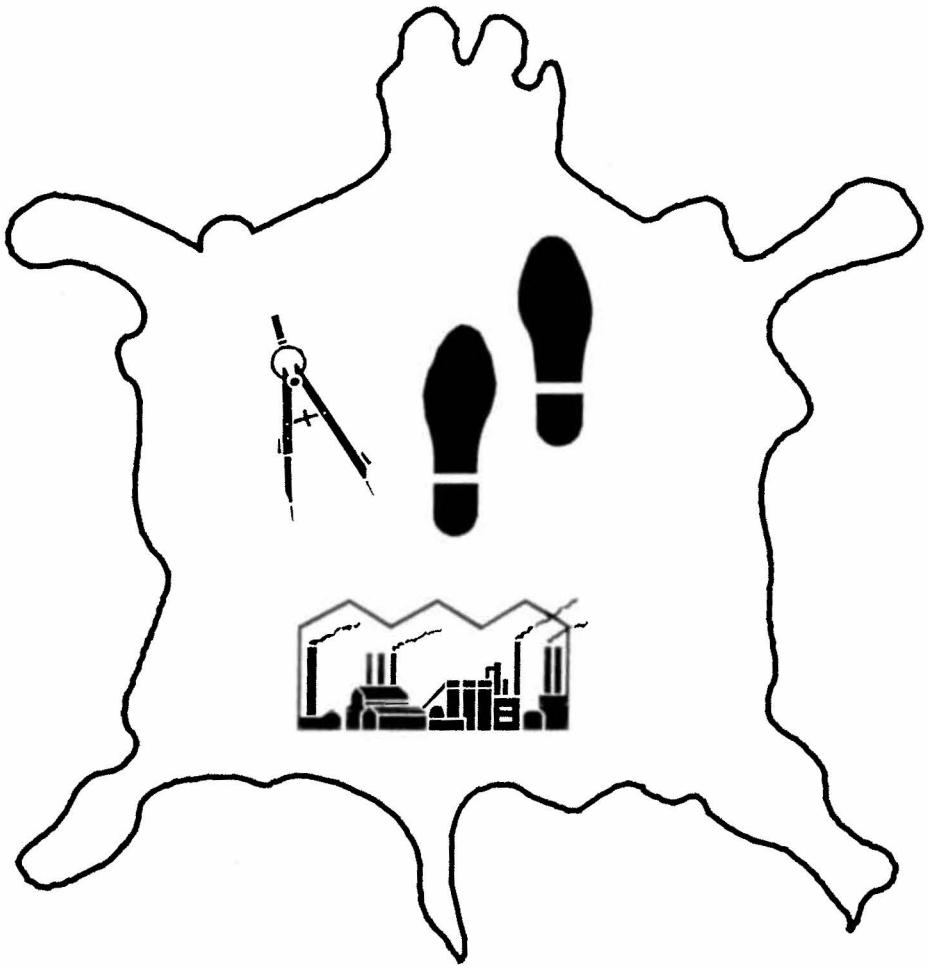
SHOE INDUSTRY CERTIFICATE COURSE

PURCHASING AND STORING*



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This learning element was developed by the UNIDO Leather Unit's staff, its experts and the consultants of the Clothing and Footwear Institute (UK) for the project US/PHI/85/109 and is a part of a complete Footwear Industry Certificate course. The material is made available to other UNIDO projects and may be used by UNIDO experts as training aid and given, fully or partly, as hand-out for students and trainees.

The complete Certificate Course includes the following learning elements:

Certificate course

-Feet and last
-Basic design
-Pattern cutting
-Upper clicking
-Closing
-Making
-Textiles and synthetic materials
-Elastomers and plastomers
-Purchasing and storing
-Quality determination and control
-Elements of physics
-General management
-Production management
-Industrial Law
-Industrial accountancy
-Electricity and applied mechanics
-Economics
-SI metric system of measurement
-Marketing
-Mathematics
-Elements of chemistry

P U R C H A S I N G - S T O R I N G

Mr. Oscar E. Reyes
Mapua Institute of Technology
School of Industrial Engineering

FLIC/DIS Unit
September 1987

I. PURCHASING MANAGEMENT

Purchasing responsibility is sometimes defined us buying materials of the right quality, at the right time, at the right price, from the right source.

Fundamental Objectives of Purchasing

A - Manufacturing Industry

1. maintain continuity of supply to support the manufacturing schedule.

2. to do so with minimum investment in materials inventory consistent with safety and economic advantage.

3. to avoid duplication, waste, and obsolescence with respect to materials.

4. to maintain standards of quality in materials, based on suitability for use.

5. to procure materials at the lowest cost consistent with the quality and service required.

6. to maintain the company's competitive position in its industry and to conserve its profit position, insofar as material costs are concerned.

B - Public Utility Company

- the first point would be to support the service, operating and construction schedule.

C - Municipal Government

- to support various services, such as police and fire protection, maintenance of streets, parks, and public buildings, garbage collection and disposal and all the other activities essential to a complete civic administration.

D - Hospital, University of Government Unit Where Profit Motive and Competitive Factort are Absent

- Sixth point will be to get the maximum value for the expenditure of a fixed budget appropriation for materials.

Scope and Limitations of Purchasing Authority

Purchase requires authorization (could be formal or informal) could be in

- firm of manufacturing quota for a given calendar period.
- bill of materials, either for a standard line of products or for products built to special order.
- purchase requisition for required materials
- purchasing for government account are usually strictly limited by the annual budget or the unexpended portion thereof.
- purchases of capital equipment, usually controlled by special regulations, purchasing participation is limited to procuring the basic data on what is available for the purpose and placing the order after a decision has been made by committee or executive action.

- purchases for the purpose or in the hope of inventory value appreciation or speculative profits on materials generally a matter for general management to decide.

- ultimate responsibility for the type and quality of materials to be brought must rest with those who use them and are responsible for results.

- once quantity, quality and delivery requirements have been established, it is the responsibility of purchasing to decide whether the goods shall be brought in a single lot, or in a series of smaller transactions over a period of time from one or more suppliers, or an a single long-term contract with delivery schedules to be specified according to the need.

Typical Purchasing Activities

1. Basic information

   maintaining purchase records, price records, stock and consumption records, vendor records, specification files, catalog files.

2. Research

   market studies, material studies, cost analysis, investigating supply sources, inspecting supplier's plant, developing supply sources and alternate materials and sources.

3. Procurement

   checking requisitions, securing quotations, analyzing quotations, choosing between contract or open-market purchase, scheduling purchases and deliveries, interviewing salesman, negotiating contracts, issuing purchase orders, checking legal conditions of contracts, following up for delivery, checking receipts of materials, verifying invoices, corresponding with vendors, making adjustment with vendors.

4. Materials Management

maintaining minimum stocks and inventory balance, improving inventory turnover, transferring materials, consolidating requirements avoiding excess stocks and obsolescence, standardizing packages and containers, accounting for returnable containers, making periodic reports of commitments

5. Miscellaneous

making cost estimates, disposing scrap and absolete and surplus materials, handling receprocal trade relations

Purchasing Function as Viewed Today

- that is far greater than that of mere service activity handling paperwork generated by decisions made elsewhere. Purchasing function has been refined to include cost reduction and make it "a profit-making function.

- Before a wheel can start turning in the manufacturing process,,the materials must be on hand; and there must be an assurance of a continueing supply to meet production needs and scheduled. The quality must be adequate for the intended purpose and suitable to the process and equipment used. Failure to do so would entail costly delays, inefficiant production, inferior products, broken delivery promises, and disgruntled custumer.

- To maintain a favorable competitive selling position and satisfactory profits, the materials must be procured at the lowest cost consistent with quality and service requirements, cost of procurement and cost of maintaining materials inventories, must be kept at an econimic level.

Material Cost as a factor of product cost

Average material cost

(a) manufacturing industry - 40-60 %

(b) processing of single raw material - up to 85 % ex. cotton cloth and food packing

(c) extractive industries like mining or oil product - purchase ratio relatively low

(d) Service industries where, after original facilities have been installed, about 25 % like railroad operations.

(e) automobile industry - 52 % of product cost.

"Reduction of 5% in cost of purchased materials which is rather a modest purchasing goal, is the profit equivalent of a 36 % increase in production and sales volume, which might be an ambitions quota, difficult to attain".

II. INTRODUCTION TO MATERIALS MANAGEMENT

Materials management is one of the least-understood activities in business. If one were to ask a hundred top managers in industry to define the term "materials management," one might get a hundred different answers. There is no general agreement about precisely what activities are embraced by materials management. Some managers would associate materials management with their material or production control departments, which schedule materials requirements and may also control inventories of both raw material and in process material. Others would associate it with the activities of their purchasing departments in dealing with outside suppliers.

Twenty years ago, no more than one or two companies had a materials department headed by a materials manager. Today, at least several hundred executives have the title of materials manager. Usually they control their company's purchasing, material control, traffic, shipping, and recieving activities, but their responsibility varies substantially from company to company.

1. Scope of Materials Management

Executives themselves do not agree as to the scope of materials management eventhough they are intimately concerned with it. Almost all of them do agree that materials management definitely embraces the purchasing function and should also include materials control and inventory control. A majority believe it should embrace traffic and receiving, and some feel it should further include production control, shipping, and materials handling. A few would also include recieving in inspection.

When most of the functions related to materials management are grouped together organizationally, the purchasing manager becomes a materials manager in fact, i not in title. Eventually managements recognize that the funtion being performed in this catchall department is no longer purchasing but something else -- materials management. They recognize this by changing the purchasing manager's title to "materials manager."

It should be emphasized, however, that the purchasing manager has no proprietary right to become a materials manager. Obviously, the title should go to the executive who is best qualified. He may be, and often is, the former production control manager or a top-flight administrator transferred from some other area.

In fact, various other groups have probably embraced the materials management concept more enthusiastically than purchasing men. The American Production and Inventory Control Society (the professional organization of production and inventory control managers) openly advocates the materials management form of organization and is dedicated to broadening the scope of the production control manager's operations so that he may become a genuine materials manager. The American Materials Handling Society jumped on the materials management bandwagon in 1966 when it changed its name to the International Materials Management Society. Members of this group believe that since materials management is concerned primarily with the flow of materials, it is only natural that the materials handling engineers who are directly concerned with this flow should broaden their horizons to embrace materials management.

There is good reason for the growing interest by many groups in the concept of materials management. The job of materials management is one of the most important of the company and when these functions are grouped together under a common executive the materials managers becomes one of the top officials of the country.

His responsibility begins with the receipt of blueprints and specifications for meterials, components, or services that are either incorporated directly into the product or used in operation of the business. His responsibility ends when the material is used in production. But after the product is manufactured, the materials manager is once again responsble for it, He sees that is transported, stored, and finally shipped to a customer. He mav be also responsible for packaging the product.

Materials management is a basic function of every business. It is just as essential to survival and profit as the other basic function: marketing, engineering, finance, manufacturing, and personnel.

Materials management is an important job even when the end product of the organization is service. For example, goverments and educational institutions could not operate withput materials management. They spend billions of dollars for thousands of different items — ranging from police cars and complex pieces of experimental equipment to printed forms a nd paper clips -- and each must be purchased and stored until it is needed.

2. History of Materials Management

The funtion of industrial materials management is as old as the Industrial Revolution. Early industrialists, of course, were not formally acquinted with the Principles of Materials Management or any other.

phase of management (although the successful industrialists applied many of the principles intuitively.)

3. The First Factories

The concept of a separate and independent materials activity was a novel one to most managers even as late as 1900, when the United States and the leading western European nations were already heavily industrialized. However, since it is a basic function of the business, the materials management job was being performed. Each shop foreman or superintendent was pretty much his own materials manager. In most companies, he ran his department like a semi-independent feudal barony with remarkably loose ties (by today's standards) of allegiance to the company as a whole. The foreman scheduled his own production, bought his own supplies, and did his own hiring -- all with a minimum interference from top management if he did the jobs with reasonable competence.

There is no basic need for a separate, independent materials activity if just one premise is accepted: skill in managing materials automatically accompanies skill in specifying and using materials. If one accepts this premise, one accepts the idea that a competent engineer or manufacturing manager is by definition a good materials manager, and materials are automatically managed and their specifications are developed and as they are used in the operations. So there's no need for a materials manage-

This premise was widely accepted fifty years ago, and a few companies still accept it today. But modern, progressive managements know it to be false. They believe that their is a distinct difference between skill in specifying and using materials and skill in buying them. They know that a professional buyer traine in business management and economics and familiar with the capabilities of hundreds of suppliers can do a much better job than an engineer or foreman whose training and orientation are less suitable for buying.

Although modern managements accept the concept of a separate purchasing activity, only a few have departments responsible for every phase of materials management. One major reasons for the lack of integrated materials departments in American industry is also historical in origin. It is the almost inevitable resutl of the evolution of the great corporation from the small family-owned business.

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III. THE MATERIALS CYCLE

Materials management is concerned with the flow of materials to and from the manufacturing departments. The materials manager regulates this flow in relation to changes in demand for finished products, actual or predicted prices of materials, supplier performance on quality and delivery, availability of material, and other variables. He bases his decisions on information from other departments within his company, suppliers, and other sources, including news in business periodicals.

In its simplest form, most of materials management consists of learning how much to get, when, and from whom. Simple as this sounds, the job can be quite complex, both because of the tremendous impact of materials management decisions on a company's success or failure.

The Design Stage. Prime responsibility for design rests with the engineering department, but the materials department plays a vital role. No company is so big that it can afford to have on its payroll scientists and engineers who are experts in the design, application, and processing of every part and materials it uses. Suppliers make enormous contributions to every company's design efforts. To a much greater extent than most people realize.

The materials department is the company's prime contact with supply sources. It can act as a catalyst in bringing supplier know-how to bear on the company's technical problems. Veteran materials specialists often develop expertise of their own, both from their educational backgrounds and from their association with suppliers. In some cases, they can assist with design problems that concern their specialties.

The Sourcing Stage. When the design is complete, the next basic stage of the materials cycle is sourcing. Since very few manufacturers start with raw materials that they mine or grow themselves, this is largely a matter of determining the stage of fabrication at which a component or material will be purchased. At one extreme, a company may buy basic raw materials and perform all manufacturing and assembly operations in its own factories. At the other extreme, a company may concentrate its efforts on engineering and merchandising its products, and rely on outside suppliers to produce them complete. Most companies follow a middle course between those extremes. They fabricate some items from raw materials and rely upon outside suppliers for others.

The Ordering Process. After a schedule has been determined for each item and requirements calculated, the ordering process begins. Requisitions and work orders are made up for each item. Typically they list unit requirements either for a given customer's order or for

total production for several months.

Purchase requisitions provide the authority to issue purchase orders to outside suppliers; work orders to authorize the manufacture of components made in the shop. Work orders and requisitions are interrelated. If a work order is to be carried out on schedule, the purchase requisition for the raw material must be executed on schedule.

The Receiving Process. When material is shipped, the supplier encloses a packing slip. The common carrier (if one is used) encloses a bill of lading and an invoice for freight. All of these documents identify the material when it arrives at the buyer's plant. The receiving clerk checks them against his file of open purchase orders. He then physically checks the shipment to make certain that it actually contains the material indicated on the supplier's packing slip and the buyer's purchase order. This check involves weighing or counting the shipment, along with general identification; it does not involve investigation of the material's quality to assure that specifications have been met.

Inventory Control. Although inventories solve many materials management problems, there are strong incentives for maintaining minimum stocks. Companies have a limited amount of cash to invest in inventories. Also, it costs as much as 20 to 30 per cent per year to store materials.

The materials manager must have material available when needed. But he can't afford to carry extra-large stocks just to make his job easier. He must balance the cost of carrying stock against the cost of possible shortages. His objective is the lowest overall average production cost.

To achieve it, materials must flow smoothly through the plant. The proper quantities —no more, no less — of each of thousands of different items must be available at all times.

Final Stages. When material is delivered on schedule to the manufacturing organization, the materials manager has done his most important job. When manufacturing completes processing and assembles the final product, the materials cycle is almost complete. All that remain are the packaging, storage, and shipment of the end product.

These final stages rarely create as many problems for the materials manager as the earlier stages. Packaging must usually be synchronized with production process. In such cases, who do the actual packaging may be under the supervision of a foreman or a superintendent reporting to

the manufacturing manager. The materials manager, however, retains responsibility for package procurement and may also be responsible for package design. The major effort on the part of the materials manager is directed toward improving packaging materials and equipment.

The storage of finished products is similar administratively to storage of raw materials. The materials manager would normally supervise the foreman in charge of the finished goods warehouse. But he would not control finished goods inventories. Such stocks exist to protect customers and give them better service, to permit more efficient operation of manufacturing plants, or because demand for end products was lower than anticipated when schedules were made up. Decisions concerning finished goods inventories are normally made by a top-management committee of which the materials manager is a member.

The materials cycle for direct materials ends with shipment of finished products to a customer. The materials department would always be responsible for loading the finished goods into the carrier and preparing necessary shipping documents. If the customer does not have a traffic department, it may also be responsible for routing the goods to their destination.

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Dean S. Ammer Materials Management

IV. MATERIALS MANAGEMENT

1. Definition

Materials management is the scientific administration of materials to ansure their maximum contribution to profit through:

a. Judicious assessment of need
b. economic procurement
c. efficient storage/handling/distribution
d. effective utilization
e. profitable handling of surplus and scrap.

2. Scope of Materials Management

Its scope covers plants and installations, machinery and equipment, parts and supplies, tools and services required in the operation of a large plant or establishment.

3. Functional Divisions

1. Purchasing
2. Warehousing
3. Shipping
4. Inventory Administration
5. Surplus Management

4. A Management Responsibility

Materials administration is an important management responsibility because materials constitute a major alement of cost that must be competently controlled to produce profit.

5. Current Practice

More and more companies in the Philippines are integrating their materials functions into an organized central materials department. Some approximate this set-up with a central buying office. However, many establishments still regard purchasing as a "non-productive" service function and relegate it as a secondary unction of user departments.

It is noteworthy that the concept of materials management continues to gain adherence among progressive minded managers. The set-back that is yet to be overcome is the unavailability of trained materials managers and competent training agencies.

6. The Materials Management Concept

The concept of materials management concentrates in a unified direction the administration of all materials, even commencing at the period during which materials are yet being forecasted and from the time of purchase, to storage, to distribution, through utilization, to withdrawal from service, until final disposal as scrap or surplus. Indeed, such is a "cradle-to-grave" control over materials.

7. The Materials Cycle and the Materials Plan

The various stages in the passage of materials through the industrial cycle and the corresponding management operation concerned with each stage are as follows:

The Cycle	The Plan
1. Anticipation	1. Budgeting
2. Acquisition	2. Purchasing
3. Retention	3. Warehousing
4. Distribution	4. Shipping
5. Utilization	5. Production/Operation
6. Disposition	6. Salvage/Disposal

8. Advantages of Centralization

The principal advantages of an integrated materials management are:

1. Separation of the materials factor from the influence of individual departments whose primar interests lie in other directions.
2. Operating departments are freed of the details of the procurement functions and are enabled to concentrate on their respective primary functions.
3. Concentration on materials administration develops specialized knowledge and skills essential to competent management of materials resources.

V. THE PURCHASING FUNCTION

1. Definition

Purchasing is a management responsibility for the supply of NEEDED materials

of the RIGHT quality
in the RIGHT quantity
at the RIGHT time
at the RIGHT place
from the RIGHT source
at the RIGHT price

in the MOST ECONOMICAL manner.

Purchasing may either be:

a. Centralized -- where the function is exercised by one central department for the entire organization.

b. Departmental -- where each department is granted authority to purchase its own requirements.

c. or a combination of both systems.

2. Competence

A primary requisite for effective purchasing is qualified purchasing personnel. The competent purchasing man must be a management oriented executive and must also be in part a researcher, cost analyst, economist, lawyer, diplomat, administrator, businessman and a human being all rolled into one.

3. Relationships

a. Its major expenditures are the concern of managerial financial control.

b. Its vital service to production concerns the production manager.

c. It is an important tool of sales in reciprocal business.

d. It can also be a form of source of credit.

4. Levels of Buying Authority

a. Top Management - for major purchases

b. Middle Management - for general routine purchases

c. Supervisory Management - for minor purchases

5. Controls

a. Procedural Control - Manual of Procedure/Policy Guides

b. Budgetary Control

1. Capital Materials - limited by specific budgeted items and values.

2. Operating Materials - limited not on item by item basis but by total value budgeted.

c. Quantity Control - in accordance with laid down standards of minimum and maximum stocks or in accordance with accepted ordering formula.

d. Quality Control - in accordance with accepted standards specifications and/or from list of approved suppliers.

e. Control of "hidden costs" such as kickbacks, defalcations, time and motion losses - periodic systems audits, time and motion studies, internal and external financial audits, procedural revisions, value analysis, systems contracting, contract purchasing, and other cost saving techniques.

6. Ethical Practices in Purchasing

The "Principles and Standards of Purchasing Practice" advocated by the National Association of Purchasing Management of the U.S. is a good guide. Ethical behavior varies from country to country, from business to business and from person to person.

The purchasing man is an important custodian of company reputation. He must be sensitive to the rightness or wrongness of his actions more than whether they are legal or illegal.

A gift of any kind from a supplier to a buyer at any time is questionable.

7. Measures of Purchasing Performance

1. Accuracy of price forecasting.

2. Actual price performance through:

a. Negotiation
b. Introduction of new suppliers
c. Materials substitution

3. Good supplier performance - as to quality and delivery.

4. Supplier relationship -- service, cooperation, contribution of new ideas.

5. Efficient control of department operating costs.

VI. WAREHOUSE OPERATION

1. Definition

Warehousing is a space providing function for the custody of materials that are not in use.

It is a materials management responsibility to create value in time and place for the materials that are carried in storage to justify their continued existence in stock.

2. Facilities

Stores section should have proper physical facilities and equipment as to allow for good housekeeping and preservation of materials and prevent loss through waste, pilferage, confusion and deterioration.

3. Controls

1. Systematic classification of stocks.
2. Adequate facilities for close supervision.
3. Accurate record keeping.
4. Periodic stock checking.
5. Continuous analysis of inactive items to determine their disposition and avoid accumulation of dead stocks.
6. Efficient stock locator system.
7. Sensible security system.
8. Effective materials preservation practices.
9. General good housekeeping.

VII. MATERIALS HANDLING

Materials handling is the application of the principle of minimum handling of materials at the least cost as being the best policy.

Handling adds no value to materials but on the contrary, increases their cost.

VIII. INVENTORY ADMINISTRATION

Materials department should exercise advisory responsibility, if not direct responsibility, over user department in respect of:

a. Standards for conservation and preservation.

b. Reporting procedures for retirement from service or scrapping.

c. Inventory control measures.

d. Details for performance records of equipment.

Such control is essential bearing in mind that it is Materials Department's responsibility to enforce guarantees and process claims in cases of failures of equipment or materials in service.

IX. SURPLUS MANAGEMENT

Profitable disposal does not necessarily mean resale of surplus or scrap materials at a profit. It means handling and disposal of these materials should not continue contributing to costs.

Classes

a. Excess Stock - Good materials normally used in operations but in excess of established maximum quantities.

b. Dead Stock - Good materials of which there is no further use in the company.

c. Scrap - Deteriorated materials of no further use -- junk.

Principal Modes of Disposal

a. Retention for future use.
b. Transfer to other user points.
c. Downgrade for use in lesser specifications.
d. Sale.
e. Donation.
f. Destruction.