

# Answers to questions on product and service design



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P7: Identify the key factors affecting the design of products or service of given organization and possible benefit to be gained from good design

## **Factors Affecting Organizational Service Design**

Following are the factor mostly affecting the way an organization operates their services those are the following:

### **Organization size**

The smaller the organization the lesser chance of a formal structure of that organization will be. Instead of following in small organization the individuals may simply perform tasks the way they want and whatever is required to them. There may be rules set by the firm just to provide guideline with the help of which members of organization can make decisions.

As an organization develops, however, it becomes more difficult to manage the tasks without more formal structure of assigning tasks, or with delegating some of authorities to the lower hierarchy, and hence large firms produce specialized tasks and every work is done through proper guidelines and procedures.

### **Organization life cycle**

Organizations tend to proceed and get progress through different stages which are called as a life cycle. Most firms go through the following stages:

**Birth:** In this stage, a firm is just beginning their business operations. At this stage the firms hardly have a formal structure. We can not find much delegation of authority in the beginning stage of the firm.

Youth: This is the phase in which firms try to grow the business. The focus of the firm in this stage is on becoming larger firm. The owner of the firm diverts its attention from satisfying his own wishes to satisfying wishes of the customers. During this phase there is a need for the firm to design more formal structure for operating their operations and some delegation of authority come into effect.

Midlife: This is where the organization has achieved a fair level of success. A larger organization in this stage, have a more formal structure. The levels start increasing in their chain of command and the organization may find it to difficult to manage everything with control.

Maturity: In this phase the organization reaches to maturity stage where their lack innovations and they are not usually interested in expanding their business. Their emphasis in this stage is more on increasing their profit and sustainability.

Organizations in this phase are slowly moving toward decline and may feel the need to make necessary changes to revitalize. As firms tend to get bigger, the organizations experience more structural changes

## **Strategy**

Strategy refers to a situation in which the way firm settle itself in the market place keeping in view their services or products. An organization may decide to be always the first to introduce the newest and best products in the market (differentiation of products strategy), or it will produce already established products in the market more cost effectively (cost-leadership

strategy). Any of these strategies requires a structure that must fit the strategy.

## **Environment**

The environment is the place in which the firm is operating, and the factors such economic conditions, social and cultural situation, law and order situation, technological position and natural environment condition influences the design of organizations

Organization understand the demands of their customers very well in a more stable environment, and then firms try to satisfy those demands accordingly. That is the reason organization remains in the market for a long period of time. The customers' demands keep changing in the opposite of stable environment and hence firms experience difficulty in satisfying them.

In conclusion mechanistic organizational structure can be more beneficial for those operating in a more stable environment and hence this system increases the efficiency level of the organization which ultimately will improve their performance in the longer run.

## **Technology**

Advancement in technology is the cause of change in the design of organizations because it helps organization in achieving higher efficiency level and help them in reducing their long term cost of production. The following are the form of latest technological production techniques:

Batch Production

Batch production is the process in which instead of manufacturing items individually, things are produced in batches. The manufacturing process takes place for each item at the same and batch of products or items are not shifted to another stage individually instead all batches are moved to the other stage of production when the each batch of items is completed.

### Mass Production

Mass production is the process of manufacturing large amount of products in less time by utilizing time saving assembly. It helps a manufacturer to increase their worker per hour production and it also reduces the manufacturer labor costs of the final product. And then firms will be able to sell their products at lesser cost to attract more customers.

### Continuous Process Production

In this system the manufacturers produce products by feeding the required raw materials continuously in a latest technological system. Such systems are operated by less labors, examples can be automated oil refineries and chemical factories.

## **Advantages of a Good service or product designs:**

Firms can attract more customers by making more attracting products with good design and good services.

Firms can better communicate with their customers through their good product or services designs.

A good design makes a firm's services or products more users friendly.

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It reduces the production costs of an organization and it enables them to gain better profit margin.

As it reduces the costs of production therefore it helps an organization to gain competitive advantage over their rivals because they will be able to sell their services and products at lower price.

Its objects are that Tasks should achieve all required outputs and be carried out at minimum cost in order to gain competitive advantage.

**P8: Explain the operational layout of the business/ department under consideration. Discuss the salient features of the layout?**

**Operations Layout:**

The basic layout of an operation is usually determined by the choice of process organization. “ An efficient layout is one which minimizes total distance traveled by materials, customers or even staff. The frequency of journey should also be considered”

**Features of the Layout:**

It enables higher utilization of space, materials and employees.

It improves the flow of materials, information, and employees.

It increase employees’ motivation levels and provide harmless working conditions.

It improves customers’ interaction with the organization.

It brings flexibility in the operations of the organization.

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## **Operations Layout of Pizza Hut:**

The layout of Pizza Hut is not that good in our point of view because an efficient layout must minimize total distance covered by the materials and customers. The ware house of Pizza Hut from where they get the raw materials of Pizzas is in Lahore which is far away from Peshawar and it takes time to reach Peshawar branch.

The flow of information with their customers is very slow in a sense that when a customer call Pizza Hut toll free number for ordering Pizza, an operator sitting in Karachi takes their order who than later inform the Peshawar branch to deliver the pizza to a specific location. Usually it takes 50 mints to deliver Pizzas which is bad. The parking space outside the building is limited often than not customers face difficulties in finding space for their cars.

The pollution coming out of their kitchen to the environment is limited but the pollution coming of their generators are not. Peshawar is still facing load shedding (Lack of electricity) as a result they get electricity for the dining hall and most importantly for running their machinery from huge generators which cause both noise and pollution.

The Pizza Hut Peshawar branch is located far away from the most important place (Hayatabad) where most their potential customers are living and delivering Pizza to them also takes much time.

### **M3: How does the operations layout of the firm influence performance of given organization. Mention its positive and negative influence?**

Operations Layout is all to do with the performance of any organization in this case Pizza Hut. A good layout will reduce their average total cost and can improve their well being among customers and vice versa. Every organization needs to set up their operations in such a way which can bring efficiency in their activities and help them in increasing their revenue and profits.

#### **Positive influences on Pizza Hut:**

If Pizza Hut reconsiders their Operations Layout and bring the required changes in it, it can have the following positive influences on their performance:

A good operations layout will reduce the time usually taken by their raw material to reach Peshawar branch in this way they will be able for satisfy customers demands on time and they will not face material shortage due strikes, road blockage in other cities and hence their customers will be satisfied.

If they improve their information system they will be able to receive customers order directly and they will be able to deliver Pizzas to their customers quickly than before this can bring efficiency in their activities and can improve their well being among customers.



If they improve their parking space more customers will be able to park their cars at one time and hence more customers will visit Pizza Hut which ultimately will help them to get more revenue and profits.

If they are some how able to control the pollution and noise than it will be considered as more environment friendly organization and it will help them in improving their well being and it will also help than to attract more customers and hence more revenue.

All these points discussed above is the layout of Pizza Hut and if they able to improve their layout as discussed above it will have positive influences on their performance.

### **Negative influences on Pizza Hut:**

If they continue their current Operations layout than it can have the following negative influences on their performance:

The raw materials will take longer than required to reach Peshawar branch and it add more to their costs because the transport cost is expensive due to the recent raise in petrol and diesel prices.

It can have negative influence on the delivery of Pizza to their customers because there is no direct operator line from Peshawar to the customers therefore it takes longer than required in delivering pizzas as a result customers can switch to nearby Pizza outlets to them like Arabian Chicks, Chief burger.

Limited car parking space is the biggest constraint in attracting more customers therefore customers can have Pizzas from Chief Burger which has large parking area, ultimately it affects their performances.

Lack of interaction between their customers and their staff can have adversely affects on the performance of Pizza Hut because staff will be demotivated and customers will feel they are not important to Pizza Hut.

A bad layout will add more to the costs of production and affects the performance of Pizza Hut as a whole.

### **D3: Propose operation layout for the given organization and discuss how it will be better for the organization.**

Before suggesting an efficient operation lay out , we would like to suggest certain points required to make an efficient Lay out only then Pizza Hut Peshawar will able to implement our suggested Lay out.

#### **Requirements for making a Good Layout:**

They need to understand the need of capacity and space requirements

They need to select appropriate equipments for handling materials.

They need to take proper decisions regarding environment and its improvement.

They need to identify and understand the requirements for effective flow of informations.

They need to identify the cost of moving between the many different work areas.

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## **Suggested Lay Out For Pizza Hut:**

Pizza Hutt Peshawar needs to get a ware house on rent in Peshawar and especially in a place near to the Peshawar branch. In this way they will be able to get raw materials in less time and they can store the remaining material back in the ware house. And they will be able to save much transport cost than before and they can use that money in improving their environment.

They need to introduce an operator system in Peshawar as well who can receive the orders from the people of Peshawar and who have sufficient knowledge of the locations of Peshawar. In this way Pizza Hutt can receive orders quickly and then they will be able to deliver Pizzas in less time, it also improve their efficiency.

They need to increase their parking space by contracting with army stadium officials regarding allowing their customers to park their cars there in this way more customers will come and their cars will be more safer.

They need to control the pollution and noise coming out of their generator by making a separate covered place for their generator.

They need to open new outlet in either university road where there biggest competitor chief burger is situated or in Hayat abad where there potential customers are living. This will help them in competing with their rivals and will also help them target their customers by either delivering them Pizzas in less time or by being easily accessible for those people.

They need to improve their front desk for communication with their customers and handling their kitchen operations and for easy communication with their supporting staff (waiters, manager) to provide better services and environment for their customers.

## **P9: Discuss the concept of job design, empowerment, and work measurement?**

### **Job Design:**

Work arrangement intended to reduce or overcome job unhappiness and lack of interest of employee resulting from boring and repetitive tasks. In job design, firms try to maximize productivity levels by providing non financial awards to their labor force such as increasing the challenge and responsibility of some employees work. Other techniques used in Job design are Job enlargement, job enrichment, job rotation which can be defined as:

### **Job Enlargement:**

“ Job design technique in which the number of tasks attached with a job is increased (and provided an appropriate training) to add greater diversity to activities, thus reducing repetitiveness”.

### **Job Enrichment:**

In this organizations increase the number of tasks executed by their employees as well as they increase their responsibilities in order to make their work more challenging and interesting.

**Job Rotation:**

“ Job Rotation means employees are moved between two or more jobs in a designed way. The objective is to make the employees to face different experiences to increase job satisfaction.”

**Empowerment:**

Empowerment is a concept which Involves delegating some authority to the process operators.

In empowerment every individual team member must throw in to the business.

In empowerment the lower most layers of management become unnecessary.

Empowerment give chance of greater responsiveness - lower employees do not have to acquire management consent for making some decision themselves..

It helps in Continuous improvement of the organization as employees will feel motivated and they will work all together for the success of the business.

It helps organization to reduce the number of employee absenteeism.

It gives greater motivation and flexibility to the employees.

**Work Measurement:**

“ Work Measurement is a method which shows how much time a job or part of the job needs to take to complete their tasks”. There are different techniques use to measure individual works.

**Method Study:**

Method study is based on the principle that improvement should always stem from existing practice. The proposed working methods are usually feasible. To ensure feasibility a five stage methodology is used:

Select: The area of activity to be studied is selected.

Record: The activity is recorded in detail to keep a sample of task performance.

Examine: the record is carefully analyzed, usually through some form of chart. The objective is to seek out areas of improvement. Improved procedures are developed out of analysis. These are then tested.

Install: Revised procedures are installed. Manuals are written, staff is trained, new plant is obtained and installed and workplace layout is revised.

Maintain: Problems can arise from changes. A presence is required to ensure that problems are dealt with promptly.

## **P-10: Analyze the market of organization and select a capacity planning for the organization (nature of demand & supply, volume & variety, planning & controlling)**

### **Outcome 4**

#### **Demand & Supply**

The manager, prior to develop any plans for the food ordering, they observes the forecast of sales and expected upcoming events in the calendar.

According to the Manager, they are placing order twice a month (15th & 31st of every month). The unexpected orders can cause more demand of the product where as the availability of the ready to use product may be limited according to the expected demand for the shift. Therefore the variance in expected demand and actual demand can cause the shortage of the products and ultimately this can play around the one of the possible factors of the unhappy customer and can cause the variance in the productivity of the unit as over all.

The demand can also increase because of the good weather, special occasions like sports, rituals, festivals, and purchasing power. According to the Manager of the unit, the demand for the food is high in the start of the month but that usually slow down in the end of the month due to the less availability of the funds with customers.

#### **Planning & Controlling**

The operations at Pizza hut can not be highlighted for any of the single functional unit. Rather it is the collection of several set of the activities that take place with in the unit and make things possible by turning customer expectations into the reality.

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The success or the failure of the product depends on the performance of several functional units. Those functional units operate separately but connected with each other through the job activities. The preparations is the process of getting things ready, that will help to carry the out the operations in store. This involves activities like defrosting of dough, starters and cheese. So that can be used for the next day operations.

If preparations for the following day operations is not up to the mark then that will cause difficulty or shortages of items that are necessary for the conversion process. The preparation is done on the basis of the next business day forecast. If the forecasted goods will not be made ready for the next day operations that will be virtually difficult for the next day shift manager to carry out the business operations.

### **P-11: Identify different approaches of quality control used by company.**

Quality Control is a method of regular technical activities to measure as well as control the quality of the inventory as it is being developed so the Quality Control method is designed toward:

Provide regular moreover consistent checks to guarantee data integrity, correctness along with fullness

Identify and concentrate on errors as well as omissions

Document and files inventory material and record all Quality Control activities.



In order to maintain the product quality up to the standard, that is very important to follow the set rules for the product shelf life. Different ingredients used in the pizza making process, carry different shelf life.

The taste and the quality highly determine on the freshness of the ingredients, and the resultant the happiness of the customers. According to the Manager of Pizza hut, ' If, there is variance observed in the product quality that will overall affect productivity and finally the customer satisfaction level so this is not acceptable at all'. He added, ' if company is spending a huge amount of money on the product promotions and marketing activities that is for the business. And also company provides the training to the employee to how to maintain the product quality. So every single person should have to ensure the quality of the product and happy customer makes more return in the future'.

### **Total Quality Management (TQM)**

This is the key factor for a food chain like Pizza Hut. All the employees are at the back of the house i. e. the kitchen assistants are trained for that reason. They are given extra lessons to meet the quality standards set by Pizza Hut around the world. This strategy is essential in order to satisfy the CHAMPS (Cleanliness, Hospitality, Accuracy, Maintenance, Product, and Speed). This strategy is severely implemented in Pizza Hut in order to execute the quality standards. Different quality management team is also there at Pizza Hut. The shift managers have the charge to monitor whether the quality standards are met or not while there are a total quality management department at the main office in Karachi. This department has the duty to implement quality standards and also to know whether they are achieved or not.

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Moreover there are personnel by name of CR Specialist (fully trained employee for quality control), they are visiting Pizza Hut Peshawar once in a month, they just come inside the outlet just like a customer, and first of all he/she observes everything like from entering into Pizza Hut until the end when he ends up with Pizza. If he/she finds any drawback in any of activity then he/she will complain to the Head Office.

## **P-12: Discuss various method of inventory planning. (Generally)**

### **Inventory**

Inventory in general refers to the materials in reserve. It is also called the idle resource of a firm. Inventories characterize those items which are either stocked for sale or else they are in the process of manufacturing otherwise they are in the form of materials which are nevertheless to be utilized. The intermission between receiving the purchased parts furthermore transforming them into final products vary from industry to industry depending upon the cycle time of manufacturer. Therefore it is necessary to hold inventories of different kinds to act as a buffer between supply and demand for competent operation of the organization. Hence a valuable control on inventory is a necessity for smooth and efficient operation of the production cycle with slightest interruptions.

### **Inventory Control**

Inventory control is a designed approach of determining what to order, when to order, how much to order and also how much to stock consequently that costs associated with buying and storing are finest without interrupting

production and sales well inventory control basically deals with two problems:

When an order should be placed? (Order level)

How much should be ordered? (Order quantity)

These questions are answered by the employ of inventory models. The systematic inventory control method strikes the sense of balance between the loss due to non-availability of an item plus cost of carrying the stock of an item. Systematic inventory control aims at maintaining best possible level of stock of goods required by the business at minimum cost to the business.

## **Objectives of Inventory Control**

To make sure adequate supply of products to customer moreover avoids shortages as far as achievable.

To ensure that the financial investment in inventories is smallest amount (i.e. to see that the working capital is fruitless to the minimum possible degree).

Well-organized purchasing, storing, utilization and accounting for materials are an important goal.

To keep timely record of inventories of all the items plus to maintain the stock within the preferred limits.

To make sure timely action for refill.

To make available a reserve stock for variations in direct times of delivery of materials.

To present a scientific base for both short-term as well as long-term planning of materials.

## **Inventory Control Methods**

**ABC analysis:** In this study the categorization of existing inventory is based on annual consumption moreover the annual value of the items. Thus we get the quantity of inventory item consumed throughout the year and multiply it by unit cost to get annual usage charge. The items are then set in the descending order of such annual usage cost. The study is carried out by drawing a graph based on the cumulative number of items and cumulative usage of consumption cost

**HML analysis:** In this study the categorization of existing inventory is based on unit price of the items. They are classified as high and medium price respectively and low cost items.

**VED analysis:** In this study the categorization of existing inventory is based on criticality of the items. They are classified as vital, essential and desirable items as a result it is mainly used in spare parts inventory.

**FSN analysis:** In this study the categorization of existing inventory is based consumption of the items. They are classified as fast moving, slow moving and non-moving items.

SDE analysis: In this study the categorization of existing inventory is based on the items.

GOLF analysis: In this study the categorization of existing inventory is based on sources of the items. They are classified as Government supply, normally available, local accessibility and foreign source of supply items.

SOS analysis: In this study the categorization of existing inventory is based on nature of supply of items. They are classified like seasonal and off-seasonal items.

For effective inventory control, combination of the techniques of ABC with VED or ABC with HML or VED with HML analysis is practically used.

**M-4: Explain the inventory planning of given organization (stock control method inventory control, cost & benefit inventory control, supply chain management).**

### **Stock Control Method Inventory Control**

The manager, prior to develop any plans for the food ordering, they observes the forecast of sales and expected upcoming events in the calendar.

According to the Manager, they are placing order twice a month (15th & 31st of every month) well they are using two different freezers for carrying out their raw material. According to the Manager, he stated that they are using two types of freezers one is cold freezer and another one is dry freezer and temperature for both of them set accordingly.

## Cost & Benefit Inventory Control

The cost of sales and the sales revenue are the actual things that support the managers to run the business on track. If the numbers seem going out of the track they need be highlighted and called as variance. The variance is the difference between the Actual cost and Theoretical Cost.

Head office set forecast and provide targets to the business stores. The targets are set with the help of previous year business performance and the expected events. That is called as theoretical cost. On the other hand the cost occurred in the business dates is the actual cost. So if there is any difference occurs that will be treating as variance.

The cost of sales of the store for the current period shows the variance of 36.38

The theoretical cost set by management was RS/-297407.7 and in percentage 22.46% whereas the actual cost for the period occurred was RS/302346 in percentage 22.83%. The results indicate the variance remained RS/4911.3.

The variance in costing is the actual indicator of the performance. Higher the variance depicts higher the concerns persist within the business unit. In present case in hand, the above depicted variance treated to be normal. The business operations can not work on the absolute set tracks because the forecasted things can not happen on the absolute behaviors as predicted.

## **Supply Chain drivers of Pizza Hut**

“ Supply chain management is the factor that differentiates the winners and the losers in this business,” drivers play an important role in terms of the responsiveness and efficiency. We must examine the cross-functional and logistical drivers of supply chain performance: transportation, sourcing and pizza and logistics.

### **Transportation**

To deliver the base from the commissioners to different outlets they use the refrigerated trucks in which the base is kept and there is a control of temperature which they set according to the distance between the commissionaire and the outlets. There are 70 trucks to supply the base across Pakistan. There is also a vacant space in which extra base is kept to fill the demand of a particular store. The company will not acquire any additional transportation costs so long as the counters are along the highway or the truck's way. In this way they use their transportation and maintain their efficiency.

### **Sourcing**

The Pepporine mozzarella cheese is imported from Australia and Spain respectively so it will take time and increased the cost also so they have to manage but on the other hand to compensate the increased cost they maintain the local supply chain to reduce the cost like vegetables, wheat, tomatoes are imported from Pakistan so they provide the world class facility and taste may importing its main ingredient from Spain and Australia but other ingredients from local vendors.

## **Pizza and logistics**

It is incorrect to conclude that successively a pizza chain is easy by looking its front-end operations compared to the complexities involved in organizing a supply chain the promise of pizza delivery within 30 minutes or else offering it free is a child's play for pizza chains. " Supply chain management is the factor that differentiates the winners and losers in this business".

The major imports for Pizza are cheese and olive oil. Pizza imported potatoes land at ports in Karachi or the Karachi airport. The consignment is then transported to other parts of the country while cheese is imported from New Zealand and chicken or bread is sourced locally.

The inputs sourced from different places are supplied to the commissaries in reefers/refrigerated trucks for process as well as production of base material. The pizza dough as well as other items prepared in commissaries is then sent to the retail outlets again in reefers. " Based on the distance between the retail outlets and the commissaries, the temperature inside the trucks is fixed so as to set the dough to a required level when it reaches the outlets. According to manager retail outlets have to exhaust the processed dough within three days of delivery. However, due to some reason if they fail to do so, the entire quantity is discarded. The existing commissaries and the reefers will be put to optimum use as Domino's Karachi is now opening counters in Pakistan State Oil Corporation's petrol bunks. The company will not acquire any additional transportation costs so long as the counters are the highway or the truck's way.

## **Responsiveness and Effic**

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