CHAPTER - 4
MANAGING DEMAND AND SUPPLY

Service capacity is a perishable commodity. It deals with matching service supply with customer demand on a daily basis in a dynamic environment. The natural variation in service demand creates periods of idle service at sometimes and periods of consumer waiting at other times. The lack of inventory capability leads to four possible scenarios at any given time.

(1) Excess Demand – Where the level of demand exceeds maximum capacity.

(2)Demand Exceeds Optimum Capacity – No one is being turned away but the quality of service may still suffer due to overuse, crowding, or staff being pushed beyond their abilities to deliver consistent quality.

(3)Demand and Supply are Balanced at the level of Optimum Capacity – Staff and facilities are occupied at an ideal level.

(4) Excess capacity – Where demand is below optimum capacity.

FORECASTING DEMAND

Forecasting Demand is a very imp. activity as the better the assessment, the better the quality of the planning. Good forecasts are an essential input to all types of productive systems because they form the basis for planning. There are many types of services; however that would be chaotic without forecasting of demand. A few situations that differ widely from manufacturing companies are described briefly below. They are:

- Fixed Capacity with Widely Fluctuating Demand
- Service Systems that Cannot Carry Inventories
- Sharing Capacity

UNDERSTANDING DEMAND PATTERNS

One can seek the ways to adjust service out put along the consideration of the demand curves commonly faced when matching capacity to demand over a period of time. There are some typical curves representing forecasts of demand, we may call them Demand vs. Time. They are:

(a) Stable, Constant Demand
(b) Stable, Cyclical Demand
(c) Increasing Demand: Linear & Accelerating
(d) Increasing Demand: Saturating
(e) Decreasing Demand: Linear and Decelerating
(f) Decreasing Demand: Vanishing

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(g) Logistical Demand
(h) Life – Cycle Demand

- **Charting Demand Patterns:** The organization needs to chart the level of demand over relevant time periods. Organizations that have good computerized customer information systems can do this very accurately, others my need to chart demand patterns more informally.
- **Predictable Cycles:** Factors caused for variation in demand can be of two types predictable and non-predictable. When predictable patterns exist, generally one or more causes can be identified.
- **Random Demand Fluctuation:** Random variations in demand are a fact of life for virtually every service – there is no apparent predictable cycle.
- **Demand Patterns by Market Segment:** If an organization has detailed records on customer transactions, it may be able to disaggregate demand by market segment.

MANAGING CAPACITY CONSTRAINTS

Labour, Time, Facilities, & Equipment are the four major constraints depending upon the type of service that service firms face in order to fully control the demand.

CAPACITY PLANNING

Capacity planning involves determining the resource capacity that a firm will need to meet its demand. In general terms, capacity is measured by the maximum output level in a period of time. Capacity planning is somewhat different for services than for manufacturing because of some factors e.g. most services are perishable and can't be inventoried, Demand for services is often difficult to predict and demand variations are typically more severe and frequent. There are two types of Capacity Planning:

(1) Long-term Capacity Planning: These decisions are generally strategic in nature, normally involving investments in buildings and equipment primarily, and to lesser extent in human resources.

(2) Short-term Capacity Planning: Decisions in this area relate to attempting to match supply of resources and demand with two broad options being to try and adjust resources to meet demand or to try to manage demand so that resources do not need to be adjusted.

STRATEGIES FOR MANAGING CAPACITY TO MATCH DEMAND

The amount of flexibility a firm should build into its capacity is a strategic decision, which is determined by the type of service offered, costs, labour

availability and other factors. A given firm's optimum level of flexibility to match, capacity to demand will fall somewhere between the two extremes named "Level – capacity" & "Chase demand". There are various strategies for matching supply and demand for services. They are: (1) Customer involvement (2) Cross training Employees (3) Using part-time employees (4) Stretch existing capacity (5) Sharing Capacity (6) Modify or move facilities and equipment (7) Schedule 'Down Time' during periods of low demand (8) Other methods to alter capacity.

STRATEGIES FOR MANAGING DEMAND TO MATCH CAPACITY

Excessive fluctuations in demand for service need not be accepted an inevitable. Service systems can smooth their demand by using both active and passive measure. There are some commonly used strategies to manage demand:
(1) Partitioning Demand (2) Vary the service offering (3) Developing complementary services (4) Promoting off peak demand (5) Pricing incentives (6) Communicate with customers (7) Modify timing of service delivery (8) Modify location of service delivery (9) Advertising and sales promotion.

STRATEGIES WHEN DEMAND AND CAPACITY CANNOT BE MATCHED

When it is not possible to manage capacity to match demand or vice versa, some of the strategies can be used to manage demand and capacity. They are: (1) Reservations (2) Waiting lines (3) Queuing situations (4) Triage (5) Delaying service delivery.

YIELD MANAGEMENT

Yield management is defined as 'the process of allocating the right type of capacity to the right kind of customer at the right price so as to maximize revenue or yield'. Using yield management models organizations find the best balance at a particular point in time among the prices charged, the segments sold to and the capacity used. Yield management is most appropriate for the service firms that exhibit the following characteristics. They are: (1) Relatively fixed capacity (2) Ability to segment markets (3) Perishable inventory (4) Product sold in advance (4) Product sold in advance (5) Fluctuating demand (6) Low marginal sales costs and high marginal capacity change costs.

SUMMARY

Thus, this chapter provides deep insight of how to match service supply with customer demand. The strategies described in the chapter helps the organizations focused on delivering quality service, there is natural drive to

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balance capacity utilization and demand at an optimum level in order to meet customer expectations. Further more, the chapter provides an understanding of the underlying issues of managing supply and demand in capacity constrained services by exploring the lack of inventory capability, the nature of service constraints for e.g. time, labour equipment, facilities and the causes of fluctuating demand.

Shifting demand to match capacity & Managing capacity to meet demand are the two main strategies. The chapter also describes the strategies when demand and capacity can not be matched. Managing capacity to meet demand consists of two extremes named "Level – capacity" & "Chase demand" somewhere between these two extremes a given firm's optimum level of flexibility to match, capacity to demand will fall. Yield management is a sophisticated form of supply and demand management and balances capacity utilization, pricing market segmentation and financial return.

To cut a long story short, using this strategies the manager may match the supply and demand, if not fully but effectively.

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