



**PANCHAKSHARI'S
PROFESSIONAL
ACADEMY**
(Where Success Begins ...)

Specialised Theory Notes for:

MAEPM

(ICWA Final Satge IV)

Prepared By:

CA Yogesh Panchakshari.

98220 26393, 98 23456 414, 2571545

CHAPTER 1: OPERATIONS MANAGEMENT

Theme of the topic:

In the 1st chapter, we have seen the concept of system & the MIS. In this chapter, we shall learn the other concepts like Operation strategy, JIT, Intranet & its use etc. So lets start for the journey of the knowledge:

It includes following questions:

- Q1. Explain the concept of Operations Strategy.**
- Q2. Explain the Steps involved in OS.**
- Q3. Explain the Methods of Capacity Planning.**
- Q4. Explain the Concept of aggregate planning & its techniques.**
- Q5. Explain the Concept of Just In Time & its Use.**
- Q6. Explain the Concept of Optimized Production Technology.**
- Q7. Explain the concept of VAT ANALYSIS.**
- Q8. Explain the concept of MIS & its utility.**
- Q9. Explain the importance of IT in Operations Management.**
- Q10. Explain the Concept of Benchmarking.**
- Q11. Explain the Concept of Bench trending.**

Q1. Explain the concept of Operations Strategy.

Ans: To know this concept, lets divide it in 2 parts:

- a) **Strategy:** It's a set of plans prepared to achieve the given target.
- b) **Operations:** It's a set of variety of processes to be followed in production.

Thus in simple words, the **Operations Strategy** (OS) is the set of plans to maintain the perfect set of activities in an organisation

Eg: If we are manufacturing the Fan then the set of activities, their series, their importance etc. must be properly designed which is called as **OS**.

➤ The **OS of MacDonald's defines the OS as:**

“Something which provides the unmatched consistency in support of high quality by taking care of the speed, low cost & innovation to accommodate the change of taste of consumers.”

In simple words it's a set of activities & its plans to maintain the predecided quality & other commitment. That's you will observe the same quality of the burger in any centre of MacDonald's.

➤ Importance of OS:

Just starting the activity & wishing for the result is not enough for any organisation. To achieve the target, we need to analyse all the activities in perfect manner & to have the perfect plan each & every activity & that is called as **OS**.

Q2. Explain the Steps involved in OS.

Ans: OS is not the result of the efforts of any 1 day. It includes the following steps:

1. Evaluation all the activities:

Here, the perfect evaluation of all the activities is done so that we can prepare the strategy for all the operations. While planning for OS we must take care that:

- a) All the activities are inter connected with each other,
- b) All the activities are inter connected with the biggest goal of the organisation,
- c) All the operations are contributing positively for the achievement of the goals.

2. Perfect analysis & planning for the capacity utilisation:

To plan something is very simple but to achieve the target is very difficult. Thus along with the plans we must analyse the capacity also. Just imagine the situation if your capacity is to lift 50 kg & you are planning for lifting 500kg at a time!

Thus here we have to make the analysis & the planning of the capacity of the organisation to achieve the goals. It includes the following sub steps:

- a) **Capacity measurement:** We must measure the available capacity properly. The actual capacity may be lesser than the capacity declared. Eg; If the manufacture of the machine claims that we shall get production of 1000kg per hour, it is called as declared capacity but the actual utilizable capacity may be less than that say 850kg per hour. Thus in the 1st step the capacity analysis is made perfectly.
- b) **Long Term Capacity planning:** Here the capacity utilisation plans for the long term future is decided. The long term demand, capacity of machines, workers, management etc. are analysed here. Eg: Working in 1 shift or 2-3 shift by the organisation is the long term plan.
- c) **Short Term Capacity Planning:** It purely depends on the above plans. These are the plans ranging between few days to 6 months. Here we have to decide the regular plans for achievement of the goals. It includes the labour shifts, load in them, machine hours to be worked etc. These can also be treated as the operational plans. Generally variety of short term plans are prepared so that there will not be the risk in case of the contingency. Here the standard working steps are decided which shall be followed to avoid any confusion Eg: In MacDonald's after preparation of the burger it automatically goes through the Microwave oven & it is served hot to the customer.

For the capacity planning, we can use the techniques like CPOF, CRP, CAPACITY BILLS, RESOURCE PROFILES etc. Which we shall discuss in next question.

Thus we have seen the 2nd step in OS which is Perfect analysis & planning for the capacity utilisation.

3. Aggregate Planning:

After 1st 2 steps i.e. 1. Evaluation & 2. Perfect analysis & planning for the capacity utilisation, the next step comes which includes the planning for all the further steps to follow all the operations in an efficient manner.

This step is called as **Aggregate Planning** because it includes the following activities:

- a) Daily distribution of the work,
- b) Material purchase planning,
- c) Material stocking system,
- d) Distribution plans,
- e) Advertising plans,
- f) Customers control etc.

In simple words, it's a set of variety of plans to fulfill the long & short term operational plans.

4. Demand Simulation:

After all what ever we are doing is to fulfill the demand of the customer. In this 4th step, we have to make the perfect analysis of the demand from the customers. It includes the following sub steps:

- a) **PERFECT PRICING:** Perfect price must be decided considering the completion, customers demand, prices of the competitors etc. In different prices are decided in different scenario.
- b) **PROMOTION:** It includes the perfect plans for the advertising of the product or the service given by us.
- c) **BACK ORDERING:** Here the plans are prepared to postpone the demand of the customers to the period when the capacity utilisation is low. It is easily possible in service industry by reservations. Eg: if the batch of the class is full, we can start for the advance admission for the next batch. Here also we need the perfect planning.
- d) **CREATION OF THE NEW DEMAND:** Here the plans are prepared to create the new customers & to capture the new market. It includes the **penetration policy** (keeping the low price to capture the market Eg: Parle G biscuits), **skimming policy** (Coating highest prices in the initial period of the product Eg: Laptops) etc.

5. Capacity Adjustments:

After following above 4 activities also, sometimes we need some extra capacity or sometimes the excessive capacity is available. In this case we have to plan on short term for:

- a) Hiring the extra capacity,
- b) Using the capacity of other on hiring,
- c) Overtime work,
- d) Appointment of casual labors,
- e) Creating the excessive production in time of the low demand & supplying in time of high demand,

- f) Giving the job to the sub contractors,
- g) Giving the cross training to the workers so that they shall be able to work in variety of departments etc.

In this way we have seen the 5 steps for the perfect OS as follows:

1. Evaluation all the activities,
2. Perfect analysis & planning for the capacity utilisation,
3. Aggregate Planning,
4. Demand Simulation,
5. Capacity Adjustments.

Q3. Explain the Methods of Capacity Planning.

Ans: As we have seen earlier, the Capacity planning is 1 of the important steps in OS. Thus let's discuss the techniques of Capacity Planning:

1. **CPOF (CAPACITY USING OVERALL FACTORS):** Here the regular capacity of the organisation is analysed so that further plans can be developed. It's a simple technique.
2. **CAPACITY BILLS:** Here each machine is attached with the bills which are showing the capacity of the machine, its production rate per hour etc. It is very useful to plan for the possible production from the machine or all the machines.
3. **RECOURSE PROFILE:** It shows the perfect production capacity in the actual working time after excluding the idle time. It gives the exact possible production.
4. **CRP (CAPACITY REQUIREMENT PLANNING):** Here the required capacity is analysed so that the required production can be achieved. It is helpful while making the MRP so that we can make the best utilisation of purchased materials.

In this way above are the techniques for perfect capacity planning.

Q4. Explain the Concept of Aggregate planning & its techniques.

Ans: As we have seen above, after 1st 2 steps i.e. 1. Evaluation & 2. Perfect analysis & planning for the capacity utilisation, the next step comes which includes the planning for all the further steps to follow all the operations in an efficient manner.

This step is called as **Aggregate Planning** because it includes the following activities:

- g) Daily distribution of the work,
- h) Material purchase planning,
- i) Material stocking system,
- j) Distribution plans,
- k) Advertising plans,
- l) Customers control etc.

In simple words, it's a set of variety of plans to fulfill the long & short term operational plans.

• STRATEGIES/ APPROACHES OF AGGREGATE PLANNING:

The aggregate strategy can be done by following any of the following 2 strategies or the combination of Both:

1. LEVEL STRATEGY: Here the organisation plans to maintain the steady level of production, employment & sales. It will not fluctuate the units even if there is change in demand. Here the advantage is that there is no change in production so the fixed budgets can be followed. So the deviation is rare.

2. CHASE STRATEGY: Here the budget is of fixed, the production is following the demand. If the demand is increased, the production will also increase. It is useful for capturing the customers demand, but it creates lot of complexities as the plans are changed again & again.

• **TECHNIQUES OF AGGREGATE PLANNING:**

There is no hard & fast technique for the perfect Aggregate planning. Generally the technique includes the following factors:

- a) Finding out the demand for the coming period,
- b) Determine the capacity available in the same period,
- c) Decide the perfect plan for each department, each segment & each process,
- d) Determine the production cost per unit,
- e) Develop variety of long term & short term strategies,
- f) Make the best implementation of the selected plans.

The above steps can be followed by any of the following methods:

- 1. Simulation:** Here the dummy situations are created to make prediction & to take the perfect steps.
- 2. LPP:** It is used for making the best utilisation of the available resources.
- 3. Mixed Integer Plans:** It's a group of variety of plans used for the different products we simply call it as Master Budget.
- 4. Management Coefficient Model:** Here the production plan depends on the following factor:
 - a) The number of workers in the earlier period (**Wt-1**),
 - b) Closing Stock Of earlier period (**It-1**),
 - c) Expected demand of the next period (**Ft+1**),

Thus $P_t = aW_{t-1} - bI_{t-1} + cF_{t+1} + K$

Here $P_t =$ Production rate in given period,

a,b,c,K are the constant number.

5. Search Decision Rules: It's a computerized program which helps us to create the perfect production plans & gives the analysis of its cost.

6. FUNCTIONAL OBJECTIVE SEARCH APPROACH (FOS): It's a computerized system which contains variety of plans ready for different conditions. Here the system analyses the situation & suggests the perfect plans to be implemented to achieve the desired goals.

Thus we have sent the concept of Aggregate planning & its variety of aspects.

Q5. Explain the Concept of Just In Time & its Use.

Ans:

1. It's a technique which helps for making the balancing between the demand & the capacity of the organisation.
2. It's a technique invented in JAPAN & it gives some plans to reduce the overall production cost as well as the wastage of time & materials, In modern terms it is also called as **"LEAN MANUFACTURING"**.
3. The dictionary meaning of the word **"LEAN MANUFACTURING"** is "the philosophy of gives stress on the minimization of cost of all the resources including the time".

4. It is applicable in variety of areas as follows:

- a) **INVENTORY:** Keep the minimum inventory, demand the materials when ever it is required & eliminate the suppliers which are not following the in time delivery schedule. It will help to minimize the inventory cost.
- b) **MANUFACTURING:** Here the production is so planned that the perfect demanded units shall only be manufactured. It also concentrates on reduction of production cost, minimization of the wastage, improving the product quality etc.
- c) **SETUP:** It means setting up of the machine so that we can give the best quality of the product in 1 batch without the rejections. If there is sudden break down of the machine then the employees are trained to handle the problem & airt the production as early as possible.
- d) **PREVENTIVE MAINTAINCE SYSTEM:** Here the expert team is appointed who takes care of the maintenance of all the machine to reduce the break down hours. It follows that it is better to invest more time & cost than to invest in repairs.
- e) **QUALITY IMPROVEMENT:** Here the special steps are taken to avoid the bad quality products & the rejections. Special R&D team is appointed to take care of the product quality. The main aim is to achieve zero/ low defects.
- f) **PRODUCTIVITY IMPROVEMENT:** Here the special efforts are taken to increase the production per machine per hour. Here also the R&D is Made, the best suggestion awards are given & the efforts are made to find out the best production system to save the time & money without affecting the quality of the product.

In this way the JIT/ LEAN PRODUCTION SYSTEM is applicable in variety of areas.

5. Mr. Steve Hunter has given simple steps to achieve JIT/ LEAN PRODUCTION SYSTEM as follows:

- a) Reengineering the manufacturing system,
- b) Reduce the set up time & cost,
- c) Improve the quality control system,
- d) Improve the preventive maintenance system,
- e) Perfect production level,
- f) Control on the inventory,
- g) Implement the best vendor program,

- h) Make the use of computerized system,
- i) Improve the pull system.

We have already discussed all these steps in detail above.

In this way we have seen the concept of JIT in detail.

Q6. Explain the Concept of Optimized Production Technology.

Ans:

1. This is the technique introduced by **Mr. Goldratt**. It is also known as **“Theory Of Constraints”**. It makes the analysis of the constraints in the production process.
2. This technique concentrates on 3 factors:
 - a) Increase in Throughput i.e. sales amount to be realised,
 - b) Reduction of Stock & the investments in it,
 - c) Reduction of operating expenses.
3. It states that the finished goods is not an asset unless It is actually sold in the market.
4. Thus the technique concentrates on increase in through put to increase the cash inflow & reduction of cost of stock & operating expenses to reduce the cash outflow.
- 5. It includes the 5 focusing steps as follows;**
 - a) Find out the limiting factors (Constraints) in total system,
 - b) Find out the ways to overcome these constraints,
 - c) Make the subordination of the responsibilities to achieve the above plans,
 - d) Make the analysis of the actual results,
 - e) If the constraints are not broken then start again from step 1.
- 6. TOC Includes the logical thinking process as;**
 - a) What to change?
 - b) What is to be done to make such change?
 - c) How to change?

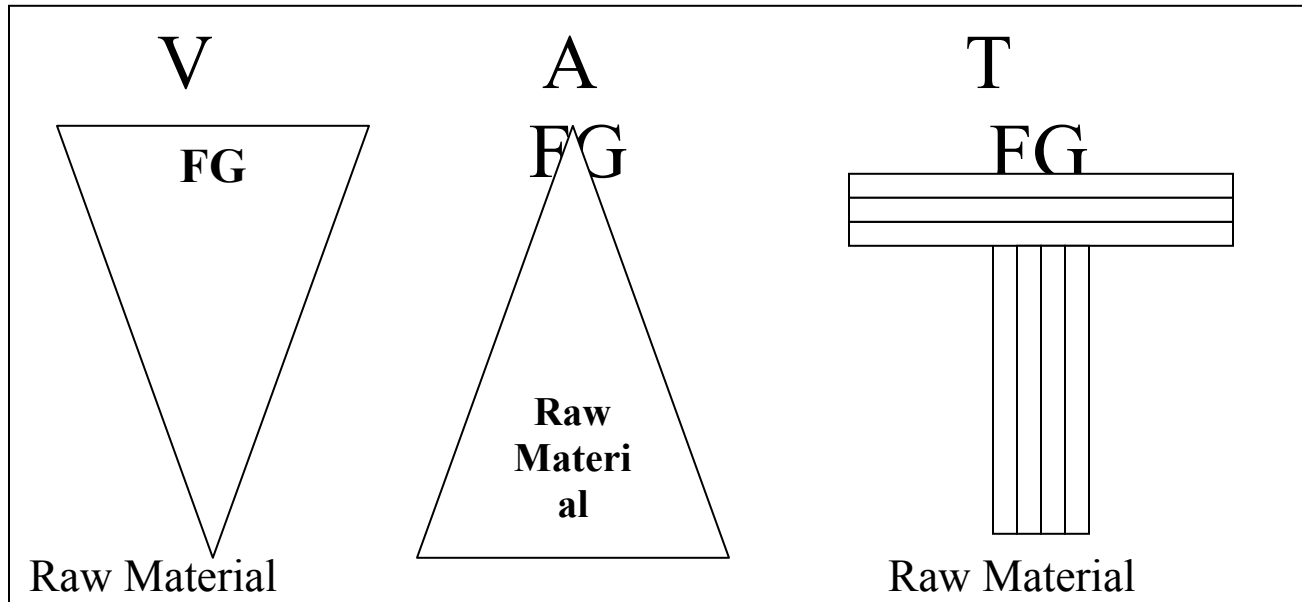
7. DRUM-BUFFER-ROPE SYSTEM OF INVENTORY MANAGEMENT:

It's a special system in TOC used for the perfect inventory management. It includes:

- a) **DRUM:** It is the constraint in total process. It must be analysed properly.
- b) **BUFFER:** It's a time span available for rectifying the DRUM & to make the adjustments as per the changing conditions. It includes the important system of the management of the resources in such a manner that there will not be the wastage of material or the machine will not be idle. This is called as **BUFFER MANAGEMENT**.
- c) **ROPE:** It's a schedule to release the raw material stock for the production. It must be perfect to avoid the overstocking as well as the wastage of material.

Q7. Explain the concept of VAT ANALYSIS:

It's a system in TOC to concentrate on the important points of the production. Every organisation has its own way of production. This theory divides it in 3 types as follows:



Here one or few raw material gives rise to variety of Joint products.

b) A-Logical Structure:

Here variety of raw materials results in 1 or few finished goods.

c) T-Logical Structure:

Here variety of raw materials & assemblies are converted into variety of finished goods.

It means that for variety of the structure of production we need to apply different OS but all these types includes some common control points as follows:

- a) **The constraints,**
- b) **Divergence point:** The point where the products are bifurcated,
- c) **Convergence Point:** Where 2 or more parts, assemblies come together as 1 product.
- d) **The Gating Point:** Where the completed products are transferred to the shop.
- e) **The shipping operation:** The process of storing the goods.

Thus at all the above stages we can save the cost by keeping the control.

Q8. Explain the concept of MIS & its utility.

Ans:

1. SYSTEM OF EASY CONTROL:

As we know, MIS is the system developed to make the easy control in the hands of the top management. Generally it's a computerized system which contains all updated information to make perfect analysis & to take the easier decisions.

2. DATA ANALYSIS:

Firstly it collects the data, then makes its analysis & gives the suggestions for the regular problems.

3. INFORMATION ON DEMAND:

It gives the information as per the requirements like branch wise, department wise, year wise etc.

4. MAIN FRAMES:

The original MIS was based on the main frames. It was the large machine requiring the AC rooms.

5. EASY TO HANDLE:

But now a days it is very easy to handle & much efficient than the main frames.

6. INTERNET:

Now a days, the use of internet has made the MIS very easy, effective & fast. Now the world wise information is available in MIS.

7. SUPPORT TO ADMINISTRATION:

MIS is giving the perfect support to the best control & the administration of the organisation. Any deviation is immediately identified & the system gives the suggestions to remove the defects. It's a system containing each & every information useful to management.

8. VARIETY OF FUNCTIONS:

The system is helpful for following functions:

a) Management of variety of the documents. Here the documents & their information is properly feeded, analysed & it gives the relief from the handling & keeping the variety of documents which is the tedious job.

b) Software: It contains the software which helps the easy analysis & sharing the data with all the users.

c) Data Mining: It makes the deep routed analysis of the collected data.

d) Query Tools: It proved the answers to the regular questions as these are already feeded & properly updated.

9. INTRANET:

a) It includes the internal sharing system called as intranet. It includes the internet protocol & the sharing device to be used by all the users.

b) It is perfectly secured & available to all.

c) It provides the information as per the requirement of each user.

d) All the users are connected with each other.

e) It provides the search engine to make the availability of the data easier.

f) All the users are connected with the common portal.

g) The intranet gives the following advantages:

i) It increases the productivity of all the users,

ii) It saves lot of time of total organisation,

iii) Helps for the best communication among all the users,

iv) It makes the perfect management of the available data & converts it into the knowledge.

- v) It creates the perfect link among all the business operations,
- vi) It saves lot of cost of organisation due to the common system,
- vii) It creates the best culture of cooperation among all.
- viii) It helps to have the best control & coordination among all the activities.

In this way we have seen all the aspects of MIS.

Q9. Explain the importance of IT in Operations Management.

Ans: In all the above questions, we have realised the importance of IT in overall management. Let's analyse the specific areas where IT is directly useful:

1. Manufacturing Requirement Planning (MRPI):

MRP I is the system where the perfect plan is prepared relating to the materials like maximum, minimum, average, reorder level etc. as well as the EOQ, ABC analysis etc. here the computerized system makes all these activities very easy.

2: Manufacturing Resource Planning (MRP II):

MRP II takes care not only of the raw material but also the spares, assemblies & subassemblies. The computerized system makes it very comfortable to decide the levels, available goods, life of spares, use of consumables & their proper management.

3. Master Production Schedule (MPS):

Here the plans are prepared to manage the total production, its requirement of material, spares, storage etc. here also the computerized system is useful to manage the demand & the production & other factors.

4. Bill of Material (BOM):

BOM is the ready made sheet which includes the regularly required material by the production department. The computerized system takes care of the automatic order to be given, alarm for purchase when the reorder level is achieved.

5. Inventory Status File (ISF):

Here the system maintains the perfectly updated data of the available stock of material, spares, assembly etc. It gives the information of the quantity & the cost of the inventory. It's a perpetual inventory system.

6. Distribution Requirement Planning (DRP):

It is also called as the supply channel where the system takes of the perfect supply of variety of raw material & the spares to the appropriate department. It mainly Depends on the BOM. It also takes care of the distribution of the finished goods to the appropriate distributor.

Now a days the DRP Includes: material planning control, Purchasing, receiving, quality control, storage, material handling etc. on the side of raw materials, on the other hand it includes sales order processing, warehousing the FG, Supply of FG etc.

As per Davis Ross, DRP also includes 4 basic functions:

- a) Sorting:** Distributing the similar goods in the same category,
- b) Accumulation:** Similar small groups are clubbed in the bigger group,
- c) Allocation:** Breaking the large stock of FG in small saleable groups,
- d) Assorting:** Putting the similarly used item in one kit.

Thus, the DRP includes 3 basic functions:

- 1. Product Acquisition,**
- 2. Product Movement &**
- 3. Product transaction i.e. use of the material.**

To fulfill the above 3 functions, following sub activities are involved:

1. Selling & Promotion of the FG,
2. Buying & building the product assortments (combinations),
3. Bulk breaking: It means breaking the huge bulk of the product in small packs,
4. Value added processing: It includes the further processing of goods like packing, repacking etc.
5. Transportation: Distribution of the goods to proper person,
6. Warehousing: Keeping the finished goods in the Godown,

7. Enterprise Resource Planning (DRP):

In simple words it's a combination of all the above factors. It's a perfect system from where we can get all types of information. In other words it can be called as MIS.

It's a combination of variety of softwares. It includes:

- Asset lifecycle management,
- Customer Relation management,
- ERP,
- FM,
- Project Management,
- Procurement of material,
- Supply chain management,
- Logistic & transportation management,
- Order management & pricing of the project etc.

In this way we have seen the use of IT in operations management.

Q10. Explain the Concept of Benchmarking.

Ans:

1. Benchmark means the target kept to be achieved from our performance.
2. Every organisation decides the benchmarks first which the guidelines becomes for all.
- 3. The benchmark can decided from different bases:**
 - a) Competitive benchmarking:** Here the price, quality etc. of the competitor becomes the benchmark.
 - b) Product benchmarking (Reverse Engineering):** It is also termed as the target costing. Here the selling price is decided first 7 then the other decisions are taken Eg. NANO.
 - c) Process benchmarking:** Here each process has its own targets & is compared on that basis.
 - d) Internal benchmarking:** Here the performance our business unit or process is compared with the same of the others.
 - e) Strategic benchmarking:** Here the long term plans decided by the top management becomes the bench mark.

f) Global benchmarking: Here the activities & results of the international companies becomes the benchmark.

Thus the function of the benchmarking gives the perfect target to all the activities.

Q11. Explain the Concept of Bench trending.

Ans:

1. It's a next step of Benchmarking.
2. Benchmarking includes setting of the targets while the bench trending includes the collection of actual data, changing the bench marks, finding the deviations, checking customers tastes etc.
3. Thus it makes in depth analysis of the data.
4. It Includes the following steps:
 - a) **Deciding the market:** Its size, number & type of customers etc.,
 - b) **Changes:** The continuous changes in market, competition, preferences etc. are analysed,
 - c) **Competitors:** The strong competitor is kept under observation,
 - d) **Competitor's Information:** It is collected & analysed for further decision,
 - e) **Baseline:** It is decided on the basis of the above steps,
 - f) **Improvement Plans:** The results are analysed & the immediate Improvement plans are implemented.

In this way the Bench Trending can be used effectively by the management.

Thus in this chapter we have seen variety of issues relating to Operations Management.

CHAPTER 2: COST PLANNING & ANALYSIS FOR COMPETITIVE ADVANTAGE.

Theme Of the Topic:

In earlier chapters we have seen the management control tools. In this chapter we shall analyse the steps of the management taken to take the competitive advantage in the ever competitive market.

The topic is flourished with the following Questions:

- Q1. Explain the concept of Quality Function Development (QFD).
- Q2. Explain the actual process of QFD.
- Q3. Explain the basic requirements of QFD.
- Q4. Explain the Concept "Value Analysis" & it's use.
- Q5. Can QFD and FAST be used together?
- Q6. Explain the concept Target Costing?
- Q7. Explain the concept Life Cycle Costing
- Q8. Explain the concept Learning Curve.
- Q9. Explain the concept supply change management.
- Q.10: Explain the concept Strategic Cost management.

Q1. Explain the concept of Quality Function Development (QFD).

Ans:

1. It is an important step taken to meet the quality requirement of the customer.
2. As we know, the customer is the King thus we must be fulfilling the requirements of the customers regarding the quality of the product or services given.
3. Thus along with the production, we must give proper attention to know what is required by the customers & how to achieve that.
4. The customer's choices can be varied & these can be known through the techniques like direct interviews, survey, observations, trial & error on selective groups etc. This step is called as knowing the "Voice of the Customers".
5. There must be the separate team to know "what" is required & another to decide "How" to achieve that. But for this we must also understand "Why" customers are demanding like this so that we can satisfy their demands perfectly.
6. Then all the customer's requirements are translated into the proper format which is called as "**House of quality**" or "**Product Planning Matrix**".

Q2. Explain the actual process of QFD.

Ans: QFD includes the following flow of activities:

1. Product Planning:

It is an initial stage where the choice of customers, competitors steps, opportunities, targeted cost & qualities are decided well in advance & on such basis the product is designed. It includes the sub steps as follows:

- a) **Analyse the customer's needs** & collect them in the matrix,
- b) Use variety methods to find out the **competitor's product quality**, support of consumer to them, their strong points, weakness, further steps, any gap between the demanded quality & the supply.
- c) **Product designing** in such a way that the consumer's choice is fulfilled & the above gaps.
- d) **Be in touch with the customers.** Develop the system to focus the changing demands of them & any further requirement.
- e) **Be in touch with the competitor's moves.** Develop the system to focus the changing steps of them & any further change made by them, improvement in product quality or other services.
- f) Collect the **market reply** & design the system to analyse the positive or negative replies.
- g) Design the system which shall analyse the **importance rating** i.e. the importance to be given to the customer's suggestions & to work on them.
- h) Design the system which shall analyse the **difficulty rating** i.e. the difficulty to be faced in fulfilling the demand. We should not accept the high risk activities which are almost impossible to achieve. It will affect our status.
- i) By making the above analysis **finalise the product design & be alert for the continuous changes** when required.

Eg. Hyundai introduced i10 with the same engine like Santro but was not much appreciated as new product then they made a survey & introduced the new i10 with engine KAPPA with fresh advertisement with Shahrukh Khan & created nice demand for it. This journey includes all the above steps we have seen.

2. Concept Selection & Product Design:

After knowing the choices of the customers in the 1st step, we have to design the system to fulfill these choices. Here all the minute details of the product are properly taken care of. Every aspect of the product is design efficiently to meet the demand of the customers. Lets analyse the case of i10 again. Following are the technical details of i10 car as declared by the company:

Hyundai i10 D-lite Specifications and other technical details

The Hyundai i10 is a cute and compact car. Due to its pricing and size, this city car comes in the A Segment car and it will be made only in India at Hyundai's Chennai Plant. From India, this car will be exported worldwide. The car comes with a 1.1 litre 65 bhp (48 kW/66 PS) engine. The car has airbags for all passengers and is offered in manual and automatic transmission.

PANCHAKSHARI'S PROFESSIONAL ACADEMY

(Where Success Begins . . .)

MAEPM Notes

Price in Lakh (on road)		Economy	
Delhi	3.37	City (KM/L)	13.2
Mumbai	3.53	Highway (KM/L)	16.1
Kolkata	3.37		
Chennai	3.36	Engine & Transmission	
Bangalore	3.36	Engine displacement	1086/4
		Power (BHP) / Torque (KGM)	66.7
		No. of gears	5/M
Performance		Safety	
0-60 KPH (secs)		ABS	✘
0-100 KPH (secs)		Airbags (no.)	✘
Topspeed (KPH)	143	Traction control	✘
20-80 KPH in 3rd gear (secs)		NCAP rating	-
40-100 KPH in 4th gear (secs)			
Features			
AC / Climate control		✓/✓	
Power steering		✓	
Steering wheel adjust (rake / reach)		✓/✓	
Central / Remote locking		✓/✓	
Power windows (front / rear)		✓/✓	
Wheels (steel / with hubcaps / alloy)		✓/✓/✘	
Leather seats		✓	
Tinted glass		✓	
Driver seat adjust (length / height / rake)		Manual/✘/Manual	
Front passenger seat adjust (length / height / rake)		Manual/✘/Manual	
Rear Seat belts (no.)		3	
Split / folding rear seats		✘/✓	
tachometer / tripmeter		✘/1	
Door mirror (passenger / adjust / electric retract)		✓/Electric/✘	
Rear centre armrest		✘	
Cassette / CD / MP3 player		✘/1/✓	
Fog lamps		✓	
Body-coloured bumpers		✓	
Rear AC vents		✘	
Boot release		✘	
Rear defogger		✘	
Rear wash wipe		✘	

Here we can observe that the system is designed to give the product which satisfies all the demands of the consumers which is our 2nd step.

3. Process Design:

After designing the product & the system now we must design the process by which the above 2 factors can be achieved. It includes the total system right from the collection of raw material, its use upto systematic distribution of the finished goods to the consumers. It includes the detailed steps to achieve the answer of "HOW" to satisfy the needs of the consumer's preferences.

Thus the process of QFD goes from the above 3 broad steps.

Q3. Explain the basic requirements of QFD.

Ans: As we have seen that QFD is very useful to all types of organisation but to use it effectively, following factors are required:

1. Commitment of the management,
2. Deciding the clear objective to be achieved from it,
3. Perfect & well trained team to support it,
4. Expert team to train the above people,
5. Division of responsibilities & the authorities,
6. Perfect communication & analysis system to know the consumers choice,
7. Immediate steps to fulfill above needs,
8. System to make the evaluation of competitors.

If all these factors are perfectly achieved then only we can employ the perfect QFD System.

Q4. Explain the Concept "Value Analysis" & it's use.

Ans:

1. It's a technique in which we are making the evaluation of each step in the production process, finding out its importance & the expenditure incurred on it.
2. It's a cost reduction technique whereby the process or sub process which is costing higher than its benefit shall be eliminated.
3. Here total production activity is divided in sub processes & each sub process is analysed perfectly.
4. The concept was introduced by Mr.Miles in 1945. He divided all the activities in 2 parts i.e. basic function and supporting function. This technique is called as Function Analysis System Technique (FAST)
5. In FAST technique each and every function is evaluated to find out its importance. The basic function are the most profitable but the supporting function may not be so.
6. Here the cost function matrix is prepared so that the cost of each activity can be calculated.
7. Each activity is analysed with two basic question – Why it is done? And How it is done?
8. Instead of concentrating on "what is" the function, the technique concentrates on How the function should be?

9. In simple words the FAST technique makes the deep analysis of all the activities, decides their importance and removes the unnecessary function.

Q5. Can QFD and FAST be used together?

Ans:

The combination of QFD and FAST has proved to be very effective tool as follows:

1. It helps to capture the customer demands and apply the functions to satisfy them.
2. The product designing becomes very simple.
3. The system designing can be property done.
4. The questions why ? and How? can be easily solved.
5. The high cost functions can be easily removed.

In this way the combination of QFD and FAST helps us to achieve the Bench mark and to satisfy the needs of customer. Thus it is called as "Value Improvement Process".

Q6. Explain the concept Target Costing?

Ans:

1. It is the modern technique of deciding the total production cost on the basis of target set. Earlier the selling price was cost + Profit. But in today's competitive world we have the decide our production cost on the basis of predecided targets which are generally on the basis of competitor's price.
2. As per business today "TC is the structured approach to find out the cost at which the product with specific quality must be produced to have the desired profit". For eg. The selling price of NANO is Rs. 100 000 and if desired profit is 20% on selling price then the target cost is Rs. 80 000.
3. The target costing includes the following steps:
 - a) To make the analysis of requirement of customers regarding quality, facility, cost, etc.
 - b) Making the perfect plan to manufactured the product within targetd cost with the same quality.
 - c) Designing of the cost sheet to achieve the target cost. It also includes the techniques like cost reduction, devision of work, etc.
 - d) Then the basic design of the product is created and kept of Research and Development.
 - e) Then the final product is selected.
 - f) After this actual manufacturing is started considering all the above factors.
4. The success of TC depends on the perfect information, cost awareness among all and the team work.
5. Here cost planning is very important because generally 80% of the cost are incurred before production.
6. The TC can be used by 2 different approaches –
 - a) In bottom-up approach the actual cost incurred for manucature are considered.
 - b) In top down approach the estimates are used to find out the cost.

7. In TC there are three methods for finding out the target cost-
 - a) In subtraction method we have to reduce the profit from the selling price.
 - b) In addition method the total of all the cost is made.
 - c) In integrated method combination of both the above method is made.
8. While calculating the TC we have to considered the cost of producer like, production, factory overhead, office overhead, etc. But along with that we must considered the cost of customer i.e. after sales services cost.
 In this way the TC can be used as the effective tool in today's business world.

Q7. Explain the concept Life Cycle Costing

Ans:

1. It is also modern technique in which the accounting is made not at each production level but directly at the end of the total production.
2. It's advantage is that instead of making the accounting at different production levels, it is done at once only.
3. In the initial stage of every product the cost is low and it increases afterwards. In LCC we can absorb more cost in the initial stage.
4. It creates the awareness about overall production cost.
5. It gives the strong base for perfect planning.
6. It includes following steps –
 - a) Cost Breakdown Structure (CBS) - Here the total cost in the life of product is divided in different parts like planning, designing, production, etc. Its use is that we can decide appropriate cost at each level and its responsibilities can be given to different managers.
 - b) Cost Estimating – It includes making the estimation of cost at each level. Here some cost estimating relationship (CER) are also developed for eg. Packing material cost is 20% of production cost. Here we can use predecided rates like machine hour rate or we can take the expert opinion.
 - c) Discounting - It the Life Cycle of the product is very long then the expected future cost are discounted by using the inflation rate.

Thus LCC is an effective tool for planning.

Q8. Explain the concept Learning Curve.

Ans:

1. It is observed that when one person is doing the same activity again and again the required time is reduced it is called as learning curve theory.
2. It is applicable to labour force and not the machine.
3. It is useful in following areas –
 - a) To prepare the perfect cost sheet.
 - b) To predict about labour efficiency in future.
 - c) To make proper distribution of work.
 - d) To give perfect time quotation.
 - e) To complete the job in time.
 - f) To improve the product quality.

- g) To decision the activity properly.
- h) To take make or buy decision.
- i) To make scheduling of work.
- j) To plan for working capital.

In this way the LC technique can help us to decide the perfect labour cost and to give proper quotation.

Q9. Explain the concept supply change management.

Ans :

1. After making the perfect production, what counts is the perfect supply. It is not only related with finished goods but also with raw material and assemblies.
2. The perfect system of this supply is called as SCM.
3. It includes 5 different factors –
 - a) Plans – There must be a perfect plan for purchase of material and its supply.
 - b) Source – We must choose such supplier which will satisfy our conditions.
 - c) Make – This is the manufacturing step where the perfect material must be supplied to perfect department.
 - d) Deliver – After production the system must be include delivery of proper goods to proper customer.
 - e) Return – The system of sales return must also be perfect.

For eg. We can imagine the perfection of the Tiffin Delivery System in Mumbai.
4. To achieve all this all the above factors must be linked perfectly with each other.
5. Due to globalisation the tools are available of effective SCM but the challenges are also increasing.
6. The perfect combination of demand and supply is called as “Lean SCM” which includes following principals –
 - a) Create perfect link of all function.
 - b) Create continuous flow of information.
 - c) Create proper demand.
 - d) Eliminate ineffective steps.
 - e) Reduce lead time of delivery.
 - f) Remove the mistakes immediately.
 - g) Prepare perfect information system.
 - h) Keep perfect stock of material.
 - i) Create the customers and suppliers the team members.
 - j) Give perfect support for immediate decision.

Thus in today’s speedy world SCM has no option.

Q.10: Explain the concept Strategic Cost management.

Ans: It is nothing but the long term planning relating to cost control & the cost reduction. It includes 3 basic tools:

1) VALUE CHAIN ANALYSIS:

We have discussed it earlier.

2) STRATEGIC POSITIONING ANALYSIS:

Here we have to analyse the exact position of the organisation to be achieved through the perfect cost concept. It can achieve the cost leadership by reducing the overall cost. Instead of the cost reduction, we can use the product differentiation i.e. creating the best quality product which may be at the higher cost. By both of these techniques, we can have a perfect cost strategy for the long period.

3) COST DRIVER CONCEPT:

The cost driver means the factor for which the cost is incurred. It may be the department, machine or the branch. In this technique, the total cost is divided in different cost drivers & the manager is appointed to control the cost of each cost driver. Here we can decide how much should be the investment in each cost driver, what technology is to be used, how to control the cost of cost driver etc. Thus the control on each cost driver gives the ultimate control on the overall cost.

Thus above 3 are the tools of Strategic Cost Management.

In this way we have seen variety of concepts which shall help us to have the favorable position in the competitive era.

CHAPTER 3

TREATMENT OF UNCERTAINTY IN DECISION MAKING

Theme of the topic:

In this chapter we shall analyse variety of techniques to deal with verity of risk in the business.

Q.1] Explain the concept of risk in the business.

Ans:

1. For every type of business there is a risk which is unavoidable. Generally we face the following risks:

- a) **Business risk** associated with particular business.
- b) **Market risk** i.e. fluctuation in exchange rate, interest rates, etc.
- c) **Credit risk** – Fluctuation in credit allowed by creditors, non payment by debtors, etc.
- d) **Operational risk** – risk in total production process.
- e) **Legal risk** – risk from legal entities.
- f) **Environmental risk** – risk from fluctuation in natural conditions, etc.

In simple words we can't avoid the risk but what we can do is to make the assessment of risk and to take the corrective steps.

Q.2. Explain the methods to manage the risk.

Generally speaking we can take regular steps to manage the risk but more specifically we can have following techniques of risk management -

1. Enterprise risk management (ERM) -

a) It's a basic technique where the risk manager has the responsibility to have awareness about risk and to take the perfect steps.

b) In simple words it's a technique in which the risk manager is continuously following the process of risk assessment, opportunities from it and the steps to avoid the risk. It includes the following activities -

- i) Risk assessment
- ii) Perfect strategy.
- iii) Perfect decision in response to the risk.
- iv) Steps to reduce the losses in case of sudden risk.
- v) Keeping watch on the associated risk.
- vi) Creating the opportunities from risk, etc.

Thus this techniques keeps the management ever alert.

2. Business continuity planning (BCP) -

a) In this technique the efforts are made for keeping the business continued to the extent possible even if there is sudden problem. For eg. This technique was useful when many of the US businesses faced the problem of 9/11 event.

b) This technique can be developed by trial and error method only as it is useful in unique problem.

Thus it's a disaster management system not to avoid the risk but to reduce the losses.

3. Succession planning -

a) It is more related with the internal management and specifically Human Resource Management.

b) It is very regular for every organisation that when the top level managers retires then the responsibility is to be taken by the lower level managers. But if they are not efficient enough then total organisation may fail. For eg. Bill Gates got retire in 40's from his business but the still the business is continued with same quality.

c) Thus in this technique the efforts are made to train the people to be efficient to handle the new responsibility. It includes following steps –

i) Perfect planning of HR relating to promotion, transfer, etc.

ii) Preparing the perfect charts to find out the future demand of talent and people in coming 5 to 7 years.

iii) Making the development in mangers by the techniques like job rotation, overseas assignment, proper education, specific training, etc.

d) Thus the succession planning keeps the manpower ready for future appointment but it faces the problems like partiality (crowned prince syndrome), the talent drain i.e. trained managers may leave the jobs and poor information about the mangers.

4. Sensitivity Analysis -

a) It is the 4th technique in which the management makes continuous analysis of the impact of changes on profit. For eg. Increasing in tax rate, discount by supplier, etc.

b) Thus this technique is checking the sensitivity of different factors on the profit.

c) It gives clear visibility about weak points.

d) It gives the hints to increase profit.

e) It helps to make in depth analysis and decision making.

f) But this technique is risky if information is improper.

g) It may fail if some assumptions goes wrong.

With some limitations also the technique is useful.

5. Probabilistic Models -

It includes some techniques which are considering the future probability of risk and return.

- a) **Decision Tree Analysis** – It helps to find out the probable NPV in different situations or to choose the best option by considering probability by drafting the decision tree.
- b) **In co-efficient of variation:** we are calculating the fluctuation of income in variety of situations. The project having higher CV should be rejected.
- c) **Expected value** – Here the future cash flows are multiplied by the probability of receiving them and then the discounting factor. Thus it will give us the PV of future probable cash flow.

In this way we have seen the associated risk and the techniques to overcome the risk in this chapter.

CHAPTER 4: ENTERPRISE PERFORMANCE MANAGEMENT SYSTEM

Them of the topic -

Here we shall learn only one technique popularly known as Balanced Score Card.

Q.1] Explain the concept Balance Score Card and its use.

Ans:

1. Generally the performance of any organisation is evaluated by its financial result.
2. But it is not enough. For eg. If company is in profit but customers are dissatisfied from quality then it is of no use.
3. Thus Mr. Kaplan and Mr. Norton introduced the new system for performance assessment called as BSC
4. Here along with the profitability, following 4 areas are also analysed and the performance is reported –
 - a) **Customer perspective** - Here we have to analyse the quality of product, customers complaints, their satisfaction, demand, in time delivery, after sales services, market share, etc.
 - b) **Business process perspective** – Here the analysis is made of the internal processes and their smooth working. As we know all the processes are interlinked thus it confirms that there is no blockage and all are working for the common goal.
 - c) **The learning and growth perspective** – Here we have to analyse that there is proper growth of talent and satisfaction of employees, they are updated with latest information and technology, they are comfortable with new technology and they are growing properly.
 - d) **Financial perspective** – Here economic results are analysed in which we are checking the cash flow, increase in sales, increase in returns, capturing new market, etc.

In this way the combine report card of all above areas is called as Balance Score Card. For eg. **The BSC of Air Deccan** includes following points –

- i) Low cost of tickets
- ii) Increasing revenue.
- iii) Increasing customers.
- iv) On time flights.
- v) Reduction of internal process time
- vi) Good quality food.
- vii) Immediate repairs and maintenance.
- viii) Multitalented crew

Thus BSC gives the best idea about overall performance of organisation.

CHAPTER 5: QUALITY MANAGEMENT

Theme of the Topic:

In this topic we shall learn the techniques to keep the control on total quality of the organisation which called as Total Quality Management (TQM).

Q.1] Explain the importance of quality in every organisation.

Ans: As we know quality is always ahead of quantity. Whatever remains forever is the quality of product and services. We can observe so many examples when the management has given more importance to the quality and goodwill. For eg. When there was a problem with the battery of Nokia, Nokia replaced batteries of 172 million dollar free of cost.

Thus variety of quality gurus has given importance to quality as follows:

1. Joseph Juran -

- a) Mr. Joseph stated that quality does not happen by accident.
- b) He stated that the management must concentrate on quality control, quality planning and quality improvement.
- c) Quality planning includes finding the expected quality from customers and developing the product having such quality.
- d) Quality control includes keeping the control to maintain the decided quality.
- e) Quality improvement includes making RND and finding the ways to improve the quality further.

2. Mr. Deming has given following principles for quality management –

- a) Decide the expected quality level.
- b) Find out the mistakes.
- c) Reduce the dependence on quality inspection.
- d) Stick to the quality.
- e) Make improvement in product and service.
- f) Give the training the employees.
- g) Remove the fear of punishment from employees.
- h) Remove the barriers between departments.
- i) Eliminates the slogans like zero defects which are creating the burden.
- j) Eliminate numerical work standards.
- k) Give proper education to employees.
- l) Create good relations among all.
- m) Give respect to workers.

3. Kaoru Ishikawa -

He introduce the concept of quality circle to support quality improvement, creating good relation and giving proper chance for potential of all.

4. Philip Crosby -

He introduced some guidelines for zero defects and for being perfect from the first time. He gave the stress in prevention of mistakes. He gave following guidelines –

- a) Be committed to quality.
- b) Create quality management team.
- c) Make the measurement of quality.
- d) Calculate the cost of poor quality.
- e) Create quality awareness.
- f) Take immediate corrective steps.
- g) Keep watch on quality progress.
- h) Give proper training.
- i) Achieve zero defects.
- j) Let the employees create their quality improvement goals.
- k) Encourage the employees to communicate problems.
- l) Find out positive efforts of all.
- m) Keep continuous quality control.
- n) Create quality councils.

The effect of these guidelines will be the successful organisation having perfection from first time, adopting with change, showing the growth, introducing new product and keeping everyone happy.

Thus many of quality gurus has contributed for quality awareness.

Q.2] Explain TQM & its tools.

Ans:

1. It is the modern concept which focuses on maintaining the quality in every area of business i.e.

- a) best service to customer.
- b) Perfect management leadership.
- c) Continuous improvement.
- d) Achieving the goals.
- e) Using new techniques to support the quality.
- g) Giving proper importance to all the employees.

In simple words TQM concentrates on the improvement of organisation from all the angles.

- **Quality Control Tools:**

To keep the control on quality in all the areas following tools are useful –

- a) **Control charts** –

Here variety of controlling issues is co related in chart and the trends of the fluctuations in quality are continuously observed. If the quality is fluctuating then immediate steps are taken. Here upper and lower limit of control are decided to find out the fluctuations.

- b) **Bench Marking** - As we have seen in earlier chapter.

c) **PDCA** – It includes 4 steps – **Plan** for effective quality control, **Do** i.e. apply such plan, **Check** i.e. check the actual results and **Act** i.e. take the required action to remove the deficiency.

d) **Kaizen Technique** –

It is them most successful Japanese technique which includes two factors Kai (change) and Zen (for betterment). In simple words its technique involved in continuous quality improvement. It includes following issues –

- i) On every day there must be quality improvement.
- ii) Customer satisfaction must come first.
- iii) Quality is more important than profit.
- iv) Anyone can give suggestion for quality.
- v) Every process must take care of quality.

Thus the Kizen technique is concentrating on continuous improvement by using **5 S** i.e. –

- i) SEIRE – Proper organisation.
- ii) SEITON – Neatness.
- iii) SEISO – Cleaning.
- iv) SEIKETSU – Standardization.
- v) SHITSEQE – Discipline.

Thus if these 5 s are followed then quality control is possible.

e) **Six Sigma** –

This technique is developed by Motorola to improe the quality and reduces the defects. It includes executive leadership to prepare plans, champions to implement them, master black belts who are in house experts, experts who are giving external support, black belts who are supporting to master black belts, green belts who are the employees for implementation and yellow belts who are trained employees at lowest level.

This total team helps to achieve the quality.

In this way we have seen the variety of tools of quality control.

Activity for Home Work: Please go through variety of charts given in Module & refer the module for ISO concept.

Good Luck.

For any difficulty, you may contact:

CA Yogesh K. Panchakshari

Director

Panchakshari's Professional Academy

(Where Success Begins . . .)

Add: 1st Floor, Gajanan Plaza, Opp. Kashiba Medical, Ashok Stmabh, Nasik.

0253-2571545, 98220 26393, 98 23456 414

Webisit: www.ppasuccess.com

E Mail: director_ppa@rediffmail.com