, category management has been introduced.

## 4.5.2 Category Management Cycle

The following activities are typically executed at category level.

- (1) *Demand identification and planning*: The planning of demand, i.e., the aggregation of the expected quantities of required inputs from suppliers based on the forecasted sales of the firm, is needed at the beginning of the purchasing year cycle. For that, an analysis of the past is matched with a projection to the future. One tool used for planning is the spend cube. In a *spend cube*, it is depicted (a) who in the buying firm bought (b) what product from (c) which supplier. Filling a spend cube requires an IT infrastructure relying on a fully installed ERP system including a materials management module and a finance module as well as the software to extract and process the data. Such data are past oriented. For the future perspective, a sales forecast can be used as a basis to break down the planned sales into required purchase objects. However, not all demand may be planned beforehand; in that case, the process starts with a purchase requisition brought forward by a user throughout the year.
- (2) *Category strategy*: For each sourcing category, a strategy is defined, which reflects the targets from the corporate budget planning and defines the reflection of this strategy in the category. Despite all differences, each sourcing category strategy benefits from answering the same basic questions, which Arnold summarised with the following points (Arnold 1997): A category sourcing strategy explains (1) the value creation model (make, buy or co-operate), (2) sourcing object (raw material, assembled component, complete system), (3) supply chain model (stock, demand tailored, just-in-time, etc.), (4) number of suppliers (single source, few/many sources), (5) locational concept (local, cluster, global, currency area based, etc.), (6) pooling concept (how are synergies between the production units leveraged) to which (7) lever selection may be added. *Sourcing levers* are tactics used to generate purchasing projects and employ the sourcing. Typical sourcing levers include bundling volumes, price evaluation, supply base expansion, product optimisation, buyer-supplier process optimisation or relationship approaches (for details see Sect. 4.8).
- (3) *Supplier identification and selection*: Once the need is known and clearly defined, the selection of the best possible supplier is the next step. For that purpose, the purchaser issues a request for quotation or proposal (RFQ), which contains all necessary information for the potential suppliers, such as a technical description of the item, quality levels required, quantities wanted, dates needed, delivery locations, payment terms, etc. Based on the RFQ, suppliers willing to compete for the order submit quotations. Since typically each offer differs along the many parameters defined in the RFQ, these offers must be made comparable. A major and often very time-consuming activity of the purchaser is to homogenise the diverse offers so as to make them comparable. In connection to supplier selection, two tools may be highlighted: preferred supplier lists and global sourcing. A *preferred supplier* list contains those suppliers that have been pre-selected based on their past performance to serve as



preferential partners for receiving RFQs. Preferred supplier lists satisfy at least four purposes: (a) they simplify the work by limiting the scope of search and relying on suppliers that are already familiar with the requirements of the buying firm; (b) they ensure that purchasing volume is channelled to the pre-selected business partners with whom volume discounts can be achieved; (c) they avoid the uncontrolled inflation of suppliers serving a firm, which cannot be properly managed and risk controlled if their numbers grow excessively and (d) they create an incentive for suppliers to perform well in order to be listed on or remain in the preferred supplier list.

In case no or too few potential suppliers are available, it can make sense to run a global sourcing exercise. *Global sourcing* refers to the identification and possible contracting of suppliers located in other countries than the buying company. The association herewith is typically the following: by identifying previously unknown suppliers in low-wage countries, the buying company may (a) profit from their factor cost advantages and (b) increase competition among their existing supply base. The challenge with global sourcing, though, is that in addition to the price, further costs may arise. Therefore, it might prove beneficial for firms to adopt a total cost perspective exceeding a price perspective, only.

- (4) *Negotiation and contracting*: Once a shortlist of potential suppliers is defined, an often intensive negotiation process starts on which end one or more contracts are signed (depending on the decision to apply a single source tactic or use multiple sources). *Negotiation* is a formal process of communication in which the different parties seek to reach a mutual agreement about an issue, in case of a supplier negotiation about the terms and conditions of a purchasing contract. Negotiating differs from bargaining since it is a multi-dimensional exercise that is not solely directed at price comparison. It is commonly agreed that the negotiation success depends strongly on professional preparation, which requires a good understanding of the position and expectation of the supplier as well as of the buyer's own targets and limitations. A buyer may need to define its *LAA* (least acceptable agreement), its *MDO* (most desired outcome) and its *BATNA* (best alternative to no agreement). In case of perfect information in a fully transparent market, negotiations would not be necessary. Markets coming close to this status typically develop stock exchanges in which homogenous goods are exchanged and form a market price, which is equal to all.

Once an agreement is reached, *contracts* are signed, i.e. legally binding agreements resulting from an offer and its acceptance that specify the terms and conditions of the transaction. The *Incoterms* (international commerce terms, updated since 1936) can be used to clarify conditions, for instance, by specifying whether the cost and freight are covered (CFR), or if conditions apply ex works (EXW), and the buyer collects the purchased goods at the supplier's location. There are many types of contracts, such as fixed-price or cost based contracts, short or long term contracts and partnering agreements. Annual contracts are often used, which are frame agreements that cover purchases for the next year.

- (5) *Executing*: This is also known as “purchase-to-pay process”. Once a supplier is contracted, purchasing orders can be placed. Depending on the purchase situation, the contract may in fact contain the purchase order, whereas in annual contracts, for instance, call-off agreements will be used against which material requisitions are placed. In the case of serial production, this is typically done automatically through connected IT systems, once the sales confirmation for the final product has been recorded or, alternatively, once a pre-defined minimum inventory level is undercut. Once an order is placed, confirming, follow-up and expediting activities, in case a shipment is threatening to be overdue, are executed in order to ensure that the items are delivered according to the specifications and on time. Here, a main activity of operative procurement is concentrated. Finally, the invoicing and payment process concluding a transaction is part of the execution. The productivity of the operative procurement process has been substantially improved in the last years through automation.
- (6) *Supplier evaluation*: At the end of the process, *supplier evaluation* may take place, i.e., a systematic assessment of a supplier’s performance after delivering one or more purchased items. As opposed to the previous steps—in particular, supplier selection, contracting and execution—supplier evaluation is not technically necessary to apply or legally binding. But it is an integral step in the purchasing process of a mature buying organisation. Two general types of supplier evaluation can be distinguished: quantitative and qualitative supplier evaluation. For quantitative supplier evaluations, data are retrieved from the IT system and cover metrics such as delivery reliability, quality complaints, returns rate, etc. Quantitative supplier evaluation data are easier to generate since they come directly from the ERP system. This data mainly documents the supplier’s performance but does not explicitly note reasons for potential problems. To document reasons for potential problems, a qualitative supplier evaluation is beneficial. Here, buyer employees having contact with the supplier are asked to fill in and discuss among each other a set of questions concerning the perceived functioning of the supplier (e.g., performance, costs, service and soft facts, systems and strategy). In an industrial setting, qualitative supplier evaluation questionnaires are usually filled in by strategic sourcing, operative procurement/logistics/production, quality and R&D personnel. These pieces of information may be used to include or to remove a supplier from the preferred supplier list or to start supplier development programmes in order to overcome identified weaknesses. With supplier development, an active and a passive form can be distinguished. In *active supplier development*, the customer devotes their own resources to support the supplier (e.g., sending quality personnel, inviting supplier personnel to trainings, etc.). In *passive supplier development*, the supplier is asked to improve by itself (e.g., committing to improve the weak points detected in supplier evaluation and checking the progress after a determined period). Qualitative supplier evaluation typically takes place once each year and thus concludes the category management year cycle.

### 4.5.3 Purchasing Department Cycle

Whereas the above described activities of the “category sourcing cycle” (see Fig. 4.5) are executed at the category level, the following activities of the “purchasing department cycle” are administrated at the departmental level by the CPO and staff employees.

- (1) *Controlling*: Purchasing controlling fulfils three important functions by (a) calculating and monitoring savings, (b) administering project progress and (c) preparing performance and improvement reports. In the annual budgeting process of the firm, the size and development of the purchasing volume plays an important role in achieving the profit targets. This overall budget target must be broken down to each category group’s contribution. Out of this plan, target costs can be derived (see Fig. 4.6).

Often, a difference between past costs and future allowed costs may arise; hence, purchasing must generate savings. Savings can be calculated against past costs (e.g., against first offers from suppliers, against price indices) or against target costs that fit into the overall corporation planning process. Controlling helps to define targets and monitors the achievement throughout the year. Project monitoring is closely linked to this activity. In order to achieve their targets, the responsible purchasers will define and subsequently execute sourcing projects that enable the achievement of the targets. These projects (e.g., enabling a new supplier, realising process cost improvements with a supplier, reducing costs by improving the sourced product) need to be monitored throughout the year. For this, a tool called *degree of implementation* (DI) has been suggested. DI is a project monitoring metric that splits project progress into five clearly defined

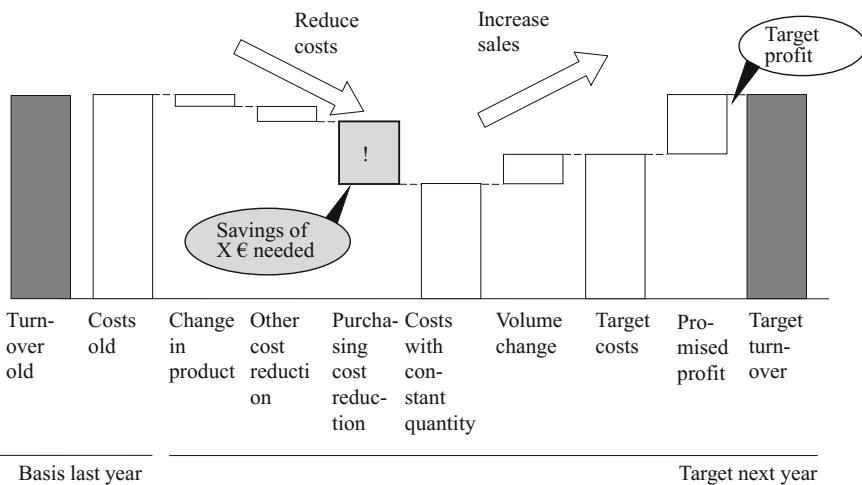


Fig. 4.6 Annual planning

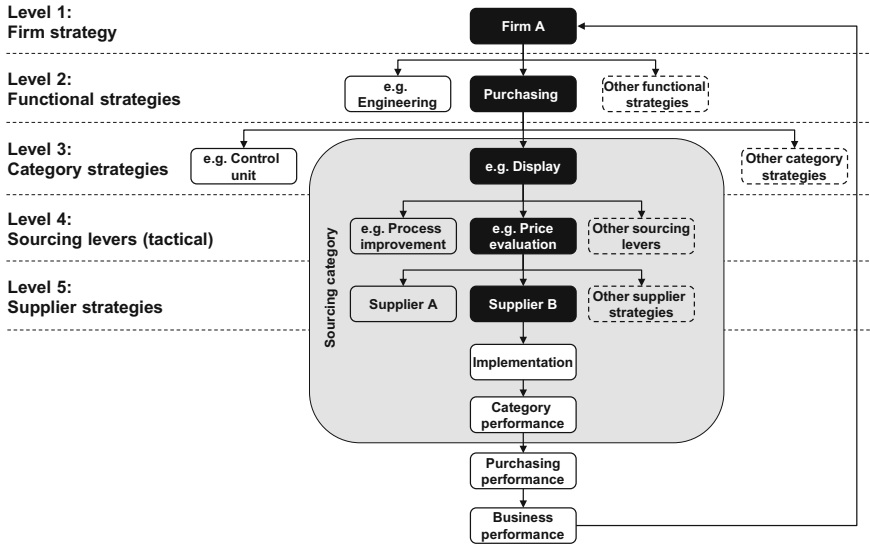


Fig. 4.7 Hierarchy of strategies in purchasing (Hesping and Schiele 2015)

execution levels that can be reported. The five levels are (DI1) idea defined, (DI2) savings estimated, (DI3) initiatives defined for implementation, (DI4) savings contracted and (DI5) savings financially effective in the balance sheet. Next to costs, controlling monitors the achievement of the other purchasing targets, such as its contribution to innovation or to the strategic goals of the company.

- (2) *Strategising*: A purchasing strategy must be aligned to and often be guiding for the overall strategy of the corporation. There is one important thing to remark, however: purchasing may better be seen as relying on a hierarchy of strategies (see Fig. 4.7). The reason for this is lying in the organisational principle of purchasing departments, which typically are structured along categories of goods. Each category may be in a different purchasing situation, for instance, direct or indirect material requiring different approaches (see Fig. 4.4). Hence, each category needs its particular strategy. Jointly, these individual category strategies contribute to the achievement of the firm’s overall targets.
- (3) *Process organisation*: Organising includes the establishment of the structures of a firm and the design and implementation of a supportive process organisation. Here, typically a strategic sourcing process is specified next to an operational purchase-to-pay process, the former covering steps 1–4 in the category sourcing cycle and the latter step 5. Depending on the industry, the level of maturity and the size of the firm, purchasing activities may recur on more specific processes, such as an early supplier inclusion process in new product development projects, a supply risk management process, a supplier development process and others.
- (4) *IT process support*: An important tool here is e-procurement. *E-procurement* refers to the digitalisation of procurement processes, electronically linking buyer

and supplier. A common form uses e-catalogues, which contain negotiated items and allow the end users to order materials. *EDI* (electronic data interchange) is another popular technique that allows for a direct and digital data exchange between buyer and supplier. It is widely expected that as the consequence of the *fourth industrial revolution* (industry 4.0) with cyber-physical systems and autonomous machine-to-machine communication, the automation of operational procurement activities (but possibly also parts of the sourcing process such as digital negotiations) will progress.

- (5) *Structural organisation*: Following the classical dictum of “structure following strategy”, the structural and process organisation of the purchasing function must be reviewed annually. An enduring question of organisational structures is balancing the level of centralisation with decentral authority. This issue is of particular relevance in purchasing, as from a pooling perspective, a group of companies would preferably have one central purchasing department only. Based on the amount of involved persons or locations in an organisation and the extent of the formalisation of the product, purchasing literature and practice has, however, come with three suggestions on how to cope with this tension in an intermediate way, i.e., neither fully centralising nor fully decentralising purchasing: implementing lead buyers, purchasing councils or shared services. *Lead buyers* are individual purchasers responsible for buying a particular category for the entire group. This model is recommended if a particular location of a multi business unit corporation has a high percentage of the total purchasing volume. In *purchasing councils*, delegates from each business unit jointly negotiate contracts valid for all units. This model is often applied if 4–8 business units with similarly sized demand are present. *Shared services*, finally, refer to an organisational model that aims at providing corporation-wide support in a particular category by pooling services together and installing a special organisational unit. Shared services are considered to be most effective if there are many users with a similar, fully specified demand.
- (6) *Staffing*: Finally, once targets have been defined and processes and structures have been adapted to make the attainment of these targets possible, adequate personnel must be employed, respectively trained, to fulfil the required tasks. Here, the role models explained in Sect. 4.4 can be used.

Supported by a suitable organisational structure and processes that enable the department to reliably produce similar results, the cycle can start again.

## 4.6 Theories Supporting Purchasing Decisions (Advanced)

Purchasing is a field of business administration. Business administration science, in turn, has traditionally been application oriented; that is, it attempts to provide industrial practice with well-founded but implementable decision support. At the same time, a shared theoretical fundament for purchasing science as a means for providing

systematic decision support is just about to be developed. A literature review reveals that about two-thirds of the covered academic papers on supply management does not rely on any particular “grand theory” (Chicksand et al. 2012). Those using theory to base their assumptions typically rely on transaction cost theory, principal agent theory and resource based/network theory models. This analysis reveals another interesting finding: papers that relied on a particular theory were cited significantly more often than those not embedded in any particular school of thought. This indicates that the development of a field may speed up by relying on a common set of theories that are gradually better understood. The rationale behind this observation may be that theory-based research avoids redundancies, because it is easier to understand what has been previously studied. Therefore, some of the most applicable theories for purchasing decision support are briefly sketched below. The measure for “applicability” and theory selection here is not only its past application in literature, but first of all the potential to solve decision problems in the purchasing year cycle.

The main decisions purchasers responsible for a category group must make in the year cycle can be bundled in four main categories: (1) the make-or-buy decision needed to determine if a purchasing act will be necessary; (2) the decision on a suitable sourcing strategy for the entire category group, for instance, determining the number of suppliers; (3) the decision on a particular strategy towards the individual suppliers chosen as preferred within a category group, defining how the relationship should be designed, for instance, in a more collaborative way or on arm’s length terms and, finally, (4) support for the final decision to negotiate and sign a contract in the interaction with each supplier.

The ideal theory would offer guidance for all decision points. However, there is no such thing as a universal purchasing theory available, so far, but only partially supportive theories:

- *Transaction cost economics*: Until now, the most popular theory backing purchasing research relies on the work of COASE and the subsequent development of the theory by WILLIAMSON, for which both were awarded a Nobel prize. In essence, the theory starts with the position that each economic transaction (e.g., a buyer-supplier exchange) incurs particular costs called the transaction costs (Williamson 2008). Depending on their extent, firms should either produce their products in-house, outsource the production or possibly find a position in between the two extrema. Transaction cost theory is based on the assumptions of bounded rationality and opportunism. From this theory, an apparent contribution to the make-or-buy decision can be drawn (decision point 1). The theory may also contribute to decision point 4 (contracting) by elaborating on the function of contracts and contractual safeguards contributing to reduce transaction costs.
- *Resource dependency theory*: This theory is based on a book called “The external control of organizations” published by PFEFFER and SALANCIK (Hillman et al. 2009; Pfeffer and Salancik 1978). The title of this book already gives an indication of the close link with purchasing, the latter being the function responsible for the management of the external supply links of an organisation (even though the book lacks a clear supply management focus). Resource dependency theory, in

essence, sees the firm as an open system and posits that firms should reduce their dependence on external resources controlled by other parties. The ability to acquire and maintain external resources is seen as essential to a firm's survival. Again, assuming bounded rationality, this theory focusses on contributing to decision points 2 and 3, formulating category group strategies as well as individual strategies towards suppliers.

- *Relational view of the firm*: The only “grand theory” that may claim to have its origin in purchasing research is DYER and SINGH'S “relational view of the firm”, which can be seen as a special form of resource-based argumentation, focussing not on internal but on external resources (Dyer 1996; Dyer and Singh 1998). The authors studied the differences between Japanese and American buyer-supplier relations in the automotive industry. According to this theory, firms may obtain relational rents by collaborating in the supply chain. Relational rents are returns on collaboration between independent partners who jointly are able to produce better results than alone. Relational rents are determined by the availability of relation-specific assets, knowledge sharing routines, complementary resources and effective governance structures. The importance of this theory is further underpinned as it contradicts the verdict of the classical market-based view in strategic management, which assumes perfect factor mobility, i.e., equal access to suppliers by all market participants and thus no strategic contribution by purchasing (Mol 2003). Apart from the general positioning of purchasing as a strategic task with the target of providing competitive advantage to the firm by generating relational rents together with suppliers, the relational view concretely contributes to the formulation of category strategies and supplier strategies (decision points 2 and 3).
- *Principal agent theory*: Agency theory shares similarities with transaction cost theory but focusses on contracts and relational agreements between a principal (e.g., the buying company) and an agent (e.g., the supplier) and has found substantial application in supply chain management (Fayezi et al. 2012; Steinle et al. 2014). Especially at the beginning of a new relationship, potential benefits of trust are challenged by the potential risks of opportunistic behaviour fostered through asymmetric information. Thus, the chance of the supplier to act opportunistically is considered as a relevant factor affecting the buyer–supplier relationship. Agency theory suggests various possibilities (e.g., signalling, screening, monitoring) to effectively limit this opportunistic behaviour. It becomes clear that here again a theory is presented that can benefit purchasing, in particular, in deciding on the design of a buyer-supplier relation and contracting (decision points 3 and 4).
- *Social capital/exchange theory*: Buyer-supplier interaction does have a strong relational component. Social capital and social exchange theory focus on this relationship. Social exchange theory assumes that market exchange may involve both economic and social outcomes; it develops a new perspective on opportunism, and it rejects a universal homo oeconomicus, strictly maximizing economic profits (Lambe et al. 2001). Thus, the assumption that economic agents behave opportunistically whenever the possibility arises is refuted. Instead, social exchange theory analyses under which conditions a relationship is initiated (if the partner is considered to be sufficiently attractive) and when it is continued (if the

relationship satisfies the expectations, and no better alternative is available). Social capital theory, then, specifies a relation by distinguishing between structural, relational and cognitive forms of social capital. These theories can be helpful to describe buyer-supplier relations (decision point 3) but also to develop category strategies and design supplier portfolios.

- *Game theory* was originally created by VON NEUMANN, when he developed applicable maths to calculate the best solution for strategy games and then made the link to business application. Essentially, game theory attempts to determine all possible scenarios in a game, after which the best strategy should be found for each player, whose actions in turn influence the other player(s). The underlying assumption here is the rationally acting homo oeconomicus, who assesses his options and makes the choice with the highest predicted outcome. Concerning the application to purchasing decision support, buyer-supplier negotiations can be interpreted as games (Nagarajan and Sošić 2008). Likewise, game theory may support sourcing strategists when analysing the supply market. Closely linked, “mechanism design” is a field in which actors try to design a (for instance, negotiation) environment to achieve the desired outcome of a game (decision point 4).

It is important to note that the above selected theories cannot all be applied jointly, because some rely on contrasting assumptions, such as bounded rationality as opposed to the rational homo oeconomicus.

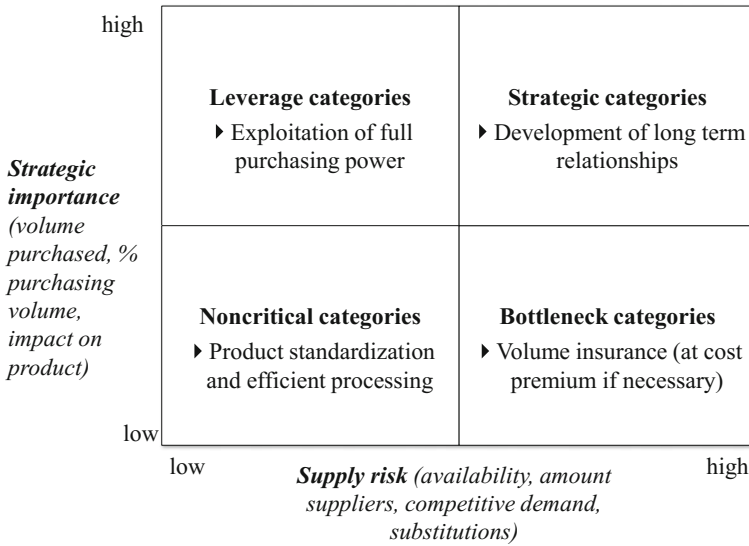
In conclusion, it can be stated that there are theories available that help to underpin purchasing decision-making and can serve as guidelines not only for practical decisions but also for future research. However, a single “general purchasing theory” is not available.

## 4.7 The Kraljić Matrix and the Development of Sourcing Strategies (Advanced)

The Kraljić Matrix is probably the most famous and widely applied tool in purchasing and is named after its inventor. The  $2 \times 2$  ‘Kraljić matrix’ (Kraljic 1983) distinguishes a noncritical, leverage, bottleneck and strategic portfolio quadrant along two dimensions: (1) ‘strategic importance’ and (2) ‘supply risk’. For each portfolio quadrant, literature offers corresponding, generic strategic and tactical recommendations (see Fig. 4.8).

Peter KRALJIĆ was a young consultant on a major project of one of the German chemical giants when he was asked to work with the company’s purchasing department. At that time, the portfolio approach in strategic management was popular. This approach argued that firms should only be active in businesses that showed a growing market and in which they had a strong position, preferably among the top three. Inspired by this idea, KRALJIĆ created an approach to purchasing strategy, which he called the “purchasing portfolio analysis”. The firm was so thrilled by the model that it took four years till they allowed a first publication (Kraljic 1977)





**Fig. 4.8** The Kraljić matrix (Based on Kraljic 1983)

The following steps are suggested to implement his approach:

1. *Classification of category group:* First, the strategic situation for each category group is analysed. Four general situations are distinguished, depending on the products’ impact on the profit of the buying firm and on the supply risk.
2. *Systematic analysis of the supply market:* This analysis is used to determine the bargaining power of a buyer and its suppliers. Note that while the first step was conducted at the category group level, now the supplier level is addressed. Based on criteria like suppliers’ capacity utilisation and the uniqueness of its product, the strength of the supplier is analysed. Annual volume purchased and expected growth as well as demand stability are, then, used as criteria to analyse the attractiveness of the buyer and hence the strength of its bargaining power vis-à-vis suppliers.
3. *Strategic positioning and strategy development:* Based on the information from the previous steps, for each category a strategy is developed. For that, KRALJIĆ recommends standard strategies. Typically, for strategic commodities long-term supplier relationships that enable differentiation towards the competitors are recommended. For bottlenecks, the focus should lay on ensuring supply and possibly replacing the product. With leverage goods, short-term supply and aggressive price negotiations are recommended and with non-critical items, typically efficiency in operative procurement would be the solution.
4. *Action plans:* Finally, projects with measurable targets, milestones and assigned responsibilities have to be developed for each category.

With KRALJIĆ'S work, a first comprehensive strategic sourcing approach has been presented; this greatly progressed purchasing practice and moved it from an operative case-by-case procurement approach to a strategically planned and coherent sourcing approach. His category descriptions—leverage, bottleneck, strategic and routine—have entered into the standard vocabulary of purchasers.

However, the matrix was also criticised. For instance, the model has been condemned because of its lack of analytical rigor: it ignores important influencing factors in determining a buyer's profit impact and supply risk (Cox 2004). This, however, does not necessarily falsify the general idea, but offers a path to refine the assessment.

Another difficulty arises from the challenge to apply the model. Sometimes the level of analysis—category or supplier—is unclear. KRALJIĆ uses two steps, the positioning of the category and then the analysis of buying company and suppliers' strength. Often, these two steps are merged into just one matrix, which may be somewhat simplistic, as it neglects the role of individual buyer-supplier relations. Another criticism refers to his recommendation of standard strategies, which appear to be exclusive for each situation. Empirical work, however, has shown that sourcing tactics are used more in an additive rather than an exclusive way (Hesping and Schiele 2016a). Finally, KRALJIĆ has been criticised for not sufficiently detailing what action plans should finally look like. Here, a potential remedy is the sourcing "lever" approach.

## 4.8 Lever Analysis and Cost Savings (Advanced)

Another important tool in strategic sourcing that fills the gap between category strategies and actionable plans is the lever analysis (see Fig. 4.7). *Sourcing levers* describe sets of tactics used to operationalise sourcing strategies as a combination of coherent activities in a sourcing category. The levers are the "tricks" used by purchasers to achieve cost savings.

A lever analysis exercise ideally is executed by a category team, organised by the responsible purchaser, but includes the main cross-functional partners, such as quality assurance, logistics/production and engineering/R&D. Jointly, they systematically analyse the options best suited to implement a sourcing strategy and to generate cost savings by iteratively analysing each tactical lever; eventually, they merge a coherent set of levers into an action plan. Following the lever analysis approach, each individual sourcing category is checked to determine which levers could best be applied.

In the literature, diverse lever models can be found, ranging from five to 114 levers. Most of them, however, can be grouped into any of the following seven types (Hesping and Schiele 2016b):

1. *Volume bundling* refers to the consolidation of demand and increasing the purchase volume for quotation. Instead of buying similar items separately from each

other at each location, a firm maximises its purchasing power by pooling demand and buying jointly.

2. *Price evaluation* refers to forming price targets and analysing suppliers' bids and cost structures. Application of novel forms of price negotiation such as auctions also fall under this lever.
3. *Extension of supply base* refers to increasing the number of sources and bidders per request for quotation to raise bargaining power; this often involves global sourcing projects but also supplier development to nurture new competitors.
4. *Product optimization* refers to modifications to the design, functions and materials of the purchased items. For instance, a design that requires less material generates savings and does not harm the supplier.
5. *Process optimization* refers to efficient and effective processes related to the buyer-seller interfaces. Often, automation in operative procurement and industry 4.0 applications, but also in logistics can be applied here.
6. *Optimization of supply relationship* refers to establishing and maintaining a long-term, mutually beneficial, privileged relationship between buyer and supplier. Partnering contracts and supplier alliances can be a case at hand.
7. *Category-spanning optimization* refers to balancing trade-offs between multiple sourcing categories and enforcing mutual approaches from otherwise distinct sourcing teams.

Levers 1–3 are also called “commercial levers”, because they can be applied by purchasers alone and have limited support from other functions, whereas levers 4–7 are known as “cross-functional levers”, because their applications require intensive collaboration with other functions. For instance, product optimisation links to engineering, whereas process optimisation often links to logistics. The commercial levers try to exploit existing benefits, while the cross-functional levers try to explore new benefits.

Empirically analysing the application and effect of sourcing levers, it has been found that several levers are typically employed in each category. It has also been found, however, that not all levers can be applied at once; hence, there is a need to first draft a category strategy. For instance, there appears to be a relevant trade-off between global sourcing and product optimisation (Schiele et al. 2011). With this set of empirically evidenced sourcing tactics, purchasers have a set of tactics at their disposition that enable them to systematically leverage the sourcing potential of a firm and to link their category strategy to actionable purchasing projects.

Lever analysis has been criticised for its lack of academic rigor, as its origins are, similar to the case of the Kraljić matrix, in practice. While this may be true for some models, it does not falsify the entire approach. Another criticism refers to the general attitude of addressing individual categories instead of, for instance, entire products or processes. This is a fundamental concern challenging the implementation of category management in purchasing. To mitigate this criticism, the seventh lever (“category-spanning optimization”) has been introduced, which explicitly asks to consider the effects that the optimisation of one category may have on others (e.g., cheap copy paper may require more printing ink). Lever analysis may be best suited to satisfy the

cost savings target of purchasing, but it may contribute less to the other targets such as innovation and strategic positioning. Finally, the efficiency of sourcing levers may be limited by the level of purchasing maturity an organisation has (Schiele 2007).

The sourcing levers are tactical in nature. For a strategic (re-)positioning of a firm, other tools, like the preferred customer matrix are more supportive.

## 4.9 Achieving Preferred Customer Status and Supplier Satisfaction (State-of-the-Art)

### 4.9.1 Preferred Customer Policy as Means to Achieve Competitive Advantage

The last two decades revealed two fundamental changes occurring in the supply chain: first, a concentration on core competencies and the outsourcing of the remaining functions steadily reduced the depth of production of industrial firms. This trend increased the importance of purchasing in general (see Fig. 4.1). Second, and in parallel, in purchasing the trend prevailed to reduce the number of suppliers and concentrate on a few close buyer-supplier relations. Thus, in many industries, the number of available suppliers sunk, often causing oligopolistic situations, while their importance increased. This trend challenges purchasing to react with novel approaches. Firms may need to become the preferred customers of the few remaining world class suppliers. For that purpose, they may benefit from taking a different perspective on buyer-supplier relations and work hard to have satisfied suppliers.

A firm has *preferred customer status* with a supplier if the supplier offers the buyer preferential resource allocation, i.e., better access to its valuable products or services than it offers to other customers. This can be accomplished in several ways. A supplier may dedicate its best personnel to joint new product development projects, customise its products according to the customer's wishes, offer privileged treatment if bottlenecks in production occur and offer innovations first or even enter into an exclusive agreement (Steinle and Schiele 2008). The core assumption here is that not all customers are treated equally, because suppliers have to make a choice in view of resource scarcity.

Most of the targets of purchasing benefit from a buying firm enjoying preferred customer status: in particular, in cases of supply shortage, safe supply is provided to the preferred customers, while other customers may suffer from a supply interruption. Preferred customer status reduces supply risk. Further, research has found indications that suppliers offer beneficial pricing to their preferred customers, as they appreciate their consistent business. Likewise, success in buyer-supplier collaboration for innovation is strongly influenced by the customer's status with the supplier. Finally, with the preferred customer approach, purchasing has a chance to satisfy the novel target of contributing to a firm's competitive advantage. Having exclusive

access to a supplier with valuable capabilities creates a strategic advantage for this firm.

The question arises: How can a buying firm achieve preferred customer status with its suppliers? Here, social exchange theory can be used to explain the phenomenon and to offer suggestions on how to improve the standing with suppliers.

### ***4.9.2 Social Exchange Theory: Supplier Satisfaction as Antecedent to Preferred Customer Status***

Social exchange theory analyses the establishment and development of social relations, such as buyer-supplier relations. First, the potential partners need to be sufficiently attractive to each other to start a relationship. Then, they have certain expectations towards this relation, against which they assess the relation after having gained sufficient experience. Interestingly, then, social exchange theory introduces the “comparison level of alternatives”. According to this theory, in a third step, the partners compare their satisfaction with this particular relationship with other potential alternatives. Only then actors decide to continue the relation or not. They may thus categorise a business relation into standard, preferred or, in the worst case, exit. In buyer-supplier relations, thus, buying firms (1) need to be sufficiently attractive for potential suppliers to get a quotation from them. In case a business relation is established, then, (2) the supplier needs to be satisfied with the relation. Finally, (3) the supplier needs to be more satisfied with this customer than with its alternatives so that the buying firm finally becomes a customer of choice and hence get privileged treatment.

From a buying firm’s perspective, two activities need to be performed: (1) Obtain a notion of one’s own status with the suppliers and adjust strategies accordingly. For instance, it may not be a good investment to run supplier development activities with suppliers who see the customer as an “exit” customer. (2) Understand if suppliers are satisfied and improve their satisfaction.

In order to assess a buyer’s strategic situation with the suppliers, the “preferred customer matrix” has been developed (see Fig. 4.9). One of its axes depicts the status a buyer has with a supplier, and the other axis shows the competitiveness of the supplier. A supplier’s competitiveness typically is assessed in a very company-specific way, depending on the strategic direction of the firm. Suggested criteria to assess the other axis, a firm’s status with its supplier include:

- technical match (strategic importance of the customer firm for the supplier due to a congruence of technological roadmaps),
- commercial importance (significance of purchasing volume in supplier’s overall business),
- cultural fit (existence of similar cultural values in buyer and supplier firms),
- past preferential treatment (evidence of preference in supplier’s past behaviour), and

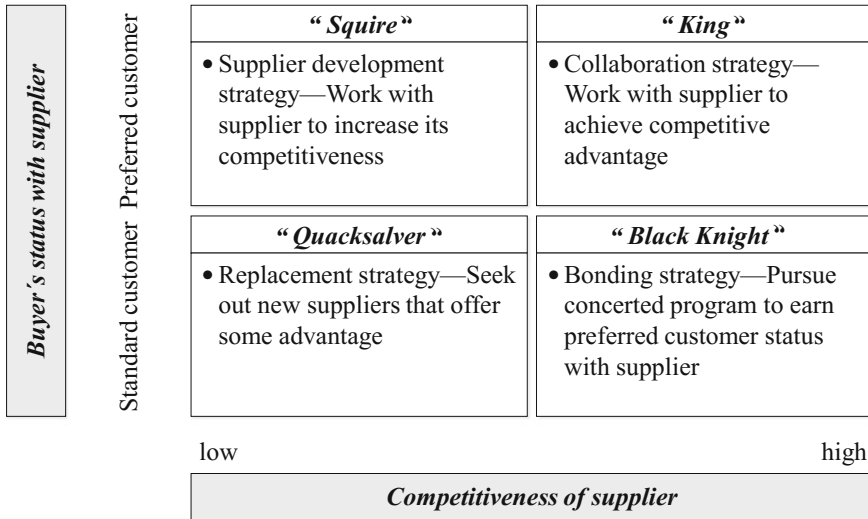


Fig. 4.9 The preferred customer matrix (Schiele 2012)

- key account status (awarding of key account status with the supplier’s sales, R&D, quality, and production departments).

After mapping all A and B suppliers (classically understood as those who jointly are responsible for 80% of the total purchasing volume), and also mapping selected smaller suppliers that are considered to be important for diverse reasons, the overall situation of the firm is first analysed. For instance, it is not very beneficial if the bulk of suppliers have to be ranked as “black knights”, i.e. the most competitive suppliers awarding a firm’s competitors preferred customer status. In this situation, the firm is strategically vulnerable, because the best suppliers prefer to work with its competitors. In such a situation, a corporate strategy of being a technology leader may not be feasible. Here, we see how the supply situation can enable or prevent the strategy of the entire firm.

Second, after the overall assessment, a particular strategy is developed for each individually mapped supplier, which may include the attempt to change its position in the matrix or to possibly discontinue the relationship in case of a “quacksalver”, which is neither particularly competitive nor shows appreciation for the buying firm.

Finally, what can a firm do once it has detected a problem in its supplier portfolio or, more generally, when it wants to improve its overall standing with its suppliers? For that purpose, a supplier satisfaction analysis can provide valuable insights.

Current research has revealed several main factors that explain supplier satisfaction. These can be operationalised in order to understand if suppliers are satisfied with a particular customer:

- *Growth opportunity*: For sales personnel, it is more interesting to collaborate with a customer whose turnover is growing, so that in a subsequent period more products can be sold.
- *Profitability*: Obviously, a supplier is more satisfied if a customer is paying fair.
- *Relational behaviour*: The behaviour of a customer's personnel in terms of reliability, support offered or openness for supplier involvement influences the supplier's satisfaction with this relationship.
- *Operational excellence*: Operational excellence like simple processes, prompt responses and accurate forecasts also positively influence the relationship.

In order to obtain valid results, supplier satisfaction is often assessed not at an individual level but at a corporate level and with a neutral intermediary like a university executing the survey. With this result, the firm can then systematically improve its position with suppliers by working on its identified weaknesses. For instance, if suppliers are unsatisfied with the corporate planning, the buying firm may start a project to improve its planning processes. If, on the other hand, suppliers do not see a growth perspective, the buying firm may start an upstream marketing campaign that better explains its future prospects to suppliers, etc.

In summary, the preferred customer perspective reaches novel conclusions. For instance, the most highly regarded global supplier may not be the best supplier for a particular buyer that may not have any chance to achieve preferred customer status. Essentially, a shift in perspective is implied. Reflecting the improvement of the position of oligopolistic or generally strong suppliers, purchasing may have to work hard to become an attractive partner for suppliers rather than waiting for suppliers to queue to offer their services. Firms that first apply this approach in a particular supply market becoming more attractive as customers than their competitors since they may act as a "game changer" and strategically outperform their competitors.

Practically, the first large firms have established "supplier club programmes", in which a selected number of preferred suppliers can obtain a special set of privileges with the intention to ensure them awarding the buying firm with preferred customer status.

Knowing and improving its strategic position with suppliers is also a first step for purchasing to genuinely contribute to corporate strategic planning. While the suppliers' importance is quantitatively apparent, so far few instruments have been available to measure and operationalise purchasing's strategic contribution. The research stream on preferred customer status may thus pave the road to a next step in purchasing maturity, enabling firms to successfully manage the new situation of a network economy with few and strong suppliers and gain competitive advantage from its positioning in the supply chain.

## 4.10 Further Reading

A conceptual framework for the field of Purchasing and Supply Management is provided by Kaufmann (2002). Kirkman (1887) is an excellent source on the history of supply management for the interstate US railways, while Redtmann (1910) is an early reference on the structuring of a purchasing department. Van Weele (2005) provides a good overview of purchasing and supply chain management at both a strategic and an operational level.

Details on the importance of purchasing for Volkswagen can be found in the autobiography of Piech (2002), see also Versteeg (1999). A thorough discussion on a categorization of purchasing situations and the roles taken by purchasers is provided by Hespings and Schiele (2015), Schumacher et al. (2008) and Arnold (1997).

Theoretical foundations and in particular the discussion of the lever models can be found in Hespings and Schiele (2016b), based on the use of the Kraljic matrix which was initially published by Kraljic (1977, 1983), see also Caniels and Gelderman (2005), Cox (2014), Schiele et al. (2011) and Schuh et al. (2009). An analysis of the importance of a customer preferential position at the supplier is discussed in depth by Schiele et al. (2012), Schiele (2012) and Vos et al. (2016).

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