

# Purchase and Materials Management Strategies; A Holistic Approach

Dr. Sharif

IIT Kanpur-208016. (India)

## ABSTRACT

*This paper discusses Purchase and Materials Management Strategies in Government Organizations in India. In this research paper, I have outlined Purchase and Materials Management Strategies of one of the Government organization. Government organizations work generally in a structured framework for procurement due to the requirement of transparency and non-discrimination. Finally, based on the current system being practiced and observations thereon, I have made recommendations to improve Materials Management and Procurement Strategies in that Government organization.*

**Key Words:** *Purchase and Materials Management Strategies, Structured Framework, Transparency and Non-discrimination.*

## I. INTRODUCTION

The terms procurement, purchasing and supply chain, are often used interchangeably to refer to the integration of related functions to provide effective and efficient materials and services to an organization.

Effective procurement management is not only concerned with the standard steps in the buying process, but also include further responsibilities for other components of the supply chain, such as managing logistics and managing customers' and suppliers' relationships. Maintaining 'generous inventory levels' to meet long-term but customer demand, in a generally sheltered market environment in the past is also outdated. A thoughtful and strategic inventory management is an obvious candidate for cost reduction in the current competitive global business environment.

The basic objective of materials management as explained by (Chase, Jacobs and Aquilano, 2009) is to ensure that the right item is at right place, at right time and at a reasonable cost. The intention of having materials management system in place is for solving materials problems (optimization) by coordinating performance of the various materials flow.

Materials management has become an integral part of organization in recent years. Time has come, when organization and its entire staff have to consider their decisions in relation to how they will affect materials side of the business. Materials related costs such as ordering costs, carrying costs, quality costs and price paid for the item need to be managed collectively. As the interest rate of carrying the inventory in stock is about 25 percent, its holding becomes very expensive. If you could reduce the stock levels worth Rs 1 Crore with 25 percent, one can save Rs. 25, 00,000 per annum.

As noted by (Chary, 2008) we keep inventory in operations for three reasons; transactions, precautions and speculation. While speculative inventory cannot be encouraged particularly in a developing country like India starved of resources, there is a need for transaction or “regular” inventory due to lack of perfect synchronization of inflow and outflow of material and for precautionary or “safety” inventory to provide cover of any inability to predict demand supply of material. The question is, what level of stock should this be? This is more particular when countries like India are competing with Multi-National Companies some of whom have adopted new concepts like Just-in-Time (J.I.T). Therefore, effective procurement has a critical role to play in delivering the strategic objectives for the organization and improving the quality and value for money of the services delivered to the customers.

To summarize, this study draws attention on the need to change systems and structure for purchase and materials management for the purpose of improving profitability and competitiveness. As reported by (Chase et al, 2009), the world manufacturing organizations have moved towards complete elimination of waste by adopting new philosophies of management like lean production and value stream mapping.

## **II.REVIEW OF RELEVANT LITERATURE**

According to (Ramakrishma 2005), on an average, half the sales income in an organization is spent on materials. Suppose a firm is spending 50% of its volume on material and the profits are say 10% of sales volume, a 2% reduction in materials cost will boost the profits to 11% of sales or the profits will be increased by 10%. To achieve the increase in profit through sales efforts, a 10% increase in sales volumes will be necessary. In other words, organizations earn or loose large sums depending on how effective are their Materials Management

According to (Barnes, 2009), supply network has interconnected relationships between all parties that supply inputs to, and receive outputs from an operation. The focus is on a holistic approach which means the entire chain runs from internal to external customers. The success of any supply network depends on its ability to satisfy the needs of the end users for products and services. Therefore, the network as a whole need to be designed in such a way that it satisfies the needs of the end users. It is not just the organization’s own operations that need to be managed strategically to meet the customer needs but all the elements of the supply chain, individually and collectively have to work together to perform the function. A key facet of the supply network is the nature of relationship between purchaser and supplier.

(Chase et al 2009), in their work have explained the efficiency of the supply chain can be measured based on the size of inventory investment in the supply chain and that the inventory investment is measured with relation to the total cost of the goods that are provided through the supply chain

According to (Choprra, Meindl and Kalra, 2007), the main drivers of supply chain performance are; facilities, inventory, transportation, information, sourcing and pricing. Information Technology plays a vital role among the drivers. Electronic Data Interchange (EDI) allows companies to place instantaneous, paperless purchase orders with suppliers. EDI has allowed automated procurement since the 1980s, but its use is still growing (Waters, 2006). As reported by (Chopra et al, 2007) EDI is not only efficient, it also decreases the time needed to get products to customers because transactions are faster and more accurate than that of paper based. An organization that want to excel and guarantee its future, must design its systems with customer in mind. As

noted by (Levi et al, 2009) thinking in terms of customer value promotes a broader look at a company's offerings and its customers. It requires learning as to why customers purchase, continue to purchase, or defect from it. Supply chain management can impact the important customer value of price by significantly reducing costs (Levi et al, 2009).

### **III. RESEARCH METHODOLOGY**

Methodology used in the present study consists of essentially two parts viz., conceptual study including library research referring to important journals, periodicals, publications, some advance books on Purchase and Materials Management and making use of the web to build up firsthand information for future analysis.

The second part of the study consists of multiple field visits through structured and unstructured questionnaires, personal interviews and telephonic interactions. To make the research widely useful and acceptable, current system of Purchase and Materials Management of the organization under study was carried out, observations were made and based on current system and observations, recommendations to improve Purchase and Materials Management were also made.

### **IV. CURRENT PRACTICES OF PURCHASE AND MATERIALS MANAGEMENT STRATEGIES IN GOVERNMENT ORGANIZATION**

The organization covered under this research work is a Government of India Organization receiving full grant-in-aid from Government for meeting its materials needs. This organization makes purchases (Indigenous as well as Imports) for about Rs.50 crores every year.

Following are the Current Practices of Purchase and Materials Management Strategies in Government Organization

#### **Decentralized Procurement**

In support of the decentralized nature of the organization's purchasing process, most buying decisions are made by users on a departmental level. Users are expected to make ethical and sound purchasing decisions that will ensure the efficient and effective operation of the organization. Purchase order is however, placed centrally, by the Central Stores and Purchase Department.

#### **Purchasing Through Government e-Market place (GeM)**

Government of India has made it mandatory for all Government organizations to buy for common usage Goods or Services available on Government e-Market place (GeM) vide General Financial Rules 149.

The GeM portal shall be utilized by the Government buyers for direct on-line purchases as under: -

- (i) Up to Rs. 50,000/- through any of the available suppliers on the GeM, meeting the requisite quality, specification and delivery period.

- (ii) Above Rs. 50,000/- and up to Rs.30,00,000/- through the GeM Seller having lowest price amongst the available sellers, of at least three different manufacturers, on GeM, meeting the requisite quality, specification and delivery period. The tools for online bidding and online reverse auction available on GeM can be used by the Buyer if decided by the competent authority.
- (iii) Above Rs.30,00,000/- through the supplier having lowest price meeting the requisite quality, specification and delivery period after mandatorily obtaining bids, using online bidding or reverse auction tool provided on GeM.
- (iv) The invitation for the online e-bidding/ reverse auction will be available to all the existing Sellers or other Sellers registered on the portal and who have offered their goods/services under the particular product/service category, as per terms and conditions of GeM.
- (v) The above mentioned monetary ceiling is applicable only for purchases made through GeM. For purchases, if any, outside GeM, relevant General Financial Rules (GFR Rules) are applicable.

<b>Purchase upto Rs.50,000/-</b>	<b>Purchase above Rs.50,000/- and up to Rs.30,00,000/-</b>	<b>Purchase above Rs.30,00,000/-</b>
1	2	3
Purchase can be made directly by the user selecting any product of choice.	Buyer has to compare at least 3 different OEM products. System generated lowest 1 (L1) has to be accepted. If not then buyer has to go for Bidding or Reverse Auction.	Buyer has to use online tools of Bidding or Reverse Auction to get lowest price.

#### **Purchasing through a Local Purchase Committee**

There is a provision as per Government of India norms that, for purchases upto Rs. 2,50,000 can be made from market through a Local Purchase Committee consisting of atleast three persons approved by the Head of the Department. The committee has to record on a certificate that the rates are reasonable and the quality is good.

#### **Most Procurement Methods, Manual**

On-line orders are placed in case of goods purchased through Government e-Market place (common usage items). However, for items which are not available on GeM, the tender is uploaded on-line on Central Public Procurement Portal (CPPP) as well as organization's website. However, rest of the processes like receiving and opening of bids, placing purchase order and making payments are done manually.

#### **Stocking Policy**

Stocking of the items is done as per the feedback and forecasts received from the users. Users send their demand forecasts to Central Stores and Purchase Department and based on it the department keeps the inventory in stock.

#### **Inventory Records**

A central Asset Register is maintained at Central Stores and Purchase Department for recording all capital and non-consumable items. This register is audited by Comptroller and Auditor General (CAG) team.

#### **Inventory Verification**

A complete inventory verification count is done at the end of each financial year by a Departmental Team to verify quantities and value. Inventory balances less than Rs. 7 lakh are considered immaterial and departments seriously considers expensing such amounts and not maintain inventory

#### **Approved Supplier**

The organization has a very small number of approved suppliers. An Approved Supplier is one who has been reviewed and approved by the organization's Central Stores and Purchase Department and then added to the SAP System supplier database. Users/ Requisitioners normally do not create Low Value Purchase Orders (LVPO) with approved suppliers in the SAP System supplier database.

### **V. OBSERVATIONS**

#### **Decentralized Purchasing practices**

Purchasing is not centralized. Mostly, users invite quotations. Quotations are opened in the user's department by the committee duly approved by the competent authority. After finalizing the quote, the file (proposal) is sent to the Central Stores & Purchase department for placing the order. If all sources of supplies are dealt centrally by Stores & purchase department, a higher order of skill can be expected. At a time, the quotations are not invited in comprehensive fashion resulting in delay in finalizing the purchases. It may also be noted that purchase of technical and scientific equipment and supplies is relatively complex, and at a time cannot be straight – jacketed in a specification. This may require certain flexibility in evaluation of different quotations as each of them may have varying specifications, but can perform the intended function. ([P Gopalakrishnan and M Sundaresan, 1994](#))

#### **Manual Purchasing Practices**

Excepting buying through GeM, and uploading tenders on-line on Central Public Procurement Portal (CPPP) as well as organization's website, all purchases are made using manual methods of purchasing. Making purchases using manual methods results in inconsistency in data entry, room for errors and miskeying information. All this has the effect of not only causing problems with customer service but also making information unable be used for reporting or finding trends with data discovery.

#### **Procurement Cost Control inadequate**

If we don't control our costs, they will probably escalate and may outweigh our income. If that happens, we may be forced to go into debt. In this organization, about 30% of the items like stationary and about 10% of furniture items are being procured in the Economic lot quantities. Cartridges and many other consumable items can also be procured under economic lot quantity. However, they are being procured in piece meals although; they are

being procured on large scale. The methods therefore, adopted to control the purchase cost are not found to be adequate.

#### **Stock Verification**

There is no provision for central stock verification team. All items are verified once in a year by all the departments themselves. A department wise committee is constituted every year by each department to verify the stock. No person from Central Stores & Purchase and Audit Departments is the member of departmental stock taking committee. After verifying the stocks, the verification report is submitted to the stores & purchase department for compilation

#### **Poor Approved Supplier List**

The organization has a very limited number of approved vendors on its list. Also, users normally do not create Low Value Purchase Orders (LVPO) with approved suppliers in the SAP System supplier database.

#### **Negotiations**

As a general rule the organization avoids negotiations as far as possible where the offers are technically clear in all aspects and are as per the tender enquiry. If price negotiations are considered necessary, the same will be held with the lowest acceptable tenderer only. The technical clarifications, if any, can always be sought before submission of quotation/before opening commercial bid.

#### **Anti-Kickback Clause**

This clause ensures that all buyers of the organization act in an ethical manner that brings the best overall value to the organization and not to solicit and/or accept personal gain from any transaction. However, no such clause is adopted as a policy by the organization.

### **VI. RECOMMENDATIONS FOR IMPROVEMENT**

#### **Purchase system**

Centralized purchasing has the advantage over decentralized purchasing in terms of better purchase management. Since there is only one department dealing with various sources of supply, it is possible to tap the advantage of the specialized skill of the buying staff. Bulk buying strengthens the bargaining position of the buyer. Direct contact with the suppliers will be possible which will eliminate the link of the intermediaries. The most important benefit is that combining all the requirements and buying in bulk leads to substantial reduction in cost. Suppliers also, find it more convenient to approach one central purchasing department than a number of individuals or departments and have the incentive of competing of the whole or a substantial proportion of the organization's requirements (P Gopalakrishnan and M Sundaresan,1994). A policy clearly listing items which can be purchased by the departments as well as approved vendor list, rate contract etc. are likely to result in both higher user satisfaction and better cost management. We can however, develop systems combining the



advantages of centralization and decentralization. Under this system, control should be exercised at policy level by central materials management staff at central stores & purchase department.

#### **Implementation of e-Procurement**

Purchasing goods or services through e-procurement (notice inviting tenders, supply of tender documents, receipt of bids, evaluation of bids, award of contract, and execution of contract through systematic enforcement of its various clauses and tracking of claims, counter-claims and payments) has been gaining a lot of popularity all over the world. It is a simplified and standardized purchasing process which helps improve process efficiency and eliminate administrative costs. It is an excellent way for businesses to cut overhead costs and reach a larger customer base. E-procurement is not only beneficial for businesses; customers can also find this method of purchasing advantageous. With a little web search, they can easily find the lowest price when purchasing goods. In order to cut down overall procurement costs and improve efficiency and transparency, it is high time the organizations moved from traditional procurement procedures to e-procurement.

#### **Control on procurement costs**

Procurement cost accounts for nearly 60% to 70% of organization's total costs, professionalism and effective procurement cost management can help achieve a strategic competitive advantage. However, procurement cost control does not mean to simply cut cost, it actually is a systematic project. To simply cut procurement cost may bring a lot of risks to the organization, such as quality risk, on time delivery risk and technology risk, etc. Thus procurement cost management should consider organization strategy and the development of long term sustainable core competence. It may include Purchasing in lot size which will result in Cost reduction. Consolidation of purchases as well as good buyer -seller relations and Vendor development can also assist in cost reduction and better cost management. Cost reduction can also be achieved through good negotiations. The negotiator should enter into discussions with the vendor with precise objectives that they wish to achieve for their organization. The objective should not be absolute and should allow for some flexibility.

#### **Inventory proportionality**

Inventory proportionality is inventory minimization. By integrating accurate demand forecasting with inventory management, replenishment inventories can be scheduled to arrive just in time to replenish the product destined to run out first, while at the same time balancing out the inventory supply of all products to make their inventories more proportional, and thereby closer to achieving the primary goal. Accurate demand forecasting also allows the desired inventory proportions to be dynamic by determining expected sales out into the future; this allows for inventory to be in proportion to expected short-term sales or consumption rather than to past averages, a much more accurate and optimal outcome.

#### **Update Approved Supplier List**

With a view to establishing reliable sources of supplies, Vendor registration should be updated through press tender/ writing individually to every vendor. This would help in reducing lead time of procurement and

eliminate expenditure on press enquiry for each procurement. However, only reputed suppliers/ manufacturers should be registered and for each item there should be at least 5 or 6 vendors. Also, the vendors should be registered for a fixed period ranging between 1 to 3 years depending on the nature of goods.

#### **Inventory Verification Count**

To reconcile the stock records and documents for their accuracy and usefulness, to identify areas which require more disciplined documents control, and to back up the balance sheet stock figures, a provision for independent central stock verification team instead of departmental committees be considered by the organization to verify the stocks annually. A policy of centralized stock verification is likely to result in better reconciliation of the assets as per the balance sheet and the actual assets in the stock.

#### **Vendor Relationship**

Organizations that see vendors as partners, rather than just another operational necessity, gain a competitive advantage in the marketplace. We can depend on vendors to come through in times of increased customer demand and to offer the best pricing arrangements available anywhere if we have good vendor relationship.

If we consistently pay on time and respect agreed-upon conditions, we demonstrate appreciation for their contributions and our business rises to a “most trusted” status in the vendor’s eyes. This comes in handy if we need to call on the vendor for rush deliveries or other special requests. A great vendor relationship will save us time, but even more importantly, it can lead to a longstanding relationship that enhances our brand and our bottom line. Organization should develop good vendor relationship through better communication, understanding vendor’s business, staying flexible and paying on time. Also, the organization should encourage staff members to get trainings to familiarize themselves with vendor relationships prior to interacting with vendor representatives during the performance of their duties.

#### **VII.CONCLUSION**

Since a huge portion of any organization’s budget (nearly 60% to 70% of organization’s total costs) is spent on procurement of materials, it is very important for all organizations to make sure the money is used to deliver needed services to beneficiaries as efficiently and cost effectively as possible. To do this, an organization needs an effective and efficient procurement policy, as well as procedures and practices to operationalize it. A sound procurement strategy and materials management help an organization establish and maintain control over various procurement and materials management procedures. The organization should adopt e-tendering, e-procurement and reverse auction strategies to obtain the best value for the money as making purchases using manual methods result in inconsistency in data entry, room for errors and may provide inadequate information. Also, organization should ensure that staff do not mishandle funds; avoid purchasing low-quality goods that could potentially cause more harm than good; avoid purchasing unnecessary items; and protect itself and its beneficiaries. The recommendations that are made in this study can be incorporated without any significant investment and are likely to improve the purchase and materials management system of the organization. The



study has however been limited to one organization only. To understand the differences as well as cause-effects, a more detailed study for several such organizations will be needed. The paper therefore leaves scope for further research on this topic.

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