

Purchasing and supply in project management flashcard

[Engineering](#), [Project Management](#)



To ensure the quality of purchased capital equipment and services, rigorous standards and processes must be followed.

There are important components and elements of purchasing that play a role in corporate and organizational strategy. A well-implemented supply management and purchasing strategy will result in greater profitability for a firm. Legal aspects of purchasing involve terms of contracts, purchase orders, and other legal implications. Purchasing professionals must be aware of pricing decisions, possess effective interpersonal communication, and evaluate and manage strategic alliances with suppliers.

Technology also plays an important role in modern project procurement. This paper will provide an overview of the various concepts of procurement, contract management, components of purchasing and supply management, and how purchasing managers can effectively enable project success via sound purchasing decisions (Benton, 2010). One important aspect of project management is the acquisition of materials and supplies. Project managers along with purchasing managers must work in conjunction to acquire goods and services for the project.

According to Investopedia (2012), procurement is defined as attaining possession of something or purchasing something usually for a company, government, or other organization. The energy industry is an example of an industry that has retailers that commonly undergoes the procurement of gas, electricity, coal, and other energy sources. The procurement process has gained critical importance in various projects such as those in public sector organizations and it has become important for organizations to assess,

measure, and improve each organization's procurement process (Rendon, 2008).

Purchasers and buyers are in charge of determining top values, choosing the appropriate suppliers, negotiating the best prices, and awarding contracts that ensure that the correct quantities of the product or service are received at the appropriate time.

Maintaining healthy supply chain relationships are crucial to maintaining a competitive advantage. A healthy supply chain strategy will help companies meet customer demands to produce better products with faster delivery times, increased service, and decreased costs.

Having short lead times helps a company be more flexible and able to respond to changing situations quickly. According to Benton (2010), "suppliers with short lead times and who are reliable in meeting their due dates minimize the problem of material shortages for the manufacturer" which leads to a company's ability to better meet customer due dates (p. 25). Contracts are awarded to the suppliers who meet certain criteria such as price, quality, service, support, availability, reliability, privacy, responsiveness, proximity, security, and selection.

Contracts are agreements between a buyer and seller that allow for the title of a good to be passed from seller to buyer when the contract is reached (Benton, 2010). There are four components that are typical of an enforceable contract agreement. The first component states that both parties must be capable. Neither party must be mentally impaired or unable to interpret and

acknowledge the terms of a contract. The second component is that the subject of the matter must be legal.

The product or service that is being contracted must be legal and not against public policy since a court cannot enforce a contract that involves illegal products or services.

Mutual consideration is the third component of a contract and makes a contract legally binding and enforceable. Benton (2010) describes mutual consideration as when “ something of value passes from one party to a second party in exchange for a promise of the second party” (p. 60). Some considerations of importance made by purchasing managers involve price, quality, quantity, and delivery.

The final component that is typical of an enforceable contract is that the parties must reach an agreement by a seller making an offer and the buyer issuing acceptance. The agreement has been fulfilled only when the offer has been accepted (Benton, 2010).

Contracts can be either oral or written. Oral contracts are not used in professional and corporate purchasing and are limited to less formal settings such as a pizza delivery driver agreeing to deliver pizza to a customer. Terms of a written contract include quantity, quality, price and credit terms, delivery terms, and leasing terms.

The offer outlined in the contract must express a fixed quantity in order to be enforceable. Depending on the industry, the quantity may be measured by a

certain unit of measure such as tons of coal, gallons of water, lumber in board feet, or concrete in cubic yards.

Quantity can also be measured in hours of work performed or numbers of CPU's used. The contract must mention the terms of quality. The specificity relating to quality should not be too high or too low. The price and credit are the third major terms to be included in an enforceable contract.

The purchasing professional should negotiate any changes in price following the acceptance of an offer and credit terms must be negotiated with the supplying firm.

The delivery terms formalize the logistics of the product or service from the selling firm to the buying firm. Leasing is the fifth major term of the enforceable contract and is attractive for businesses since the lease payment is deductible and there is no need to account for depreciation in the balance sheet. The trade-off of leasing is that there are no laws protecting or benefiting the lessee and lessor (Benton, 2010).

In today's technologically advanced world, purchasing transactions have gone from being paper-based to electronic. Email is the most common method of submitting an offer or legally binding contract.

As stated by Benton (2010), the internet " has revolutionized the speed and power of data analysis and dissemination" (p. 11). With this shift in technology, purchasing managers must be able to verify the authenticity of offers and bids by using technology such as public key infrastructure (PKI)

which allows for a more secure and reliable exchange of signatures and contracts.

Since technology poses challenges in various aspects of purchasing, the Securities and Exchange Commission has established the Uniform Commercial Code which addresses ethical codes that purchasing professionals must adhere to (Benton, 2010). When searching for the best vendor, a request for proposal (RFP), request for quote (RFQ), or request for bid (RFB) is issued by the buying organization's purchasing manager. This process, which is an invitation to do business, asks vendors to meet a set of needs.

Benton (2010) defined RFPs or RFQs (request for quotes) as the “ most important planning activity for a seller” (p. 32).

The RFP usually will spell out the equipment, labor, or services that are needed to complete the project (Benton, 2010). Anderson (2009) described three mistakes made in RFP writing as lacking proper preparation, omitting vital information, and failure to properly evaluate pricing. RFPs establish the project plan and “ an inadequate RFP leads to inadequate proposals, which leads to an inadequate project plan.

” When this occurs, budget creep can occur and resources to complete the project may be insufficient leading to a potential collapse of the relationship between buyer and seller (Anderson, 2009).

Computer firms attempting to obtain hardware, software, or services must first obtain vendor proposals for evaluation. A formal request for proposal (RFP) should be prepared by a systems analyst. This RFP should include copies of the systems design alternatives, data processing requirements, level of integration, criteria used for evaluating proposals and plans, outline of how and when to submit the proposal and to whom, and request for a copy of the vendor's contract.

The systems requirements, such as reliability, availability, flexibility, installation schedule, growth potential, and maintainability along with questionnaires should be included with the RFP. Preparing a RFP can help reduce vendor jargon, put all vendors on equal footing making them more comparable, and gives the systems analyst more leverage. Good RFPs also put specific vendor commitments into writing (Burch, 1987). Following the invitation to do business via the RFP method are negotiations between the buyer and seller which will lead to offers and counteroffers.

An offer can have four outcomes. The first possible outcome is a lapse of the offer.

This lapse can happen after a stated period when the purchasing agent who has received a quote fails to take action during the offer period. The offer period length is usually an agreed upon number of days from the date printed on the RFP. If no date is given, the offer would automatically lapse after a certain amount of time depending on the nature of the product or

service, the variability of the market price, the historical dealings between the two parties, and the industry norms.

The second possible outcome of the offer is for it to be rejected. This rejection must be communicated to the supplier verbally or in writing. The third possible outcome is that the offer gets revoked prior to being accepted.

Revocation can be hard on the buying firm and should be avoided as much as possible by obtaining a firm offer, writing an option contract, or securing a bid bond. The fourth outcome of an offer is that it is accepted leading to a contractual agreement (Benton, 2010). Once bid proposals have been received, the bids must be rigorously analyzed.

This bid analysis should compare critical variables such as price, technical specifications, and other variables (Greer, 2008). Benton (2010) stated that the buying professional must become an expert for the item that is being purchased and should be able to detect prices that are too high.

The first question the purchasing manager must ask the supplier is if there are cash, trade, or quantity discounts available. Depending on the industry and item purchased, selling firms offer cash discounts, which reduces the item's cost, if payments for goods and services are promptly remitted.

Trade discounts may be offered to the buyer if a middleman such as a distributor is eliminated from the purchasing transaction allowing the firm to buy directly from the manufacturer. When a quantity discount is granted by the supplier for buying larger quantities, the buying firm must consider other

costs that will be incurred such as holding costs (Benton, 2010). The purchase price must fit the firm's competitive cost structure and a fair price must be obtained in order to avoid driving suppliers from the market via reverse auctions.

Reverse auctions can yield a low price for a buyer, but if the price is too low, it negatively affect the buyer/seller relationship and the buyer runs the risk of alienating current and potential sources of the supply (Benton, 2010).

Receiving quantity discounts must be done so according to the law. An anti-trust law known as The Robinson-Patman Act was passed by Congress which prohibits discrimination in the price of commodities of like grade and quality. Pinkerton and Kemp (1996) stated that this act was passed " to protect small businesses from the large chain stores that could underbuy and undersell the independents.

Its goal was to prohibit differential prices between different suppliers. This act recognized that there are numerous reasons for selling a similar commodity to different customers at different prices (Pinkerton & Kemp, 1996). It is thus apparent that the Act is an invitation to litigate in court and to report frequently to the FTC. According to the language of the Act, the burden and expense of justifying price differentials among customers falls upon the firm charged with violation of the Act. In addition, sections 2(d) and 2(e) prohibit indirect price discrimination in the form of promotional services, such as co-op advertising.

Finally, section 2(f) places liability upon buyers who knowingly induce or receive illegal price discriminations as described in the Act; it is this section that alarms purchasing personnel in all organizations. (Pinkerton & Kemp, 1996) Projects are successful if they are profitable for a firm. Global competition makes choosing a viable pricing strategy more important than ever. Maximizing the profit for a firm requires following five purchasing objectives that include selecting the right material at the right quality, the right quantity, the right source, the right timing, and the right price.

The last purchasing objective can be accomplished via three purchasing methods: standard price lists, competitive bidding, and negotiations.

Standard price lists, which are based on the seller's total cost structure, are used by selling firms to influence the behavior of the buying firm and when selling commodities. Competitive bidding is employed when the expense of the competitive bidding process is justified, the specifications of the product or service are precise enough to be estimated by both buying and selling firms, there are enough selling firms in the market, and there is adequate time to use this method of bidding.

To maximize profit for the project, the probabilistic bidding strategy is used to select the firm with the lowest bid. Negotiations should involve a discussion of each of the five purchasing objectives and should be used only when there are time constraints, the specifications are not clearly stated, there are not enough sellers, and the dollar value is too low to consider the use of the competitive bidding process.

This method should be used only when standard price lists and competitive bidding are not viable options (Benton, 2010).

From requisition and vendor determination all the way to delivery and payment, Figure 1 shows an example of the documentation containing the procurement order cycle standard procedure. Figure 1 (Benton, 2010) One industry that frequently engages in procurement is the construction industry. Construction project management which usually includes the design and build of a new structure, uses well-developed procurement methods. Different forms of procurement encountered in construction include outsourcing, privatization, and build-operate-transfer (Zwikael, 2009).

Many construction projects can result in failure due to various reasons such as lack of integration between designers and builders, the use of innovative materials, the use of incorrect procurement systems, the condition of the general contracting market, and the inherent uniqueness of each new building project.

According to Chen and Messner (2005), competitive bidding is the most common method of concessionaire selection in many large projects.

Silk and Black (1999) stated that his type of bidding has “ improved transparency, fairness, and allocation of resources and expertise and bidders focus more on cost and technical factors rather than time-consuming negotiations and political matters” (pp. 38-39). Based on UK construction projects, partnering relationships have been identified as a successful

procurement method (Zwikael, 2009). Having strong partnerships with suppliers is representative of a just-in-time JIT or lean purchasing philosophy.

As can be seen in Table 1, there are advantages to JIT purchasing over traditional purchasing such as reduced order quantities, frequent and on-time delivery, reduced lead times, high quality of incoming materials, and reliable suppliers (Benton, 2010). Table 1 (Benton, 2010) JIT purchasing advantages for the manufacturer are reduced inventory levels, improved lead-time reliability, scheduling flexibility, improved quality and customer satisfaction, reduced cost of parts, constructive synergies with suppliers, and cost decreases.

Suppliers must be willing to agree to long-term business agreements in JIT purchasing and purchasers provide prompt payment of invoices. They also must provide correct specifications with accurate demand functions and adequate time for thorough planning. A more complete list of expectations of JIT suppliers can be seen in Table 2. Table 2 (Benton, 2010) According to the findings of a study conducted from 1998 to 2008, purchasing strategies are directly linked to organizational and supply chain goals.

This study found that an organization must have a purchasing strategy that is linked to organizational objectives, supply chain objectives, and competitive advantage and purchasing strategies. The purchasing department must not have any conflicting priorities with marketing, finance, and operations departmental goals. Instead, there must be a cross-functional approach that teaches each functional unit to work towards the

organizational strategy. A supply chain will be costly and ineffective if purchasing and supply management strategies are not linked to the overall organizational goals.

Benton (2010) stated that in the future, “ the most effective purchasing strategy for a firm will be a joint strategy between key suppliers and the purchasing organization” (p. 48).

In purchasing and supply management, there needs to be more focus on a relationship rather than a transactional focus (Benton, 2010). Successful project and purchasing managers are able to effectively manage the purchasing and supply management functions of an organization.

Procurement is an important function in a project that involves the acquisition of materials and supplies.

Purchasing professionals in charge of procurement must select the right suppliers for the project by choosing top values and negotiating the best prices by using standard price lists, competitive bidding, or negotiations. Following the submission of a RFP or RFQ, suppliers that meet the needs of an organization will eventually sign an enforceable and legally binding contract that contains the offer. When necessary, purchasing professionals should seek cash, trade or quantity discounts.

Laws such as the Robinson-Patman Act must be heeded when attempting to receive quantity discounts. Other legal aspects must be considered in the information technology age as electronic transactions are the new norm. JIT purchasing is an efficient and cost-effective method of purchasing that

managers should try to implement in their organizations. Project success is maximized when purchasing strategy is linked to organizational and supply chain objectives which can provide a competitive advantage.