

CHAPTER 17 – LEARNING CURVE THEORY

Distinctive features of Learning Curve Theory in Manufacturing Environment: a) Better tooling methods b) More productive equipments are designed and used to make the product c) Designed bugs are detected and corrected d) Engineering Changes decrease over time e) Earlier teething problems are overcome f) rejections and rework tend to diminish over time

Limitations of Learning Curve Theory: a) All activities of a firm are not subject to learning effect b) It is correct that learning effect does take place and it reduces average time taken. But it is highly unlikely that there will be regular consistent decrease as exemplified earlier c) considerable difficulty arises in obtaining valid data d) even slight change in learning curve makes learning curve obsolete

CHAPTER 16 – SIMULATION

Steps in Monte Carlo Simulation – i) Select the measure of effectiveness of the problem that is what element is used to measure success in improving the system modeled

ii) Identify the variables which influence the measure of effectiveness significantly

iii) Determine the proper cumulative probability distribution of each variable selected under step (ii). Plot these with the probability on the vertical axis and the values of variables on horizontal axis

iv) Get a set of random numbers

v) Consider each random number as a decimal value on the cumulative probability distribution. With the decimal, enter the cumulative distribution plot from vertical axis. Project this point horizontally, until it intersects cumulative probability distribution curve. Then project the point of intersection down into the vertical axis

vi) Record the value obtained in (v) into the formula derived from the chosen measure of effectiveness

vii) Repeat Steps (v) and (vi) until sample is large enough for the satisfaction of decision maker

CHAPTER 15 – PERT

A FEW COMMENTS ON ASSUMPTIONS OF PERT AND CPM: i) Beta Distribution may not always be applicable

ii) The formula for the expected duration and Standard Deviation are simplifications. Errors due to this may even be up to 33% according to experts

iii) The errors owing to the aforesaid simplification and assumption maybe compounded or may cancel each other to an extent

- iv) In computing SD of the critical path independence of activities is implied. Limitation of resources may invalidate the independence which exists by the very definition of an activity
- v) It may not be always possible to sort out completely the identifiable activities and to state where they begin and where they end
- vi) In projects fraught with in certainty, it is natural that there exist alternatives with differing outcomes
- vii) Time estimates have an element of subjectiveness and to that extent the techniques could be weak
- viii) Cost time trade offs for deriving the cost curve slopes are subjective again and call for a great deal of expertise of the technology as well as genuine effort to estimate

DISTINCTIONS BETWEEN PERT AND CPM: a) CPM is activity oriented; PERT is event oriented

b) CPM is deterministic model; PERT is probabilistic model

c) CPM places dual emphasis on time and cost and evaluates the tradeoff between project cost and time. PERT is primarily concerned with time

d) CPM used for commonly repetitive projects whereas PERT is used for projects where time required is not known

RESOURCE SMOOTHENING – Technique used for smoothening peak resource requirement – Total duration is maintained at min level – Example – Duration of project = 15 days; project duration is maintained but resources required for completing different activities of a project are smoothened by utilizing the floats available on non critical activities. These non critical activities having floats are rescheduled or shifted so that a uniform demand on resources are achieved - Constraint in case of resource smoothening is project duration time – Useful technique to estimate resource reqt for various project activities

RESOURCE LEVELLING – Reducing reqt of a particular resource due to its paucity – utilize the large floats available on non critical activities of the project and thus cuts down the demand on the resource – Max demand of a resource should not exceed the available limit – Non critical activities are rescheduled by utilizing their floats – sometimes may lead to enlonging of project – Constraint here is resource availability

CHAPTER 14 - CRITICAL PATH ANALYSIS

ADV of CPA: a) Allows comprehensive view of the project b) Offers economical and effective system of control based on the principal of mgt by exception c) Dynamic tool of mgt which calls for constant review, a reformulation of the network and finding the current path of relevance and optimum resources allocation

DUMMY ACTIVITY: Hypothetical activity which consumes no resource and time – Represented by dotted lines and is inserted in the network to clarify activity pattern following situations: a) Created to

make activities with common starting and finishing events distinguishable b) identify and maintain the proper precedence relationship between activities that are not connected by events c) bring all “ loose ends” to a single initial and a single terminal event in each network using dummies if necessary

CONCURRENT ACTIVITIES: Activities may not be always discrete i.e. they may be done in part allowing the subsequent activities to commence before the preceding activity is fully completed – frequently seen in batch productions –

CPA – SYSTEMATIC ANALYSIS – 1) Calculate the time scheduled for each activity

2) Calculate time schedule for completion of entire project

3) Identify critical activities

4) Determine the critical path for the network

CHAPTER 12- THE TRANSPORTATION PROBLEM

DEGENERACY – A transportation problem has $m+n-1$ basic variables which means that the number of occupied cells is such a solution is one less than the no. of rows + no. of columns. Sometimes the no. of occupied cells is less than $m+n-1$ – such a solution is called Degenerate solution. To handle such a situation introduce an infinite small allocation ϵ in the least cost and independent cell

MULTIPLE OPTIMAL SOLUTIONS: When all Δ 's are +ive the initial solution is optimal. Also since one Δ is zero there exists other optimal solution. A zero Δ for an unused square means that if this route were brought into the solution the assignment would change but the total transportation cost would remain unchanged

PROHIBITED ROUTES: Some routes may not be available – To handle them – A large cost (or a –ive profit for maximization problem) represented by ∞ is assigned to such routes to prevent allocation being made to such cells

CHAPTER 11- LINEAR PROGRAMMING

LPP THEOREMS – Extreme Point Theorem – Optimal solution to a LPP occurs at one of the vertices of the feasible region

Basis Theorem – For a system of m equations in n variables (where $n>m$) has a solution in which atleast $(n-m)$ of the variables have value of 0 as a vertex – called a Basic Solution

Inefficiencies of Trial and Error Method – a) In a LPP where m and n are larger, solving of numerous sets of simultaneous equations would be extremely cumbersome and time consuming

b) Frequent ups and downs – does not yield correct solution

c) Some of sets yield infeasible solutions – there should be means to detect such sets and not to solve them at all

ARTIFICIAL SLACK VARIABLES – If x and y are set equal to 0, S_1 and S_2 turn out to be –ive, violating the non negativity restriction- To avoid this - Uses are – a) Avoids possibility of getting negative values for basic variables b) These variables are such that their obj function impose a huge and unacceptable penalty c) Artificial variable with high penalty once replaced by a real variable will never enter the optimal program

LIMITATIONS OF LPP – a) Primary reqt of LPP is obj and constraint function to be linear – May not be always

b) Not possible to solve problems where non linearity arises because of joint interactions between some of the activities reg total measure of effectiveness or total usage of resources. Example –A product is produced with the scrap material from the primary product. The material would still have to be procured if only one of these products are to be produced. Total material reqt is however less if both products were produced rather than each being produced individually – Not possible to handle such situations using LPP

c) In LPP sometimes fractional values are obtained which is not useful for decision making

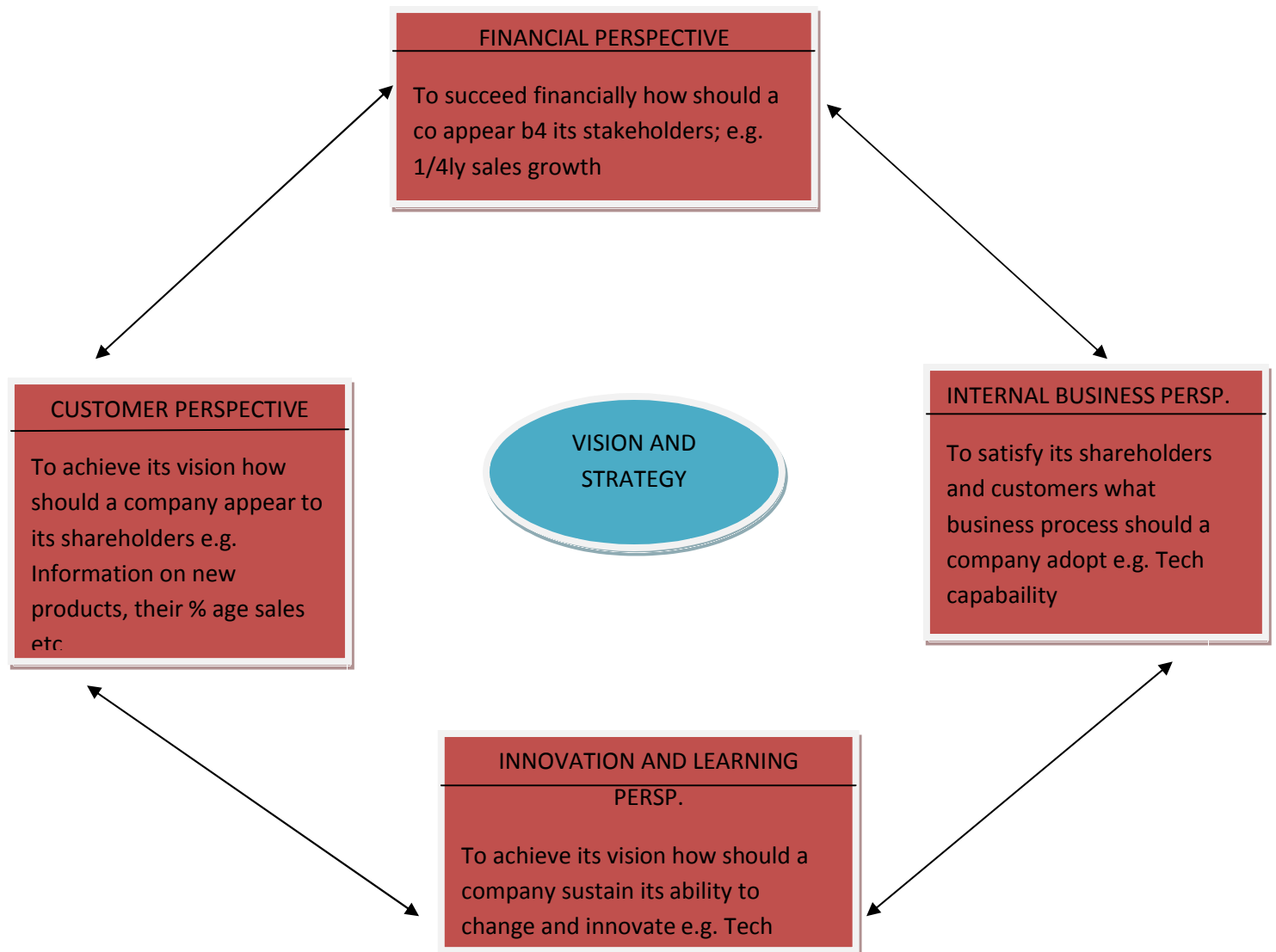
d) Coefficients in obj and constraint function must be completely known and they should not change during period of study – May not be possible in all cases

CHAPTER 10 – COST SHEET, PROFITABILITY ANALYSIS AND REPORTING

DIRECT PRODUCT PROFITABILITY (DPP) – Benefits – Better cost analysis, pricing decisions, mgt of stores and warehouse spares, rationalization of product ranges

THE BALANCED SCORECARD – Approach to the provision of information to mgt to assist strategic policy formulation and achievement. It emphasizes the need to provide the user with a set of info, which addresses all relevant areas of performance in an objective and unbiased fashion. The info provided may include both financial and non financial elements and cover areas such as profitability, customer satisfaction, internal efficiency and innovation. Using these mgrs manages business from 4 diff. perspectives: a) customer satisfaction b) internal business process eg. Operating cycle time c) kaizen approach (can we continue to improve and create value) d) financial e.g. operating income by segments

IDEAS OF A BAL SC



REASONS FOR FAILURE OF A BAL SC – a) Mgrs mistakenly think they already use non – financial measures, they already have a BAL SC

b) Senior level executives misguidedly delegate the responsibility of the Score Card Implementation to middle level managers

c) Co's try to copy measures and strategies used by other companies instead of devising their own measure

d) There are times when BAL Sc is meant only for reporting purposes only. This notion does not allow managing the business effectively.

CHAPTER 9 – UNIFORM COSTING AND INTER FIRM COMPARISON

Obj of Uniform Costing – a) Comparison of costs and performance of diff units in the same industry

b) Eliminate unhealthy competition

c) Improve prodn capacity level and labour efficiency by comparing the prodn cap. Of diff units

d) Provide relevant cost info. / Data to the Govt

e) Bring standardization and uniformity in operation of units

f) Reduce prodn, admn, selling and distribution costs and to control fixed costs

ESSENTIAL REQUISITES FOR INSTALLATION OF UNIFORM COSTING SYS –

- 1) The firms in the industry should be willing to share / furnish relevant info
- 2) A spirit of co-operation and mutual trust should prevail among participating firms
- 3) Mutual exchange of ideas, methods used, special achievements made should be frequent
- 4) Bigger firms should take lead towards sharing their experience and know-how with smaller firms
- 5) Uniformity must be established with regard to several points b4 the introduction of uniform costing in an industry – reg the following points – a) Size of various units covered by uniform costing b) Prodn methods c) A/cing methods, principles and procedures used

LIMITATIONS OF UNIFORM COSTING – 1) Not possible always to adopt uniform standards, methods and procedures in diff firms due to differing conditions

2) Disclosure of cost info and other data is relevant for uniform costing. Some firms do not share such info

3) Small firms believe uniform costing is meant only for medium and big sized firms

4) Induces monopolistic trend in business due to which prices may be increased artificially and supplies withheld

REQUISITES OF INTER FIRM COMPARISON SYS-

- a) Center for Inter Firm Comparison
- b) Membership
- c) Nature of Info to be collected
- d) Method of collection and presentation of info

ADV - a) Gives overall view of the industry as a whole to its members

b) Helps a concern in knowing its strengths and weakness in relation to others so that remedial measures may be taken

c) Ensures unbiased specialized reporting on particular problems of the concern

- d) Develops cost consciousness among members of the industry
- e) Helps Govt to effect price regulations
- f) Improve the quality of products manuf. And to reduce the COP

LIMITATIONS – a) Top mgt feels secrecy will be lost b) Middle mgt is usually not convinced with the utility of such a comparison c) In the absence of a suitable Cost A/cing Sys, the figures supplied may not be reliable for comparison d) Suitable basis for comparison may not be available

CHAPTER 7 – COSTING OF SERVICE SECTOR

Main characteristics of Service Sector – a) Activities are labour intensive b) Cost unit is usually difficult to define

STEPS ADOPTED FOR ASSIGNING COSTS TO INDIVIDUAL JOBS – i) Identify the job that is chosen as cost object b) Identify the direct cost categories for the job c) Identify Indirect costs associated with the job d) Select the cost allocation base to be used in assigning each indirect cost to the job e) Identify the rate per unit of the cost allocation base used to allocate cost to the job

CHAPTER 6 – STANDARD COSTING

REPORTING OF VARIANCE: Computation of variances and their reporting is not the final step towards the control of various elements of cost. It in fact demands an analysis of variances from the side of the executives, to ascertain the correct reasons for their occurrence. After knowing the reasons, it becomes the resp. to take necessary steps so as to stop the re-occurrence of adverse variances in future. The variance reports should give due regard to the following points:

- a) The concerned executives should be informed about what the cost performance should have been
- b) How close the actual cost performance is with ref. to std cost performance
- c) The analysis and cause of variance
- d) Reporting should be based on the principle of mgt by exception
- e) The magnitude of variances should be also stated

BEHAVIOURAL ASPECTS OF STD COSTING:

- a) Projection of FOH and estimated selling price in Std Cost Sheet is a circular exercise with no added value
- b) Traditional costing tools like std costing induce a static behavior in the employees
- c) Fear of adverse variances forces mgrs to give undue importance to material price, labour rate and efficiency and capacity utilization. These concepts are detrimental to modern day world class manufacturing environment characterized by concepts of JIT AND TQM

- d) Traditional costing does not provide the mgt with what is the allowable cost; rather it emphasizes on the std or actual costs

CHAPTER 5 – BUDGET AND BUDGETARY CONTROL

PARTICIPATIVE BUDGETING: As per CIMA – A budg. Sys in which all budget committee members are given the opportunity to apply their budgets in practice (known as Bottom – up Budgeting)

ADV: a) Improved qlty of forecasts to use as the basis for the budget b) Improved motivation c) Better results

INFO. BUDGET MANUAL: Contents – a) Introductory explanation of the budgetary planning and control practices, including a statement of the budgetary obj and desired results b) A form of org chart to show who is responsible for the preparation of each functional budget and the way in which the budgets are inter related c) A timetable for the preparation of each budget d) Copies of all forms to be completed by those resp for preparing budgets with necessary explanations e) A list of the org's account codes, with full expln of how to use them f) Info concerning key assumptions to be made by managers in their budgets for example rate of inflation, key exchange rates

Early Identification of Principal Budget Factor: The principal budget factor is the factor that limits the activities of functional budgets of the org. How to identify?

In case of single product org: a) Identify the capacity of the prodn depts.

b) $\text{Max prodn in a dept} = \text{normal capacity} / \text{time p.u}$

c) Select the min prodn volume among the above results. The dept producing that result is known as bottle neck among the prodn dept

d) Identify the demand or sale of the product

e) Now by comparing the above 2 steps identify the principal budget factor

ZERO BASED BUDGETING – ZBB is defined as a method of budgeting which requires each cost element to be specifically justified as though the activities to which the budget relates were being undertaken for the first time. So called because each budget is prepared and justified from zero instead of simply using last year's budget as base

ZBB is superior to traditional budgeting coz – a) Systematic approach for evaluation of diff activities b) ensure that the function undertaken are critical for achievement of the obj c) provides an opportunity for mgt to allocate resources to various activities after a proper cost benefit analysis d) Identification of wasteful exp and their elimination e) introduction of mgt by exception

PROCESS OF ZBB – a) Det of set of obj b) Deciding the extent to which the technique of ZBB is to be applied whether in all areas of org's activities or only for few selected areas on trial basis c) Identify

those areas where decisions are required to be taken d) Developing decision packages and ranking them in order of performance e) Preparation of budget that translating decision packages into practicable units/items and allocating financial /resources

CHAPTER 4 – PRICING DECISIONS

COST + PRICING – ADV – a) Fair method – business executives convinced that price covers cost

b) Price is greater than cost, the risk is covered c) A decision maker has to take decisions in the scenario of uncertainty. This method is apt in such situations d) This pricing does not mean market forces are ignored – mark up added reflect the well established customs of trade

DISADV – a) Ignores demand – fails to take into a/c buyer's needs and willingness to pay b) Fails to reflect competition c) Takes for granted that costs have been estimated with accuracy which is not true especially in case of multi product firms coz the common costs are allocated arbitrarily d) For many decision making incremental costs are helpful rather than total costs e) Since FOH is apportioned based on volume of production , cost will be more if sales volume is less and cost will less when sales volume is more- this increase / decrease is dependent on price

RATE OF RETURN PRICING – Price regarded as a – Avg mark up on cost necessary to produce a desired rate of return - 3 issues arise – a) Basis on which capital employed is computed b) Which items to be covered in rate of return c) fair return on capital

COMPETITIVE PRICING – Price determined based on price set by competitors – Not necessary to charge the same price of competitor – Low of high – Different types are a) Going rate pricing b) Sealed bid pricing

- a) Going rate pricing – Price charged is the average price level in the industry. The Concern should not charge less because it can dispose of its entire output at the going rate. Under highly competitive conditions in a homogeneous product market (such as food, raw materials, textiles) the concern has really no pricing decisions to make. The major challenge is good cost control
- b) **Sealed bid pricing** – Sometimes firms compete for jobs on the basis of bids such as original equipment manufacture and defense contract work. The obj is here is to get the contract and this means it hopes to set its prices lower than set by any of other bidding firms. Yet the firm does not ordinarily set its price lower than a certain level. Even when it is anxious to get the contract, it cannot quote price below marginal cost. On the other hand, if it raises its price above MC, it increases its potential profit but reduces its chance of getting the contract

PRICING STRATEGIES – MARKET ENTRY STRATEGIES – i) Skimming pricing – High prices during early period. Reasons for such a policy are – a) Demand is highly likely to be inelastic in earlier stages til the product is established in the market b) Charging high prices initially will help to skim the cream of the market that is relatively insensitive to price c) helps to recoup the initial cost of production d) such products normally require huge COP as well as advertising etc. This pricing helps to recoup such costs

ii) Penetration Pricing – Low price initially – introduced for the sake of long term survival and profitability – used for pricing a new product- known also as stay out pricing – circumstances of its usage are – a) When demand is highly elastic to price b) Substantial savings on large scale prodn c) there is threat of competition

TIME DIFFERENTIALS – Charging different prices on the basis of time – Classified as –

- a) **Clock time differentials** – different prices within a 24 hour period – e.g. day and night call rates, rate diff. in regular shows in cinema houses
- b) **Calendar time differentials**- Prices are based on time period longer than 24 hours – Seasonal prices of winter clothing or hotel accommodation at hill station or a tourist resort
- c) **Geographical price differentials** – Based on buyer's loc – obj is to exploit diff in transport costs due to varying distances bet loc of plants and customers
- d) **Consumer category price differentials** – example is electricity – Elec cos charge diff prices for consumers and industrial consumers

PRICE DISCRIMINATIONS – Based on customer, product version, place, time. Possible only if a) maker must be capable of being segmented for price discrimination b) customers should not be able to resell the product of the segment paying higher prices c) chance of competitors underselling in the segment of higher prices should not be possible

GEOGRAPHIC PRICING STRATEGIES – a) Point of prodn pricing (FOB Factory pricing) b) Uniform delivered pricing c) Zone delivered pricing d) Freight Absorption pricing

PARETO ANALYSIS – Based on 80:20 rule. Idea is concentrating on 20% of root causes almost 80% of problems can be solved – Usefulness – Prioritize problems, identify root causes, allocate resources, select key – customer relations, employee relations, key performance programs etc

APPLICATION OF PARETO ANALYSIS – a) Pricing of product – 20% of products account for 80% of total sales revenue. Mgt to concentrate on those 20% and delegate the rest 80% to lower levels of mgt

b) Customer profitability –Same analogy – 20% customers generate 80% of revenue

c) Stock control – 20% of total qty make up 80% of value

d) Application in ABC – 20% of orgs cost drivers is resp for 80% of total cost

e) Qlty Control – 80% of reported problems can be traced to 20% of the various underlying causes

CHAPTER 3 – CVP ANALYSIS AND DECISION MAKING

Pricing in periods of recessions – During recession, a firm may sell its articles at a price less than total cost but above marginal cost for a limited period. The adv are:

- a) Firm can continue to produce and use the services of skilled employees who are well trained and will be difficult to be employed later if discharged
- b) Plant and Machinery can be prevented from deterioration through idleness
- c) The business would be able to take adv of improved business conditions later
- d) Avoids competition of securing the business of the firm

Such a situation like this should not lead to a drastic price cutting and orders accepted should not cover a long period extending over the production facilities of a period when the business conditions improve

It may be also justifiable to sell the product at a price below marginal cost for A LIMITED PERIOD provided the following conditions are satisfied: a) Where materials are of perishable nature b) Where stocks have been accumulated in large quantities and the market prices have fallen c) Is it essential to reduce the prices to such an extent in order to popularize a new product d) where such reduction enables the firm to boost the sales of other products having larger profit margin

DIFFERENTIAL SELLING PRICES – Use of differential price which is above the marginal cost but below the total cost is resorted to in order to absorb surplus capacity – 2 ways of doing this

- a) Firm producing a branded article may use the surplus capacity to produce the same article to be sold above marginal cost in a different market. Dumping of goods in export market is an eg
- b) Firm may produce and sell a branded article say Product A which covers all fixed overheads and use the surplus capacity to produce another product say B which may be sold above marginal cost

EXPORT Vs LOCAL SALE DECISION: Export orders are accepted only when local sale is earning profit i.e. fixed overheads are already recovered by the local sales. In such cases the export price is more than the marginal cost.

EXPAND Vs CONTRACT DECISION: Following points are considered: a) Additional fixed expenses to be incurred b) Possible decrease in selling price due to increased production c) Whether demand is sufficient demand to absorb the increased production

PRODUCT MIX DECISION: Decided on the basis of contribution of each product. But if there is a shortage or limited supply of certain resources which may act as a key factor for e.g. machine hours, then contribution / machine hours is taken into consideration

CHAPTER 2 – COST CONCEPTS IN DECISION MAKING

RELEVANT COSTS: a) Historical or sunk costs are irrelevant as they do not form part of decision making process

b) Even among future costs, those variable costs which will not differ under various alternatives are irrelevant

c) If fixed expenses remain unchanged under various alternatives, such expenses are irrelevant for decision making

d) Book value of an equipment – i) BV of old equipment is irrelevant because it is a past cost ii) The disposal value of an equipment is RELEVANT because it adds to the cash inflow arising from the decision iii) Cost of new equipment is RELEVANT because cash outflow arises by the decision to buy the new equipment

OUT OF POCKET COSTS: That portion of costs which involves payments to outsiders i.e. it gives rise to cash expenditure as opposed to such costs as depreciation which do not involve any cash expenditure. Such costs are relevant for make or buy decisions

APPLICATION OF INCREMENTAL / DIFFERENTIAL COST TECHNIQUES IN MANAGERIAL DECISIONS:

Technique where only cost and income differences under various alternatives are taken into a/c. Applicable when fixed expenses alter under various situations.

Areas are a) Whether to process a product further or not b) Dropping or adding a product line c) Optimizing investment plan d) Acceptance of an addl order from a special customer at lower than existing price e) Opening a new sales territory and branch f) Optimizing investment plan out of multiple alternatives g) Make or Buy decisions h) Submitting tenders i) Lease or Buy decisions j) Equipment replacement decision

CHAPTER 1 – DEVELOPMENTS IN THE BUSINESS ENVIRONMENT

TQM – This approach highlights the need for a customer oriented approach to management reporting. SIX C s of TQM – Commitment, Culture, Continuous Improvement, Co-operation, Customer focus, Control

ABC – Categories of activities are – a) Unit level activities b) Batch level activities c) Product level d) Facility level

Benefits of ABC – a) Provision of excellent basis and focus for cost reduction

b) Provides operational management with a clear view of HOW to implement an Activity Based Budget

c) Provision of clear understanding of the underlying causes of business processing costs

d) Excellent basis for effectiveness of management decision making

e) Identification of key process waste elements permit management prioritization and leverage of key resources

TARGET COSTING – A structured approach to determine the cost at which a proposed product with the specified functionality and quality must be produce to generate a desired level of profitability at its anticipated selling price

Problems: a) Development process can be lengthened to a considerable extent since the design team may require a number of design iterations b4 it can devise a sufficiently low-cost product that meets the target cost and margin criteria

b) Large amount of mandatory cost cutting can result in finger – pointing in various parts of the company

c) Having representatives from number of depts. on the design team can sometimes make it more difficult to reach a consensus on the proper design because there are too many opinions regarding design issues

IMPLEMENTING TARGET COSTING:

- a) Create a project charter
- b) Obtain a management sponsor
- c) Obtain a budget
- d) Assign a strong team manager
- e) Enroll full time participation
- f) Use project management tools

PRODUCT LIFE CYCLE: Characteristics – a) Products have finite lives and pass through stages like development, introduction, growth, maturity, decline and deletion at varying speeds

b) Product cost, revenue and profit patterns tend to follow predictable courses through the product life cycle

c) Profit per unit varies through as product moves through their life cycle

d) Each phase of the product life cycle poses different threats and opportunities that gives rise to different strategic actions

e) Products require diff functional emphasis in each phase such as R&D emphasis in the development phase and a cost control emphasis in the decline phase

f) Finding new users or new users or getting the present uses to increase their consumption, this may extend to the life of the product

BENEFITS OF PRODUCT LIFE CYCLE COSTING: a) Earlier actions to generate revenue or to lower costs

b) Better decisions to follow from a more accurate and realistic assessment of revenues and costs at least within a particular life cycle stage

c) Product life cycle thinking can promote long term rewarding in contrast to short term profitability rewarding

d) Provides an overall framework for considering total incremental costs over the entire life span of a product

VALUE CHAIN – Value creating activities all the way from basic raw materials from component suppliers through to the ultimate end-use product delivered into the final consumer's hands.

INTERNAL DIFFERENTIAL ANALYSIS – Value chain approach is also used by org to identify the opportunities for creating and sustaining superior differentiation. The primary focus is on the customer's perceived value of the products and services. It requires firms to first identify their value- creating processes and primary cost drivers. Then differential analysis is done using the following guidelines:

- a) Identify the customer's value creating processes
- b) Evaluate the differentiation strategies for enhancing customer value and
- c) Determine the best sustainable differentiation strategies

SEGMENTATION ANALYSIS: Using the Value Chain approach for segmentation analysis, **Grant** recommended five steps: a) Identify segmentation variables and categories b) construct a segmentation matrix c) Analyze segment attractiveness d) Identify key success factors for each segment e) Analyze attractiveness of broad versus narrow segment scope

Just in Time- A JIT comprises of a number of sub components. It begins with production, includes deliveries to a company's production facilities, continues through the manufacturing plant and even includes the types of transactions processed by the accounting system

Performance Measurements in a JIT system:

- a) One of the key measurements in a traditional system is machine utilization
- b) Another appropriate measurement is any type of piece rate tracking for each employee
- c) Any type of direct labour efficiency tracking is highly inappropriate in a JIT system
- d) Installing a JIT system does not mean that there should be a complete elimination of variance or operational measures -There are measures that are highly relevant to operations. Some of them are – Inventory Turnover, Setup time reduction, Customer complaints, Scrap, Cost of quality, Customer service

BACKFLUSHING in a JIT System: Back flushing requires no data entry until a finished product is completed. At that time the total amount finished is entered into the computer system, which multiplies it by all the components listed in the bill of materials for each item produced. This yields a lengthy list of components that should have been used in the production process and which is subtracted from the beginning inventory balance to arrive at the amount of inventory that should be left in hand. Back the entire production process

Some serious problems with back flush costing that must be corrected before it will work properly. They are a) Production reporting b) Scrap reporting c) Lot tracing d) Inventory accuracy

DATA REQUIREMENTS TO OPERATE MATERIAL REQUIREMENT PLANNING SYSTEM:

- a) The master production schedule
- b) The Bill of material file

- c) The inventory file
- d) The routing file
- e) The master parts file

Pre-requisites for successful operation of MRP: a) strict adherence to the schedule b) Accurate database

SYNCHRONOUS MANUFACTURING: An all encompassing manufacturing mgt philosophy that includes a consistent set of principles, procedures and techniques where every action is evaluated in terms of the common goals of the org. 7 principles associated with it are:

- a) Do not focus on balance idle capacities; focus on synchronizing the production flow
- b) The marginal value of time at a bottleneck resource is = the throughput rate of the products processed by the bottleneck
- c) The marginal value of time at a non- bottleneck resource is negligible
- d) The level of utilization of a non- bottleneck resource is controlled by other constraints within the system
- e) Resources must be utilized not simply activated
- f) A transfer batch may not, and many times should not, be equal to the process batch
- g) A process batch should be variable both along its route and over time

DIVESTMENT STRATEGY: It involves a strategy of selling off or shedding business operations to divert the resources so released for other purposes. Reasons for divestment are:

- a) In case of firms having an opportunity to get more profitable product or segment but have resource constraint it may sell off its unprofitable or less profitable division and utilize the resources so released
- b) In case of purchase of new business, it may be found that some of the part of the acquired business is not up to the mark. So unwanted part is disposed
- c) In case where any business segment or product or subsidiary is pulling down the profit of the whole org, it is better to dispose that segment
- d) If managing the org is very constrained, it is good to dispose off the unwanted and undesirable activity of the org which involve large management skill
- e) In cases where the firm is suffering from loss, selling off or divestment policy is one of the option to exit out and go for a turnaround strategy