Unit 1 – Purchasing Function in perspective

Distinguish between purchasing and supply management concepts

Purchasing Management (P,N,E,F)

- Process of buying, locating & selecting a supplier
- Negotiating price, quality, quantity
- Ensuring delivery
- Functional approach

Supply Management (M,S,R)

- Management of resources the organisation needs to attain objectives
- Strategic focus and systems approach
- Regards suppliers as extensions of the firm

Discuss objectives of purchasing management (S,M,M,M,D)

- Supply organisations with a flow of materials to meet needs
- Maintain effective supplier relationships
- Maintain and develop quality
- Maintain internal relationships
- Develop staff, policies and procedures

Discuss objectives of supply management (C,I,M,E,C)

- Contribute to overall business strategies
- Integrate supply objectives with corporate objectives
- Manage supply base
- Ensure timely, cost effective information system in place
- Contribute to multi functional teams and provide outstanding customer service

Discuss importance of P & S function (G,I,I,S,I,F,I)

- Globalisation
- International orientation
- Information technology development
- Short product life span
- Increased supply risks
- Focus on quality and environment
- Increased costs

Discuss influence purchasing has on profit and return of investment

Profit leverage

Effect of saving on bottom line – small % of saving in purchase price contributes to large increase in profit

Return on investment

Profit margin – more efficient purchases lower purchasing cost – gross income and total income increase – higher profit margin

Asset turnover – more efficient purchases decrease extent of assets employed (like inventory) – increase turnover

Discuss elements of purchasing procedure (O,S,S,S,N,O,F,R,H,A,C,M)

Origin of need – From user (qty, time)

Specification

- Purchase requisitions for routine purchases
- Travelling requisitions for standard purchases
- Material lists for production material requirements
- Kanbans for information cards for JIT

Source identification

- Price lists, Catalogues, quotations
- EDI, e-procurement, electronic catalogues

Selecting suppliers

- Standard products – recommended supplier on requisition
- Specialised – recommended by user (quotations)
- High value – comprehensive selection (Material lists)

Negotiating and bidding

- Formal tenders or negotiation with potential suppliers

Ordering and contracting

- Issue official order (legally binding) – ensure completion
- Several copies given to other departments involved in process

Follow up and expedite

- Follow up done by mail, letter or phone
- Constant monitoring of supplier progress

Receiving, inspecting and distributing

- Stores should receive and inspect
- Complete receiving note and note shortages/damages
- Distribute to end customer

Handling faulty consignments and rejections

- Responsibility of purchasing to negotiate faults with supplier – maintain good relationship

Analyzing invoice

- Compare with order and delivery note

Closing order

- Payment done by finance
- Must have all documents – order, invoice, receiving note, quotations

Measuring supplier performance

- Performance evaluation and feedback to supplier on performance

Unit 2 – Task of P&S Management

Planning

Discuss levels of purchasing and supply planning

Strategic -Organisational planning at highest level – Top Management mission and long term objectives

Tactical – Implementation of strategic plans - Executed at middle management

Operational – Material requirements planning, P&S system planning – done at lowest level

Strategic	Tactical	Operational
Ensure availability of purchased requirements at competitive price	Enter long term contracts with reliable suppliers	Maintain sound relations with suppliers – ethics, contract, timely ordering
Develop suppliers	Put together a project team responsible for developing suppliers	Study situation in supplier market and provide technical support
Keep inventory investment low	Study alternative inventory control systems or flow of materials	Conduct inventory analysis, reduce a cat and improve understanding with suppliers

P&S Strategy (L,C,I,H,A)

- Link with organisation
- Close relation with suppliers
- Integrate with other functions
- HR must emphasize efficiency
- Atmosphere of department

Phases of design strategy

I – Enterprise objectives as basis

II – Analyse P&S environment

III – Analyse P&S opportunities and risks

IV – Set P&S objectives

V – Develop P&S strategy

VI – Evaluation

Organisation

Position in enterprise structure

Centralised – Authority for function in one person or team

Advantages

- Standardisation
- Increased buying power – bulk purchases
- Branches work together
- Staff expertise
- Control
- Reduced admin costs
- Central team
- Integration

Decentralised- different branches, departments, plants have autonomy over decision making

Advantages

- Closer relations between purchasing and consumer
- Needs better satisfied
- Nearby suppliers utilised effectively
- Faster action in emergencies

Organisation structure of P&S

Related to activities

Specialist groups within function formed with regard to skills, supply system, methods, inter relationships and integration

Cross-functional teams

Streamline and eliminate non-value adding activities – empowerment of lower levels

Advantages

- Different perspectives and expertise
- Increased innovation
- Enhanced communication between functions
- Teams accept responsibility
- Faster problem solving
- Joint responsibility

Coordinating

With other functions

- P&S activities support other business functions and activities
- P&S function acts as advisory capacity with supply market

Supply system

- Coordinate objectives, abilities and activities of each component of overall supplier system

Control

Systematic attempt to reach objectives – observe actual and compare with standard

Objectives of performance evaluation

- Improve P&S performance
- Provide information to P&S Management for decision making
- Motivate and enhance personnel
- Establish basis for comparing with other P&S divisions and benchmarking
- In principle, performance evaluation of P&S function must be a systematic scientific technique used by P&S management as evaluation costs money and costs must be weighed against benefits

Problems evaluating P&S function (D,D,D,M,F)

- Diverse activities
- Difficult to express in quantitative terms
- Difficult to set quantitative measures
- Measurement narrowly focused – supplier base reduction not always included
- Function influenced by internal and external factors (policy and supplier market)

Steps in evaluating process (D,E,M,E,F)

- Determine objectives
- Establish performance measures and norms – Management measures, Proficiency measures, Efficiency Measures
- Measure actual performance
- Evaluate actual performance
- Feedback (report)

Unit 3 – New management approaches

Supply Chain Management

- Series of connected suppliers and customers
- Process Management opposed to Functional Management
- Focus on value add
- Covers flow of goods from all levels (Manufacturing to Distribution to Customer)
- Supports vertical coordination (identify core activities and outsource rest)
- Boundaries broken down between internal and other enterprises

Important processes in supply chain

- Customer driven
- Efficient logistics
- Demand driven by sales planning
- Lean manufacturing – eliminate waste
- Information flow up and downstream
- Sourcing

Core principles of supply chain management (V,T,I,R,S,T,S,H)

- Value and creation of customer value – lowest cost while satisfying need
- Total cost ownership – understand true cost
- Integration of processes – Delivery process managed across boundaries
- Reduction of cycle time – reduce lead times, design time, faster introduction of new products
- Strategic partnerships – Merge cross functional teams of various organisations
- Total quality management (TQM) – applied to whole organisation, ISO9000, benchmarking, JIT
- System integration – EDI or ERP
- Human resource development – training, team development, cross functional, inter-organisational

Characteristics of supply chain management (P,C,O,I,L,I,S)

- Philosophy for conducting business
- Consist of multiple layers of companies as a team
- Organisations involved in multiple supply chains
- Integration of suppliers, firms and customers
- Links and interfaces are not all of equal importance
- Information sharing across the supply chain
- Shared vision of customer value

Guidelines for implementing a supply chain

- Develop supply chain strategy to support overall strategy
- Identify supply chain goals
- Develop system for gathering market intelligence
- Integrate and manage supplier base
- Develop performance measurement system

Logistics Management

- Planning, implementing, controlling efficient and effective flow and storage
- Point of origin to point of consumption
- Optimises flow in organisation

- Three main concepts: movement, satisfaction and reasonable cost

Time based competition

- Reduce lead time from conception to design to delivery
- Product cycle time – time it takes to market
- Merges 3 elements: Speed, quality and flexibility
- Influences P&S in strategic, sourcing, supporting business strategies, supply chain perspective

Benchmarking

Define concept and objectives of benchmarking

- Process allows a company to evaluate its work methods, processes, service levels and products against meaningful standards
- Basic objective is to improve current performance in activities in benchmarking study

Identify three categories in benchmarking and how it can be used

Internal benchmarking

- Measures performance of processes, divisions, business units or manufacturing units in the same firm against each other

External benchmarking

- Comparison of performance in activities between firm and competitors in the same industry

Best-practice benchmarking

- Seeks world class practices and excellence irrespective of industry, business or type of product

What are the advantages of benchmarking?

- Improves customer satisfaction
- Identifies best practices
- Improves existing processes
- Identifies forms competitive position
- Transforms complacency
- Helps set attainable improvement
- Prioritises activities for improvement

Implementation process (P,A,I,A,M)

I – Planning – Determine target

II – Analysis – Determine why target better

III – Integration – Communicate findings

IV – Action – Develop schedule for reviewing

V – Maturity – Becomes accepted method

Unit 4 – Strategic Sourcing

Process whereby commodities and suppliers are analyzed and relationships formed according to best practices in support of long term organisational goals

Process of strategic sourcing

Analyse total spending by dividing into categories according to risk and amount to be spent

Bottleneck	Routine
Amount spent low	Amount spent low

Risk high Substitution difficult	Risk low Substitution easy
Critical	Leverage
Amount spent large Risk high Substitution difficult	Amount spent large Risk low Substitution easy

Define subcontracting and outsourcing

Tie in with make or buy decision – firms concentrate on core activities and externalise specialist jobs by subcontracting or outsourcing

Outsourcing

Does not form part of production process, involves provision of services (non-core activities) e.g. HR, credit management, cleaning, transport, cafeteria

Subcontracting

Producer hires another firm to perform part of manufacturing process or furnish sub assemblies for end products

Discuss the Advantages and Disadvantages

Advantages	**Disadvantages**
● Cost savings ● Specialisation ● Better competitive position ● Enlarged production capacity ● Limit inventory ● Increase response to market	● Dependency on enterprises – captive supplier ● Unsuccessful development of supplier ● Over involvement in development of contractors

Outsourcing decision process

I – Assess technology and demand trends

II – Define core activities

III – Analyse strategic position

IV – Conduct total analysis

V – Considering non-cost factors & making decision

VI – Analysing the relationship

Cost elements for insourcing vs outsourcing

Costs (insourcing)	Costs (outsourcing)
Operating expenses	Purchasing cost
Interest on capital	Freight
Depreciation	Inventory cost
Fixed overheads	Admin cost
Engineering Design	Relationship cost

Non – cost factors

- Control of production
- Design secrecy
- Unreliable suppliers
- Suppliers specialised knowledge
- Volume of requirement
- Availability
- Workforce stability

Unit 5 – Selection and performance evaluation

List reasons for growing importance of supplier selection (I,G,I,A,G,I)

- Increasing costs
- Growing competitiveness
- Increased outsourcing
- Adopting JIT, TQM and SCM
- Growth of e-commerce

- Integrating organisations

Poor supplier selection consequences

- Out of stock situations
- Product recall
- Weakening competitive position

List 12 most important evaluation criteria

Quality	Financial status
Cost	Technology
Delivery	Systems
Time	SCM
Flexibility	Environment/Ethics
Services	Capabilities/motivation

Discuss the supplier selection process

PHASE 1 – EXPLORATORY PRE-EVALUATION STAGE

- Identify possible suppliers – internet, chamber of commerce, websites
- Pre-screen to reject unsuitable suppliers – based on evaluation criteria

PHASE 2 – SELECTION EVALUATION PHASE

- Conduct research on suitable suppliers – visits, questionnaires
- Choose the evaluation method and analyse – weighted point system
- Select supplier

PHASE 3 – POST EVALUATION PHASE

- Measurement of supplier performance
- Supplier accreditation – approved, preferred, certified

Unit 6 – Supplier policies and strategies

Framework and guidelines used when making decisions about suppliers

Name the benefits of procuring from Local, National or International suppliers

International Suppliers

- Advanced technical expertise and quality
- Lower costs in labour
- Larger production facilities
- Larger product range

Local suppliers

- Low transport costs
- Shorter lead times
- Improved communication
- Express orders easier to expedite
- Reliable service
- Better personal relationship
- Implementation of JIT

National suppliers

- Lower prices due to mass production
- Technical and development support
- Continuity of supply – hold larger stocks
- Improved service locally

Advantages of buying from a distributor or manufacturer

- Specialised product knowledge
- Purchaser has wider choice
- Dispersed locations – shorter lead times
- Can have blanket or open contracts

Supply Base optimisation

Identifying how many and which suppliers will be maintained

Advantages and risks of one or limited suppliers

Advantages	**Risks**
Long term relationships	Dependency on suppliers
Bigger discounts	Absence of competition
EDI and JIT can be used	Supply disruptions

Outstanding quality offered	Monopolies

Advantages of using more than one supplier

- Important products purchased
- Long term relationship possible – different specialisations
- SME development
- One supplier can't supply, use another one

Supplier development

Discuss 3 main ways in which an enterprise becomes involved in supplier development

- Purchases from disadvantaged suppliers – policy on AA purchases
- Product service not available – develop other suppliers ability to supply
- Performance appraisal of suppliers – point out supplier weaknesses

What is meant by "Reciprocity"?

Suppliers who are also customers of purchasing organisation enjoy preferential treatment

Decision to make of buy

Circumstances favouring buying	Circumstances favouring making
Strong purchasing corps able to buy efficiently	Costs less to produce
Inadequate facilities	No or few suppliers
Staff expertise inadequate	Available capacity
Demand small	Quality requirements stringent
Cheaper than to make	Competitive, political, environ, emotional

	reasons
Cost considerations	**Cost considerations**
Purchase price of product	Delivered cost of raw material
Receiving and inspection costs	Labour & inspection cost
Transport costs	Incremental manuf. Overheads
Incremental purchase costs	Incremental management costs
	Incremental purchasing costs
	Incremental stock costs
	Incremental financial costs

What is meant by "Captive Suppliers"?

Suppliers who are too dependent on one client for their survival

Policy should be made to limit buying from one supplier and buy from others

Explain three main aspects concerning environmental consciousness purchasers to take into account

- Supplier mission, policy, measures to protect the environment during manufacturing – check process on waste, air and safety
- Environmentally friendly product produced
- Correct quantities & product used to prevent obsolescence and waste

Buying auctions

Explain the differences between forward auctions and reverse auctions

Forward auctions (sellers auctions)

- Several buyers compete for scarce product
- Seller in strong position
- Risk of prices driven up by competitive bidding
- Purchasers should have a good knowledge of goods sold, profit margins and pricing strategies

Reverse auctions (electronic buyers)

- One buyer and a group of sellers
- Online, real time auction between buying organisation with one of two invited suppliers
- Three types of electronic auctions
  - *English* – start highest selling price, reduced during bidding, lowest bidder wins
  - *Dutch* – Low price set, increases until supplier bids, first supplier to bid wins
  - *Sealed bid* – one chance to bid and lowest bidder accepted

Unit 7 – Ethical aspects, Corporate governance, Social Responsibility

Corporate Governance

Explain the role of P&S management in corporate governance

- P&S personnel must act ethically and lawfully
- Ensure most beneficial value package obtained with every purchasing transaction
- Act professionally in the interest of the organisation

- Intimate knowledge of product/service they purchase, supply market and market conditions

Social Responsibility

P&S social responsibilities is defined as a meeting of discretionary responsibilities expected by society

Explain the five areas of social responsibility of P&S function (D,E,H,P,S)

Diversity

- Obligation to search for and purchase from previously disadvantaged groups

Environment

- Use life-cycle analysis to evaluate environment friendly products, waste reduction and recycling

Human Rights

- Visit suppliers to ensure no slave or child labour is used and workers treated fairly

Philanthropy & Community

- Buy from local suppliers, donate to non-profit organisations, and alleviate poverty

Safety

- Ensure supplier operations are conducted in a safe manner

Ethical aspects

Set of moral principles or rules of conduct that guide behaviour – follow a code

List the reasons for increased concern about ethical conduct in purchasing and supply

- Purchasers have power over large sums of money
- Purchasers have greatest say over which supplier gets the order
- Purchaser could be exposed to unethical conduct
- Unethical actions by purchasers influences supplier relationships
- Temptations influences purchasers objectivity

Areas of unethical conduct

- Purchasers may have interests in supplier
- Loyalty to colleagues
- Misuse of purchasing power for personal gain
- Withholding information from a supplier
- Supplier information on documents is confidential
- Setting specifications on one supplier to cut out competition
- Disclosure of confidential information

Countering unethical conduct

Set up a code of conduct policy document on ethical behaviour which should contain the following information:

- Acceptance of gifts, meals, pleasure trips
- Dealing with sales reps
- Handling quotations and tenders
- Dealing with confidential information
- Behaviour during negotiations
- Purchaser with supplier interest
- Using enterprise purchasing power
- Using enterprise equipment
- Direct purchases by other sections

Unit 8 – Management of quality

Quality concept

Conformance to requirements or fitness for use

5 principles

Transcendent quality	Condition of excellence

Product based quality	Product attribute
User based quality	Fitness for use
Manufacturing quality	Conformance to requirements
Value-based quality	Degree of excellence at acceptable price

From a technical perspective

- Quality of conformance – how well it is made to specification, no defects
- Quality of design – characteristics of product give customer satisfaction

From a business perspective

- Reflect the objectives of efficiency and effectiveness, optimising value and costs

Internal service quality

Identify why internal service quality is so crucial from a purchasing point of view

- Impacts organisation ability to meet external demands
- Pivotal role in delivering quality – internal and external
- Internal customers determines quality delivered to external customers
- Internal quality of workplace contributes to employee satisfaction

Name the elements of internal service quality

- Responsiveness to customer needs
- Quality of delivered products
- Meeting customer expectations
- Flexibility in meeting customer changing needs
- Delivering information on time
- Delivering products on time
- Delivering reliable information
- Explaining delivery problems
- Communication level

Managing quality: TQM (systems approach)

Explain the characteristics of TQM

- Management philosophy that permeates the whole supply chain
- Continuous improvement is the cornerstone
- All employees and partners have quality project responsibilities
- Team problem solving cross-functional and inter-organisational – ensures quality goals shared
- Feedback on customer satisfaction important input

What is the impact of TQM on P&S?

- *Customer focus*
- Reliable suppliers ensuring quality, availability and quick response time for internal and external customers
- *Structured relationship*
- Quality objectives attained and collaboration amongst all parties
- *Performance Management*
- Supplier evaluation, quality improvement, feedback
- *Employee involvement*
- Enhance problem solving capacity
- *Involvement in teamwork*
- Must be involved in quality teams

Managing quality: Planning (Analytical approach)

Name the steps used for quality planning (S,C,S,D,D,D)

- Study quality environment
- Collect necessary data
- Set quality objectives
- Develop policies and strategies
- Decide on quality
- Decide on implementation

Quality environment

What information should be collected for analysis?

- Availability of items
- Existence of substitutes
- New suppliers
- Technology innovations
- Using standardised items
- Making own items
- Quality specifications of competitors
- Global changes
- Changing management philosophies

Quality objectives

- Improve customer satisfaction
- Use recyclable packaging
- Implement TQM

Quality decisions

Identify the aids for decision making on quality and give a short description of each

Standardisation

- Formally accepted, uniform, inherent characteristics of items in terms of specific measurements, design, composition, performance, quality and use
- Derived from 3 sources: International (ISO9000, Inco terms), Industrial (ISO14000, SABS), Business standards (Emerged within plants)
- Advantages:
  - Less stock kept
  - Larger quantities ordered
  - TCO reduced
  - Inspection & quality control easier
  - Mistakes on orders reduced
  - Improved competitive position
  - Availability of product
  - Better labour relations
  - Global logistics costs reduced

Value analysis

- Eliminate unnecessary cost of product that constitutes an input to the supply chain
- Compare function with cost – lowest cost to produce with lowest cost of attribute
- Procedure of analysis
  - Select product for examination
  - Execute value analysis programme in 6 phases:
    - Information phase – gathering
    - Inquiry phase – investigation on product
    - Speculation phase – speculate improvements
    - Evaluation phase – test improvements
    - Recommendation phase – best alternative
    - Implementation and follow up phase – implement and monitor

Quality assurance

- Purchaser places responsibility with the supplier to provide quality on a constant level per requirement
- Defects/problems continuously identified – cradle to grave
- Right quality built into product, not inspected into it
- Agree quality levels before the time
- Manufacturing facilities should be thoroughly examined

Description of quality

What are the different quality methods of description used and give explanation of each?

Market grades	Deduced from size, shape, colour, moisture Apply to agricultural products like wood, tobacco

Brand Names	Identification to differentiate from similar competitive products
Commercial standards	When industry or government set certain standards For example: bolts, nuts, window frames etc
Inherent specified characteristics	Chemical, physical and performance of products
Materials and Manufacturing characteristics	Purchaser specifies what materials should be used and how it should be manufactured
Engineering drawings (blueprints)	Used when purchasing spare parts for machines, casting and construction
Samples	Useful when a particular colour is required

Control of quality

Purchasing firm inspects deliveries on arrival to ascertain that stated quality requirements have been met

Discuss the quality control process

- Setting standards – Specs to determine sample to supplier then delivery
- Recording performance – Inspection size (Sample or Total)
- Explaining discrepancies – Report on attributes and variables
- Corrective action – Return everything, Return defective, Negotiate adjustment

Unit 9 – Price Determination and Cost Analysis

Buyers adopt various approaches to determine the right price

- An element of value – customer benefits minus customer sacrifices
- A fair price

- A competitive price

Define the concepts of "a fair price" and "a competitive price"

A fair price

- Lowest price that ensure continuous supply of proper quality where and when needed. It covers supplier cost and allows fair profit

A competitive price

- Price which relates to the strategic importance of purchased materials, components and services for long term profitability and survival of the enterprise

Cost as an element of determining price

Name the elements of cost in determining price

Direct cost of materials

- All materials that can be directly identified in the final product
- Estimated with the aid of material cost of similar products and materials lists

Direct labour costs

- All labour that is physically traceable to the final product
- Important components: labour hours and wage rate

Indirect manufacturing cost

- All other costs of manufacturing, like factory overheads

Profit mark-up

Element of ultimate price the purchaser must understand – profit earned by the supplier

Behaviour of cost under volume changes

Three cost categories

TOTAL FIXED COST	Remain the same as a total over shorter term no matter how many products produced

	As cost per unit produced – decrease as output grows E.g. Rent, Salaries
TOTAL VARIABLE COST	Increase as a total as production quantities increase Cost per product remain the same E.g. direct labour and material cost
SEMI-VARIABLE COST	Have fixed and variable elements Vary according to number of units produced E.g. Electricity consumption

Market forms and price determination

Market structure determined by number of purchasers and sellers – buyers market and sellers market
Type of market is linked to nature of competition

Identify and describe the characteristics of the three market forms in which most purchases are being done

Market	Buyers	Sellers	Product	Behaviour
Pure Competition	Many	Many	Homogenous	Impossible for individuals to influence price – no bargaining power for purchaser
Oligopoly	Many	Few	Homogenous	Purchaser can exploit price differences with substitutes
Monopoly	Many	One	No substitute	Difficult for purchaser to negotiate price

Type of product and price determination

Identify six types of product categories and method of price determination for each

Product Category	**Method of price determination**

Raw Materials	Require specialised purchasers Prices usually fixed in these markets
Special Items	Custom ordered & manufactured Usually non-repetitive purchases
Standard production items	Majority of items purchased Determined by quotes, catalogues, price lists Stable over short term
Items of small value	Value ceiling should be checked regularly Price rise in short term – inflation Expense to check price before purchase not justified
Capital goods	Complicated and usually performed by management team
Services	Specialised activity For general activities – quotes & tenders For complicated service - negotiations

Price analysis as a method of determining prices

Process of comparing supplier prices against external benchmarks without knowing supplier cost

Steps in the price analysis process

1. Collect information for determining purchase price – use price lists, catalogues, quotations, internet
2. Understand the pricing models (6)

Price volume model	Supplier analyses market to find volume of sales combined with specific price per unit
Market penetration model	Suppliers new products to market prices very low to increase sales and discourage competition
Market skimming model	Supplier intends “creaming off” profits early
Revenue pricing model	Suppliers obtain sufficient revenue to cover operating costs
Promotional pricing model	Attractive prices for individual products, sell below cost to ensure sales – long term contract can be expensive with them
Market price level	Use if keen competition and numerous similar products in the market

3. Setting objective for price determination
   - Budget objectives – set in form of standard prices and determined by marketing analyses
   - Cost reduction strategies – reduce actual cost or TCO (long term contracts)
   - Price indices – how market prices of specific commodities change compared with base period

4. Formulating price policy and strategy

Prevailing market prices	Used for standard production articles and certain raw materials – prices published regularly
Competition in the market	Used for specialised products – use tender process
Negotiation	Transactions with high monetary value and where tender conditions not present

<u>Cost analysis as a method of determining prices</u>

Process of analysing each individual cost element that together adds up to the final price

<u>Cost based pricing models</u>

Cost mark-up	Estimate cost and add mark-up % to represent profit

Margin	Based on history or feel of market – decide on profit %
Rate of return	Bases profit on objective of specific desired rate of return on financial investment rather than cost

Collaborative cost analysis

Managing total cost of supplier with benefit of effort shared jointly by supplier and purchaser

Main approaches:

Target pricing	Organisation develops specific goals for its cost to produce a product Based upon desired profit margin & projected selling price Difference between supplier price and target cost is where buyer and seller collaborate
Cost saving sharing pricing	Encourages suppliers to continuously endeavour to reduce cost and improve performance to create basis for sharing savings

Techniques for assisting cost/price analysis

The learning curve

- Graphic representation indicating a constant reduction in average direct labour hours that occurs for each unit produced every time number of units produced doubled
- Correlation between average labour hours per unit and number of units manufactured
- Based on the simple perception that labour becomes more skilled and efficient with the repeated handling of equipment and materials

Breakeven analysis

- Presented graphically as a series of ratios between manufacturing cost and related quantities of a product manufactured and sold by a supplier
- Consists of total cost curve and revenue cost curve – breakeven is where total costs intersects revenue curve
- Revenue above total cost = profit ; Revenue below total cost = loss

Hedging prices

- Reducing risk of fluctuations in the prices of raw materials
- Simultaneous purchase and sale in two different markets (cash and futures) assumed to operate so that a loss in the one will be offset by an equal gain in the other

Unit 10 – Inventory Management

Lean supply context

Drive to identify duplication and waste – no value add, but adds cost - gets eliminated

Impact of features

- Relationship as a quasi firm
  - Firm and external firms work together to eliminate unnecessary cost
  - JIT approach moves inventory burden to suppliers
- Cost transparency
  - Customer willing to share data on internal processes with supplier
  - Supplier shares cost structures with customers
- Research and Technology
  - Exploitation of new technologies and collaborative roles
- Relationship assessment
  - Jointly managed – eliminating supplier evaluation as a non value adding activity

Reasons for holding inventory

- Ensures production continuous and economic
- Low unit cost and constant availability
- Makes economical purchasing possible
- Protects against uncertain delivery, price increase and break in supply
- Reduces purchasing cost as fewer orders placed
- Allows autonomous decision making

Inventory concepts

Categories of inventory

Production inventory	Raw materials, materials & components required in production process E.g. Timber. Textiles, ball bearings
Maintenance inventory	Materials that support the manufacturing process but not necessarily included in final product E.g. Light bulbs, lubricants, cleaning materials
Processing inventory	Semi-finished products which are stored between various production stages E.g. WIP
Finished product inventory	Products ready for dispatch

Contract methods & procedures of purchasing inventory

Standing orders	Agreement with supplier to deliver over a period of time at fixed price
Term Contracts	Decentralised companies prefer centralised contracts – fewer suppliers for long term agreement

Urgent orders	Placed by phone – pressure on suppliers Goes against procedure & control
Low value orders	Cost of order between R300 – R400 – increase admin costs Rather use petty cash or COD

Inventory costs

Inventory carrying costs (ICC) Interest Space Risk (ISR)	Financing – Interest paid or lost Storage – Maintenance, property tax Handling – Equipment, remuneration Insurance Technical – depreciation, obsolescence ICC = Inventory carrying cost per unit X qty
Ordering costs	Preparation and issue of orders to suppliers: Admin cost Follow up cost Quality control Payment TOC = Fixed cost per order X No. of orders
Cost of inventory shortages	Difficult to quantify and calculate E.g. cancelled orders and customer goodwill Relate to higher transport cost Increased overtime Additional admin

ABC Classification

Inventory in the 4 categories must be classified

Achieved by doing the following:

- Compiling inventory catalogue

Inventory list containing information such as: stock number, inventory level, price

Record by writing all inventory received and sent out

- Applying ABC analysis

Information on the importance of different inventory items in terms of monetary value

Based on average inventory investment or annual rand consumption

Express rand demand and qty of items in a category as a percentage of total rand demand and total number of items

A	10% of total items 70% of rand demand
B	40% of total items 20% of rand demand
C	50% of total items 10% of rand demand

Inventory planning and control

Planning involves decisions on qty to purchase and when to purchase

Control monitors and evaluates inventory activities – actual vs performance

Demand planning - Independent demand items

Demand for a product not connected to demand for another product – finished goods

- Inventory timing
  - Use periodic reorder system
  - Inventory levels checked at fixed intervals
  - Maximum inventory level calculated based on consumption over 2 to 3 months
  - Inventory is issued and demand is depleted
  - At a fixed time an order is placed – difference between existing qty and max level
  - Ordering qty and review date will vary – depends on issue rate
  - Inventory replenished to max stock

- Inventory qty
  - Two aspects considered: ROP and EOQ
  - Order a fixed qty (EOQ) when stocks need to be replenished
  - Replenishment takes place when reorder point reached
  - Reorder point calculation: ROP = D (LT) + SS
  - Reorder point reached order is placed for EOQ
  - EOQ calculated √2CoR/Cc
  - Order replenished according to batch size – max stock level will vary
  - Need to know inventory costs
  - Total inventory cost = Inventory carrying cost + Inventory ordering cost
  - EOQ is where total inventory carrying cost = inventory ordering cost
  - Optimal number of orders to place is N = R/Q (R is annual consumption) and (Q is quantity)

- Response based techniques

Techniques used to react to market changes quickly

Quick Response (QR)	Captures day to day demand at retail level and deploys demand electronically in real time
Continuous replenishment	Eliminates need for replenishing orders – no orders generated by buyer
Automatic replenishment	Supplier can anticipate future customer requirements & automatically fill customer inventory
Efficient consumer response (ECR)	Used mainly in grocery industry – discourages stockpiling and cut throat promotions

<u>Demand planning – Dependent demand items</u>

Demand for a time-based supply chain is dependent on demand for finished products

- Requirements planning (MRP, MRP II, DRP and ERP)

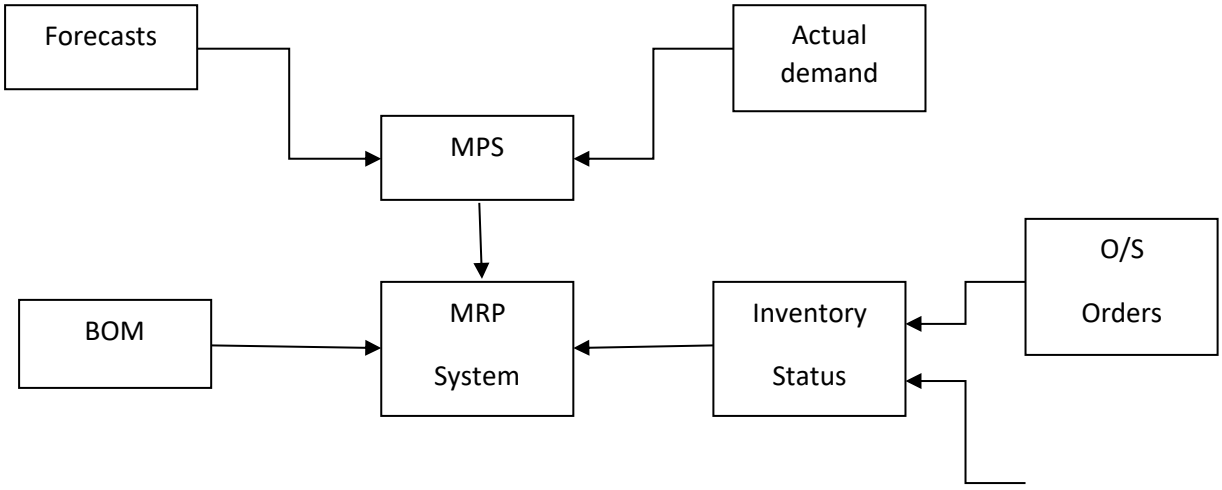
<u>MRP</u>

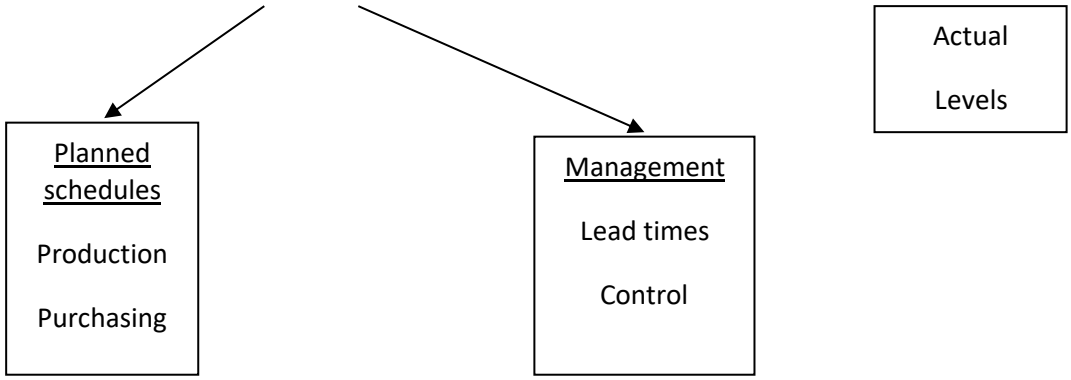
- Uses planned production to determine what and how much should be ordered, when and what date delivery should take place
- Scheduled to coincide with time of need
- Demand depends on forecast demand for finished product

Characteristics

- Uses electronic data
- Inventory reduced to bare minimum by synchronising material flow and production scheduling
- Demand for materials calculated in MRP – more reliable than forecasting techniques

Main components





Influences on P&S Management

Positive	**Negative**
Closer links between supplier and user	Qty purchased inflexible
Fewer outstanding orders	Lead times must be short and reliable
Decrease in inventory	Lower inventory levels – pressure on purchasing
Improvement on accuracy	Availability & lead times must be reliable
More time available for value analysis	Demand expertise required
Improved accuracy of purchasing planning	
Eliminates expediting orders	

MRP II

Next development to include financial terms – basis of Material Resource Planning

DRP (Distribution Resource Planning)

Applies MRP principles to service, retail and distribution operations

ERP (Enterprise Resource Planning)

- Management information system and business intelligence system integrating all business processes
- Integrates internal processes with external processes
- One database with different modules

JIT (Just-in-time)

- Product-orientated management system
- Eliminates all forms of waste

- Achieved through the use of Kanban
- Ensures product of correct specifications are available in correct quantities at the right time
- Eliminate inventory

Advantages
- Lower inventory levels
- Smaller buffer stocks
- Short lead times
- Quality improvement
- Cost savings

Kanban – JIT information system
- All materials/products move through plant in containers to which Kanbans are attached
- Every container has 1 m-Kanban and 1 p-Kanban (movement and production)
- Every production station has storage area where full and empty containers are stored
- No activity takes place without authorisation of relevant Kanban

Symptoms of poor inventory management
- Increased number of outstanding orders
- Increase in rand investment in inventory
- Differences in inventory turnover or times
- Increase in out of stock during fixed time period
- No storage space – too much inventory
- Increase in inventory holding cost
- Increase in obsolescence inventory – slow or no moving stock

Unit 11 – Capital equipment

Nature or Acquisition
- Affects competitive advantage over long term
- Aspects overlooked:
  - Intellectual property rights
  - Speed of acquisition
  - Installation

- Continuing supplier support
- Upgrades

Classification

Capital equipment used to produce goods e.g. Buildings, Plants, Machinery, Computers

Multipurpose	Single purpose
Variety of uses in various industries Longer technological life E.g. forklifts, lathes	Designed to do one or several similar operations Quality of work better than multipurpose Limited to single industry

Characteristics

- Large expenditure – large capital outlays, investment long term, consider price and TOC
- Non-recurring expenditure – irregular purchases, used gradually
- Specialised and technical nature – various departments involved in purchasing process, longer lead time

Size and scope of procurement team

- Several functions involved with different requirements
- Team to make decisions on acquiring capital
- Number of personnel depends on extent, situation, size of firm, organisation orientation

Explain the role of the P&S function in the purchasing of capital equipment

Role of P&S in procurement of capital equipment

- Does not play dominant role – more of a supportive role, with inputs into following areas:
  - Provision of information – existing suppliers and industrial publications
  - Evaluation & Selection of suppliers – contribute to investigation of potential suppliers using selection criteria
  - Negotiations & conditions – strategies, amendments, price, payment terms
  - Coordination & administration – central point for placing order, drafting contract, following up
  - Specific purchase – Low value orders can be done by P& S function entirely

Factors to consider when purchasing capital equipment

Qualitative considerations	Quantitative considerations (financial)
Reliability of equipment – risk if breakdown	*Payback period method* – period in years it takes to recover capital outlay – shortest

	payback most beneficial
Flexibility of equipment – single or multi	*Net present value method (NPV)* – future cash flow discounted to present value and compared to initial investment – if present value of future cash flow > initial investment then acceptable
Space requirements – adding equipment	*Internal rate of return method (IRR)* – rate of return that equates the future cash flow with initial capital outlay – one that givers highest rate of return is the choice
Effect of quality of end products – fewer rejections	
Durability of equipment – life expectancy/robust	
Departmental preference – everyone's input	

Used capital equipment

- Reasons for used purchases
  - Cost of new equipment higher than used – better ROI
  - Readily available
  - More adequate – financial sense to spend less
  - Rebuilt and have longer lifespan
  - Can be inspected while in use

- Precautions when buying used equipment
  - History and age
  - Maintenance record
  - Available spares
  - Price of new vs old
  - Terms and Conditions
  - Cost of relocating equipment

Leasing capital equipment

Use of fixed asset without obtaining ownership of it

Explain leasing under the following headings

- ***Types of leasing***
- ***Benefits of leasing***

Types of leasing

- Financial Leases
  - Used to obtain financial leverage
  - Lease over long term – just shorter than equipment life span
  - Lessor purchases (owner) and Lessee pays rent to lessor, which covers capital cost with service charge to cover interest
  - Lessee responsible for insurance, servicing and maintenance

- Operating leases
  - Facilitate business operation
  - Undertaken as means of marketing products
  - Lessor responsible for service and maintenance
  - Lease mostly short term – organisation not interested in owning equipment

Benefits of leasing

- Provides certainty
- Convenient
- Flexible – no long term capital investment
- Financial leverage – liquidity increases
- Investment responsibility lies with lessor
- Tax deductable
- Expert service, advice, maintenance available

Disadvantages

- May be more expensive than loans
- Lessor may insist on supervising
- Less freedom of use and action
- No residual value for lessee
- Difficult to make changes to equipment
- Equipment obsolete – contract ends

Unit 12 – Small Business

- Distinct business entity including co-operative enterprises and non-government organisations managed by one owner or more which includes branches & subsidiaries
- Classified into: Medium, small, very small and micro
- Owner managed – 5 to 50 employees with turnover between 150000 to 40 million

Business related considerations

- Social adjustments & changing demographics
- Supply management paradigms
- Management attitudes

Management concepts

- Outsourcing and subcontracting activities
- Competitive advantage of SME's
- Advances in technology

Problems with SME purchasing programmes

- Limited resources
- Communication
- Availability of information & suppliers
- Transaction costs
- Conflicting policies influencing purchaser
- Objections and attitudes of purchasers with regard to:
  - Lack of expertise
  - Cost
  - Location
  - Welfare perception
  - Risk
  - Dependency
  - Reverse discrimination
  - Tracing and development
  - Poor performance

Implementing small business purchasing programme

1. Goal and mission of organisation
2. Origin of idea & purpose of programme
3. Systematic approach in implementing programme
- Senior management commitment - Sincere
- Planning – understand BEE status and environment
- Orientation of staff – Train and educate staff on SME programme
- Orientation of suppliers – Communicate to other suppliers
- Organisation of SME purchasing programme – dedicated person handling SME
- Publicity – communicate new policy
- Supplier selection – Information, Assessment, Maintaining, Developing

4. Control of small suppliers

Unit 13 – Purchasing of Services

Process consisting of a series of more or less intangible activities that normally take place in interaction between customer and employees

Explain purchasing of services under the following headings:

- ***Reasons why the purchasing of services has become so important***
  - Industry is the fastest growing in the world
  - Large portion of revenue spent is on services
  - Deregulation of previous government controlled service industries
  - Sourcing tools are easier
  - Outsourcing of non-core activities

- ***The variables supply management should consider when buying services***
  - Value of service – total expenditure over time
  - Degree of repetitiveness – develop expertise and structures
  - Degree of tangibility – Some services tangible
  - Production of services – Understand technology involved
  - Nature of demand – continuous, periodic, discrete
  - Nature of service delivery – Buyers premises or supplier facility
  - Degree of standardisation – standard or customised
  - Skills required – qualifications

Characteristics of services

- Services are intangible – experienced, not delivered, perception is reality
- Services are heterogenous – quality varies, difficult to compare
- Service production – production and consumption simultaneous
- Perishability – cannot be stored for later
- Entry to the market – easy, large capital seldom required

Categorisation of services

- Traditional services – Temps, travel, food, transportation
- Hybrid – consultant and legal services
- Non-traditional – advertising and outsourcing

Process and structures

Supply – users – top management – external suppliers – relationships important

Process of purchasing has 3 phases

- Preparation phase – data collection, structures, process, SOW (specification)
- Procurement phase – supply base, negotiations, contract
- Implementation and follow up phase – monitoring, compliance, administration

Professional Services	Hybrid and non traditional category Supplier doesn't submit ideas Easy to monitor Poorly supplied, don't use again
Consultancy Services	Legal, advertising, temp Consultants require information, access to process, staff members, active participation Service delivery joint
Transport Services	Variables that impact decision: Total cost – trading off Speed Reliability Capability Accessibility Trading off is a disadvantage in one activity is accepted to gain greater advantage Horizontal – between different modes Vertical – sub one activity for another Lateral – transport cost weighed against other

$$\sqrt{\frac{s_1^2}{N_1} + \frac{s_2^2}{N_2}}$$