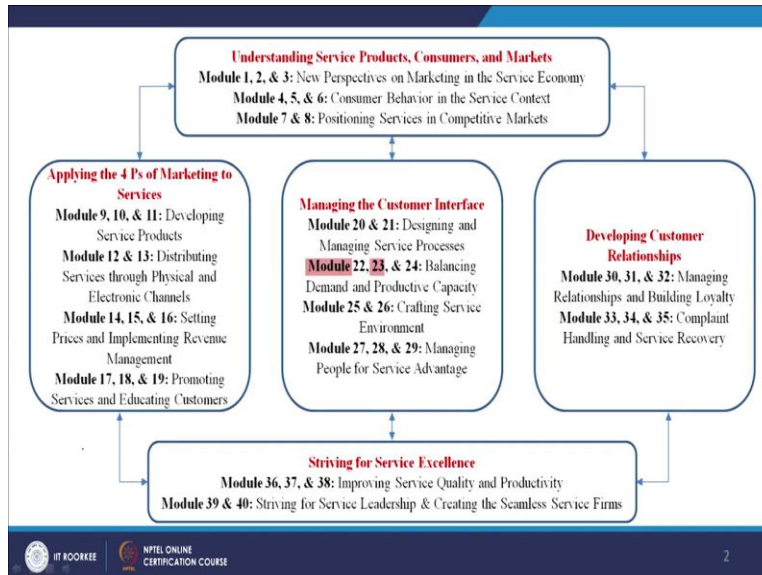


Services Marketing: Integrating People, Technology, Strategy
Professor Zillur Rahman
Department of Management Studies
Indian Institute of Technology Roorkee
Lecture 23
Balancing Demand and Productive Capacity
Part II

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Welcome to this course on services marketing and now we will talk about module 23. So, as you know that we are talking about the third section of this course that is managing the customer interface and we are talking about balancing demand and productive capacity and that is covered in 3 modules module 22 23 and 24, we have talked about module 22, now we will continue the same discussion in module 23 as well. Let us look at what are the things that we will talk about today.

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MODULE OVERVIEW

1. Different demand supply situations
2. Productive capacity in a service context
3. Managing capacity
4. Demand patterns
5. Managing demand

Covered in module 22

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So, we have talked about in the earlier module about the different demand and supply situations, productive capacity in the context of services, then managing capacity and demand patterns. In the module 23 and 24 will talk about managing demand.

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MODULE OVERVIEW

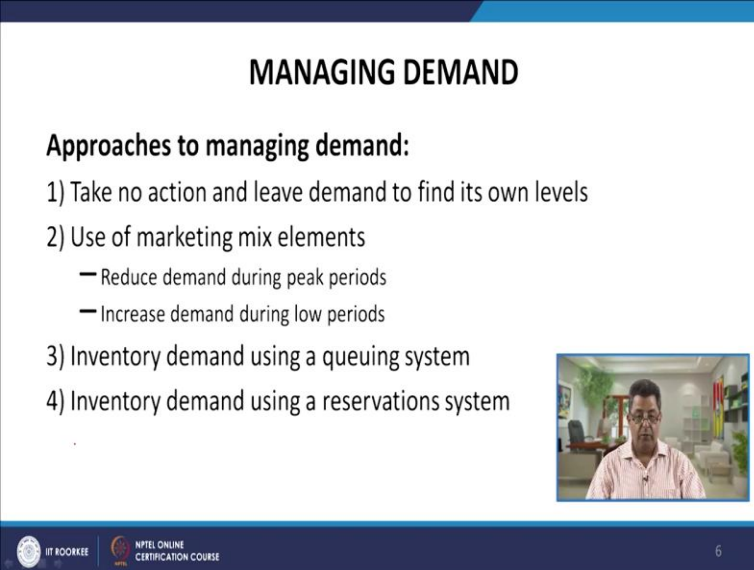
1. Be familiar with basic ways of managing demand.
2. Understand how to use marketing mix elements of price, product, place and promotion to smoothen out fluctuations in demand.
3. Know how to use waiting lines and queuing systems to inventory demand.

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So, let us look at what are the various things that we will cover in module 23, so first we will try to familiarize with basic ways of managing demand, then we will understand how to use marketing mix elements. So, as you would know that the marketing mix elements are the price, product, place and promotion. So, how do we use that to smoothen out fluctuations in demand.

The third thing is, know how to use waiting lines and queuing systems to inventory demand. So, the basic problem that we have been discussing in services that demand fluctuates and it is difficult to invent a demand, but now we will try to understand that how we can use waiting lines and queuing system to inventory demand.

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MANAGING DEMAND

Approaches to managing demand:

- 1) Take no action and leave demand to find its own levels
- 2) Use of marketing mix elements
 - Reduce demand during peak periods
 - Increase demand during low periods
- 3) Inventory demand using a queuing system
- 4) Inventory demand using a reservations system

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Let us, start with managing of the demand. Now, there are various approaches to managing this demand, the first is that you take no action and leave demand to find its own levels. So, you are not doing anything and let the demand increase and decrease and let the thing happen, but you also understand that there are problems in that approach because when the demand is low you are wasting resources, when the demand is high and you are not able to capitalize on that you are wasting the business.


The second is the second approach to managing demand is to use of marketing mix elements, so we can reduce demand during peak periods, by the use of marketing mix elements and we can also increase demand during low periods, again by using the marketing mix elements and we will talk about these 2 things in greater detail later on. The third thing is do inventory demand using a queuing system. And then we also invented demand using a reservation system. So, first thing is that you do not do anything, the second is then you use marketing elements to increase and decrease demand as the situation maybe, the third is to invent a demand using queuing system. And the fourth is to invent a demand using a reservation system.



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MANAGING DEMAND

1) Take no action and leave demand to find its own levels
Customers learn from experience or word- of-mouth when they can expect to stand in line to use the service and when it will be available without delay.

2) Use of marketing mix elements
Marketing mix variables have roles to play in stimulating demand during periods of excess capacity and in decreasing of shifting demand during periods of insufficient capacity.



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Now, let us start with the first one, take no action and leave demand to find its own levels. So, customers learn from experience or word of mouth, when they can expect to stand in line to use the service and when it will be available without delay. So, customers they learn and they also get to know from word of mouth that when it will be overcrowded and when it will be under crowded, so were, so they decide when to go. The second approach is to, is the use of marketing mix element to smoothen out demand. So, marketing mix variables have roles to play in a stimulating demand during periods of excess capacity and in decreasing of, shifting demand during periods of insufficient capacity.

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MANAGING DEMAND

Price often is the first variable to be proposed for bringing demand and supply into balance.

But changes in product, distribution strategy, and communication efforts can also play an important role.

a) Use of price and nonmonetary costs:

Pricing is one of the most direct ways of balancing demand and supply.



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Price often is the first variable to be proposed for bringing demand and supply into balance. So, one P that is price is important in increasing and decreasing the demand, obviously when the demand (increase), when it is demand is supposed to increase you increase the price. So, the demand will come down during the periods of weak demand you reduce the price and the demand will go up to a certain extent. But changes in product, distribution strategy and communication efforts, they also have an important role to smoothen out demand, smoothen out demand is to reduce demand during the peak periods and to increase demand during weak periods. So, the first approach here is, use of price and non-monetary cost, so pricing is one of the most direct ways of balancing the demand and supply as I have just talked about.


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MANAGING DEMAND

The lure of cheaper prices and an expectation of no waiting may encourage at least some people to change the timing of their behavior, whether it is for shopping, travel, or sending in equipment for repair.

But, managers must understand, how quantity of service demanded responds to increase or decrease in the price per unit at a particular point in time.

Moreover, separate demand curves exist for different segments within each time period as this graph shows.

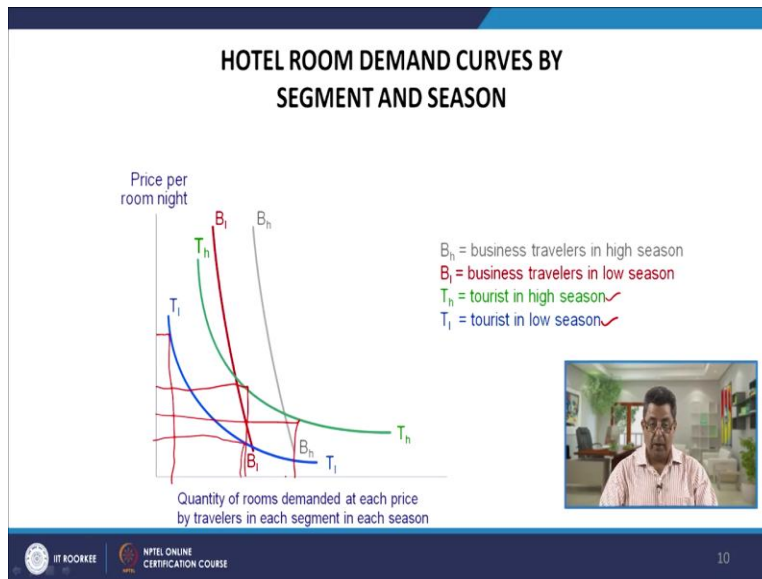


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The lure of cheap price and an expectation of no waiting may encourage at least some people maybe not all of them, but some of them to change the timing of their behaviour, whether it is for shopping, travel and spending in equipment for repairs. So, for example, we people may go on travel or for do leisure travel during off-peak periods, so that reduces the demand. For but managers must understand how quantity of service demanded responds to increase or decrease in price per unit at a particular point in time.

So, when you increase the price during peak period, then will the demand reduce and how much it will reduce? If you reduce the price during weak period, weak demand periods, then will the demand increase and how much? So, that is important to understand, for managers to understand. Moreover, separate demand curve exist for different segments within each time period as we will talk about in the next slide, so you see that the demand curves will be different for different segments within each time period.

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So, now look at this, this is a graph for hotel room demand curves by segments and season. So, we have used to variable segments and season, on the X axis we have the quantity of rooms demanded at each price by travellers in each segment in each season and on the Y-axis, we have price per room night. So, let us start with T1 that is tourist in low season. So, this blue it represents this demand supply curve. So, the quantity demanded, so now this is what, so when the prices are reduced this may be the quantity demanded. But as you see that the price increases, at this point, so the quantity demanded it comes down. The next is let us talk about Th that is tourist in high season, so this tourist in high season is represented by the green curve.


Again you see that, in high season if the price is here the quantity demanded is this and obviously when the prices are reduced the quantity demanded, here demand is change. But you see that that the rate of change in all these graphs is different. Now, let us move on to the third graph that is B1, business travellers in low season that is represented in in red. Now, you see that it is approximately a similar line that is the price increase or decrease it is not increasing or decreasing the quantity of room demanded. Similarly, look at the fourth graph that is in grey that is Bh that is business travellers in high season. So, again in high season still it is plain simple straight line that it means that the price of the room does not have a significant influence on the demand of the room.

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MANAGING DEMAND

Nonmonetary costs, too, may have a similar effect.

For instance, if customers learn they are likely to face increased time and effort during peak periods, those who dislike spending time waiting in crowded and unpleasant conditions will try to come during less busy times.



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Now, let us look at what is the role of nonmonetary cost. So, nonmonetary cost too, may have a similar effect, so there we earlier we were talking about the monetary cost, now we are talking about the nonmonetary cost. For instance, if customers learn that they are likely to face increased time and efforts during peak periods, so they will have to wait a long period of time, there is no parking space and so on so forth. So, those who dislike a spending time waiting in crowded and unpleasant conditions will try to be to come during less busy times. So, but then another way of for the same is and for and also to make company on more money is that you increase the price during this period, so the people who are coming here they will pay more.

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MANAGING DEMAND

b) Change product elements:
Another way to manage demand is through product variations.
Some restaurants provide a good example of this, marking the passage of the hours with

- Changing menus and levels of service
- Variations in lighting and décor
- Opening and closing of bar and
- Presence or absence of entertainment



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The second way of smoothing out this demand is to change the product elements. Another way to manage demand is through product variations, some restaurant provides a good example of this, marking the passage of hours with changing menu and level of service, variation in lighting and decor, opening and closing of bar and presence or absence of entertainment.

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MANAGING DEMAND

The goal is to appeal to different needs within the same group of customers, to reach out to different customer segments, or to do both, according to the time of day.

c) Modify place and time of delivery: Here the following basic options are available

- C** *No change:* Regardless of the level of demand, the service continues to be offered in the same location at the same time.
- C2** *Varying the times when the service is available:*
Cafes and restaurants may stay open late during summers.
Shops may extend their hours in the lead-up to festivals.



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The goal is to appeal to different needs within the same group of customers to reach out to different customer segments, or to do both according to the time of the day. The third thing that can be done is to modify place and time of delivery. So, there are the following basic options that

are available. The first is that is C1, no change, regardless of the level of demand the service continues to be offered in the same location at the same time.


So, you do not take any action and irrespective of the type of the level of demand the same services, service is offered at the same location and at the same time. Another is that is C2, varying the times when the service is available, so cafes and restaurant may open late during summers, shops may extend their hours in the lead-up to festival. So, you will find that on Diwali's or Diwali and Dusshera the shops are open for a longer period of time. And similarly during summers and during vacations the cafes and restaurants may be open for more amount of time.

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MANAGING DEMAND

C3 *Offering the service to customers at a new location:*
Operate mobile units that take the service to customers, rather than requiring them to visit fixed-site service locations.
Examples include **traveling libraries, mobile car wash services, home-delivered meals.**
Opening branch offices in new locations.

d) Promotion and Education
Even if the other variables of the marketing mix remain unchanged, communication efforts alone may be able to smooth demand.



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C3 is offering the service to customers at a new location. So, operate mobile units that take the service to customers rather than requiring them to visit fixed site service location. So, now there are mobile units and they units they move around the city and they go to the customers rather than coming, customers coming to the service location because that will choke the service location, there will be huge crowd. So, for example, traveling libraries, mobile car wash and home-delivered meals and opening branch offices in new location. The next thing that can be done is promotion and education, even if other variables of the marketing mix remains unchanged, communication efforts alone may be able to smooth out the demand. So, just by

communicating about the crowding etcetera to the customers that can smoothen out demand to a certain extent.

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MANAGING DEMAND

Signage, advertising, publicity, and sales messages can be used to educate customers about the timing of peak periods and encourage them to avail themselves of the service at off-peak times when there will be fewer delays.

For example US Postal Service requests to “ Mail Early for Christmas”

Moreover, changes in pricing, product characteristics, and distribution must be communicated clearly.



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Signage, advertising, publicity and sales messages can be used to educate customers about the timing of peak period and encourage them to avail themselves of the service at off peak times when there will be fewer delays. So, what companies can do is to tell the customers that they if they come between 8 to 10 for dinner then obviously there will be delays then they will have to wait, while if they come before 8 or between 7 to 8, then delays will come down.

So, for example, US postal service request to mail early for Christmas, so these US postal services, they request customers to mail early for Christmas, because as you move or as we move towards Christmas the load increases, so the because the increase in load the delivery time also increases, so maybe you are sending a gift to someone to be delivered before Christmas and it is delivered after Christmas. So, that loses the importance of the gift that you have sent. So, moreover changes in pricing, product characteristics and distribution may be communicated clearly to the customer.

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ALTERNATE DEMAND MANAGEMENT STRATEGIES FOR DIFFERENT CAPACITY SITUATIONS		
Capacity Situation		
Approaches in Managing Demand	Insufficient Capacity (Excess Demand)	Insufficient Demand (Excess Capacity)
Take no action	<ul style="list-style-type: none"> Results in unorganized queuing (may irritate customers and discourage future use) 	<ul style="list-style-type: none"> Capacity is wasted (customers may have a disappointing experience for services such as theater)
Manage demand through marketing mix elements	<p>Reduce demand in peak periods:</p> <ul style="list-style-type: none"> Higher prices will increase profits. 1 Change product elements (e.g., don't offer time-consuming services during peak times). 2 Modify time and place of delivery (e.g., extend opening hours). 3 Communication can encourage use in other time slots. (Can this effort be focused on less profitable and less desirable segments?) 4 Note that demand from highly profitable segments should still be stimulated, and priority to capacity should be given to those segments. Demand reduction and shifting should primarily be focused on lower yield segments 5 	<p>Increase demand in low periods:</p> <ul style="list-style-type: none"> Lower prices selectively (try to avoid cannibalizing existing business; ensure that all relevant costs are covered). Change product elements (find alternative value propositions for service during low seasons). Use communications and variation in products and distribution (but recognize extra costs, if any, and make sure that appropriate trade-offs are made between profitability and use levels).

Now, let us look at the alternative demand management strategies for different capacity situation. So, this is the table that shows on the left hand side we have approaches in managing demand and there are 2 approaches here. And then the first is to take no action and the second is to manage demand through marketing mix element. Now, as we move towards the capacity situation, so there can be 2 options, insufficient capacity, that is excess demand and there can be insufficient demand that is excess capacity.

So, when there is excess capacity that is insufficient capacity, so when there is excess demand that is insufficient capacity and then and if we are taking no action then what happens? So, it results in unorganized queuing and it irritate customers and discourage future uses. When we are talking of excess demand that is insufficient capacity and when we want to manage demand through marketing mix elements, then what happens?

So, it reduces demand in the peak period, higher prices will increase the profit, so that is one, change product elements, do not offer time consuming services during peak times, so that is the second thing. The third thing is modified time and place of delivery that is extended opening hours. The fourth one is communication can encourage use in other time slots and can they suffer be focused on less profitable and less desirable segments, that is the fourth one.

And the last one is the note that demand from highly profitable segments should still be stimulated and priority to capacity should be given to those segments, demand reduction and

shifting should primarily be focused on lower yield segment, so this is the fifth one and this is an important part, that the demand reduction and shifting from peak to non-peak should be focused on lower yield segments and for higher yield segment means that those customers who are more profitable, so their demand should not be shifted.

Now, let us move on to the next situation, when it there is insufficient demand, that is you have more capacity excess capacity. So, when we have excess capacity and the option is, that you take no action then what happens, the capacity is wasted, customers may have a disappointing experience for services such as a theatre, so you have a 100 or a 1000 seating capacity in a theatre and only a 100 or 200 people or 500 people are seating, so that gives a bad impression to the customers that the theatre is empty.

Now, the second option here is, when you manage demand through marketing mix elements then what happens? So, increased demand in low periods, low prices selectively, lower prices selectively, try to avoid cannibalizing existing businesses, ensure that all relevant costs are covered, so that is the first option. The second option is changed product elements, find alternative value propositions for services during low season. And the third is use communications and variations in product and distribution, but keep in mind the extra cost, if any and make sure that appropriate trade-offs are made more profitably and used levels.


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INVENTORY DEMAND THROUGH WAITING LINES AND QUEUING SYSTEMS

3) Inventory demand using a queuing system

This can be achieved in two ways:

1. By asking customers to wait in line, usually on a first-come first serve basis or by offering customers more advanced queuing systems and,
2. By offering customers the opportunity of reserving or booking a service capacity in advance.




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Now, we are talking about inventory demand through waiting lines in queuing system. So, what needs to be done? Let us, look at how to invent a demand using a queuing system. So, queuing are waiting lines, so this can be achieved in 2 ways, the first is by asking customers to wait in line, usually on a first-come first-serve basis or by offering customers more advanced queuing systems. So, the first option is that customers will come and they wait in a queue. The second is by offering customers the opportunity of reserving or booking a seating capacity in advance. So, one thing is that you go to a theatre and stand there in line and buy a ticket, another is that you book online and then you go and go to the theatre.

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WAITING IS A UNIVERSAL PHENOMENON!

- An average person may spend up to 30 minutes/day waiting in line—equivalent to over one week per year!
- Nobody likes to wait
- It's boring, time-wasting, and sometimes physically uncomfortable.
- Physical and inanimate objects wait for processing, too.
- Customers' emails sit in customer service staff's inboxes, appliances wait to be repaired, and checks wait to be cleared at a bank.




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Now, this waiting is a universal phenomenon, it happens everywhere across the world. So an average person may spend up to 30 minutes a day waiting in line equivalent to over one week per year. So, you now you see that one week is going waste just because we have to wait and nobody likes to wait, it is boring, time-wasting and sometimes physically uncomfortable that you are standing their physical and in animate objects wait for processing too. So, your cars may be in line for a carwash and your clothes may be in line for dry cleaning. So, customer's emails sit in customer service staffs inboxes. So, when we send emails they may be there in the inboxes and the person are not, is not reading it. Appliances wait to be repaired and cheques wait to be cleared at the bank. So, this happens across the world, across the world whether for human or for objects.

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WAITING IS A UNIVERSAL PHENOMENON!

- In each of the above instance, a customer may be waiting for the outcome of that work- an answer to an email, an appliance that is working again, and a check credited to a customers' balance.




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So, in each of the above instance a customer may be waiting for the outcome of what works and answer to an email, an appliance that is working again and a check credited to the customer's balance.

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WHY DO WAITING LINES OCCUR?

- The number of arrivals at a facility exceeds capacity of system to process them at a specific point in the process
- Queues are basically a symptom of unresolved capacity management problems
- Not all queues take form of a physical waiting line in a single location
 - Queues may be physical but geographically dispersed
Example: Travelers wait at many different locations for the taxis they have ordered by phone to arrive and pick them up.
 - Some are virtual (e.g., phone)



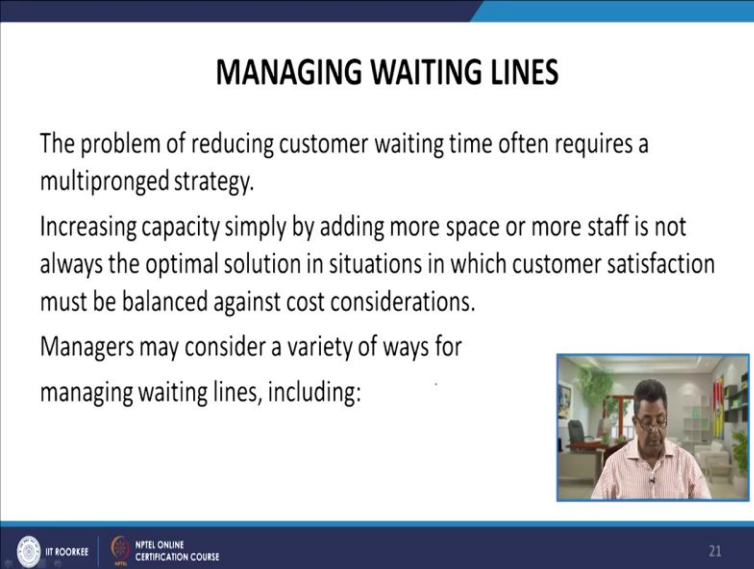
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But the question is, why do waiting lines occur? A number of arrivals at a facility exceeds capacity of systems to process them at a specific point in the process. So, when the demand is more than the capacity then obviously the waiting line, the waiting happens. Queues are basically

a symptom of unresolved capacity management problem, not all queues takes form of a physical waiting line in a single location. So, queues may be physical but geographically dispersed.

So, for example, across the country people are reserving a seat on a train through IRCTC. So, lots of people maybe wanting to go from Bombay to Delhi and they were reserving the seat from anywhere across the country. So, queues may be physical but geographically dispersed, for example travellers wait at many different locations, for the taxis, they have ordered by phone to arrive and pick them up. So, some virtual for example phone, so we keep on calling and then the call centers says, that the customer care executive is busy and therefore you have to wait.

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MANAGING WAITING LINES

The problem of reducing customer waiting time often requires a multipronged strategy.

Increasing capacity simply by adding more space or more staff is not always the optimal solution in situations in which customer satisfaction must be balanced against cost considerations.

Managers may consider a variety of ways for managing waiting lines, including:

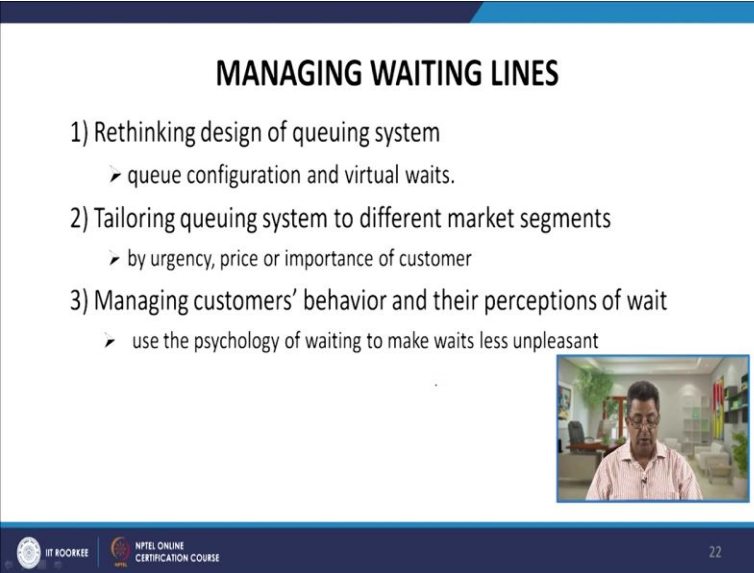


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So, how do we go about managing waiting lines? The problem of reducing customer waiting time often requires a multipronged strategy, so there is now one thing that needs to be done, increasing capacity simply by adding more space or more staff is not always the optimal solution. In situations in which customer satisfaction maybe balanced against cost consideration. So, as the because if you are adding more space and more stuff than the cost will go up. But then in those kind of situations, cost is very important for the customers and it will affect customer's satisfaction, so you cannot increase the space or the staff because that will reduce the customer satisfaction. So, what to do in those kind of situations?

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MANAGING WAITING LINES

- 1) Rethinking design of queuing system
 - queue configuration and virtual waits.
- 2) Tailoring queuing system to different market segments
 - by urgency, price or importance of customer
- 3) Managing customers' behavior and their perceptions of wait
 - use the psychology of waiting to make waits less unpleasant




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So, managers may consider a variety of ways for managing waiting lines including, first, rethinking design of queuing system. So, queuing configurations and virtual waits, instead of waiting there in the physical line. Tailoring queuing system to different market segments, tailoring queuing system to different market segments by urgency, price or important, importance of customer, so there is one line for a for a special kind of customers those who have paid more, for those patients who have come for an emergency, so they are paying more and then the another line that is of the normal customers. The third is managing customer's behaviour and their perception of wait. So, now we are what we are doing is to manage customer's behaviour and their perceptions of wait, use the psychology of waiting to make waits less unpleasant, so waiting and waits will always be unpleasant. But then now we will use psychology to make these waits less unpleasant.

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MANAGING WAITING LINES

- 4) Installing a reservations system
 - use reservations, booking, or appointments to distribute demand
- 5) Redesigning processes to shorten the time taken in each transaction
 - by installing self-service machines



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The fourth thing that can be done is installing a reservation system, so use reservations booking or appointment to distribute demand, so people can sit at their home and then they can make reservation and come near about the time when their reservation is scheduled. And the fifth is redesigning processes to shorten the time taken in each transaction by installing self-service machines. So, the job that is done by human is shifted to the self-service technology, so that the process get redesigned and the time taken to deliver a service is reduced, so that will obviously reduce the waiting time of in the queue.

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1. DIFFERENT QUEUE CONFIGURATIONS

There are a variety of different types of queues and the challenge for managers is to select the most appropriate procedure.

1) Single line, sequential stages: Customers proceed through several serving operations, as in a cafeteria.

Bottlenecks may occur at any stage where the process takes longer to execute than at previous stages.

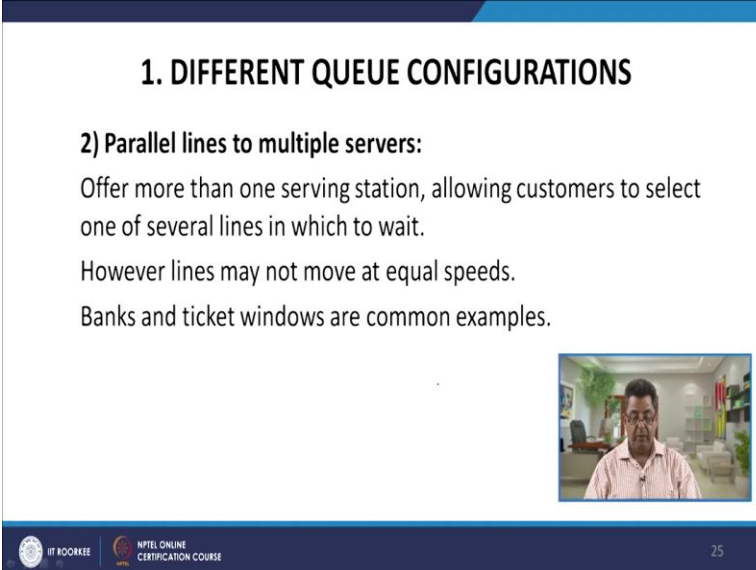
Many cafeterias have lines at the cash counter because the cashier takes longer than the servers to slap food on your table.



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Now, let us look at the different queuing configurations. So, there are a variety of different types of queues and the challenge for manager is to select the most appropriate procedures. So, there are various combinations, but it is for the managers to choose which is good enough for them. So, the first is single line, sequential stages, customers proceed through several serving options as in cafeteria. Bottlenecks may occur at any stage where the process takes longer to execute than at a previous stage. So, at one station the time taken to serve is lesser as compared to other subsequent station, so at that station the waiting line happens, so many cafeteria have lines at the cash counter, because the cashier takes longer than the servers to slap food on your table.

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1. DIFFERENT QUEUE CONFIGURATIONS

2) Parallel lines to multiple servers:
Offer more than one serving station, allowing customers to select one of several lines in which to wait.
However lines may not move at equal speeds.
Banks and ticket windows are common examples.



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The second is parallel lines to multiple servers, offer more than one serving station allowing customers to select one of the several lines in which to wait, however lines may not move at equal speeds, banks and ticket windows are common examples and similar things happened at the airports also during security checks, etcetera, so there are multiple lines, but then there are different speed of those lines.

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1. DIFFERENT QUEUE CONFIGURATIONS

3) A single line to multiple servers: Commonly called “Snake”
Solves the problem of the parallel lines to multiple servers moving at different speeds.
Used at post offices and airport check-ins

4) Designated lines:
Involves assigning different lines to specific category of customer.
Examples include express lines and regular lines at supermarket check-outs




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The third is a single line to multiple server, so commonly called snake, that is again what happens at the airport. So solve the problem of the parallel lines to multiple servers moving at different speed, so they are used as post offices, post offices and airport check ins. The fourth one is designated lines, involves assigning different lines to specific category of customers, examples include express lines and regular lines at supermarket checkouts.

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1. DIFFERENT QUEUE CONFIGURATIONS

5) Take a number:
Saves the customers the need to stand in a queue, because they know they will be called in a sequence.
This procedure allows them to sit and relax.
Users of this approach include large travel agents, government offices, and outpatient clinics in hospitals.

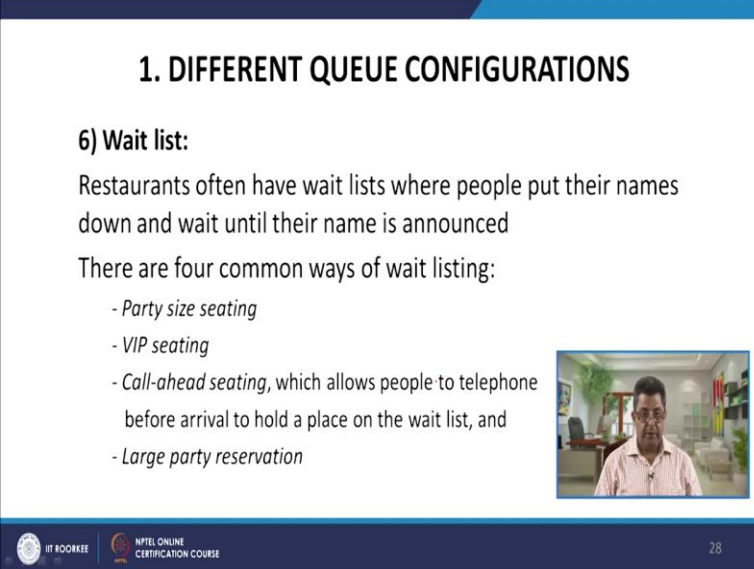


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And the fifth option is to take a number. It saves the customers the need to stand in a queue because they know they will be called in a sequence depending upon their number. So, this

procedure allows them to sit and relax. Users of this approach include large travel agents, government officers and outpatient clinics in hospitals.

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1. DIFFERENT QUEUE CONFIGURATIONS


6) Wait list:

Restaurants often have wait lists where people put their names down and wait until their name is announced

There are four common ways of wait listing:

- *Party size seating*
- *VIP seating*
- *Call-ahead seating*, which allows people to telephone before arrival to hold a place on the wait list, and
- *Large party reservation*

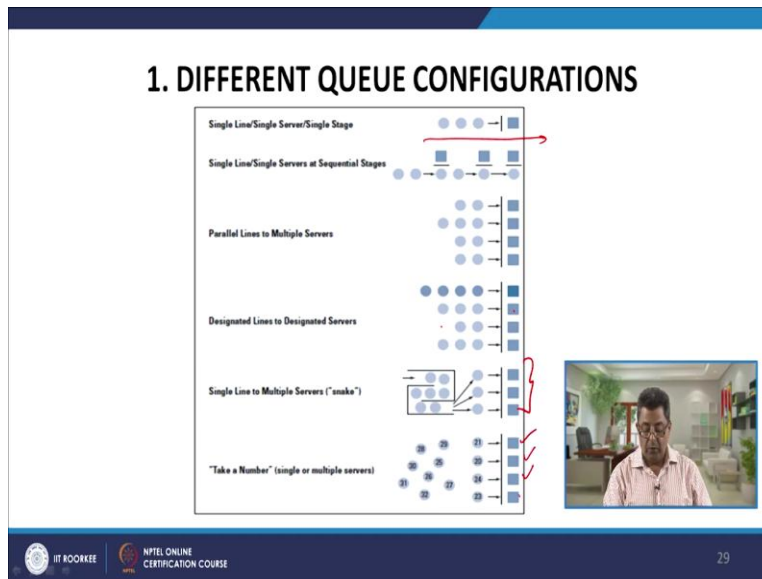




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And the sixth is the wait list, restaurant often have wait list where people put their name down and wait until their name is announced. So, there is a there is a page and people come and put down their names and then the restaurant announces the name and people come in and so therefore you know that how much time it will take for you to be called. So, there are 4 common ways of wait listing. The first is party size seating, VIP seating, call ahead seating which allows people to telephone before arrival to hold a place on the wait list and large party reservations.

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Now, let us look at the different queuing configuration. In the first is a single line, a single server and a single stage, so you see that they are moving in this direction. In the second is there is a single line and the single server at sequential stage, so a person comes here he gets something and then he moves on to the next server and then to the next. Multiple lines to multiple servers. So, this is what generally happens at the airport, so you are taking a boarding pass, so there are multiple servers and there are different queues.

Then there are designated lines to designated servers, so there are 4 line, so a person is through with this and then he comes to this line when he is through with this he comes to this one and so on so forth. The fourth one is single line to multiple servers that is snake, so there are multiple lines as you have seen on the security counters and they keep on going to for security checks, in this. Take a number that is single or multiple server, so now you have you have numbers and then you can be called by various doctors in an OPD.

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1. DIFFERENT QUEUE CONFIGURATIONS

- **Virtual Waits**
 - Customers register their place in line on a terminal
 - Terminal estimates the time customer will reach front of virtual line for them to return and claim their place
 - Innovative way of taking the physical waiting out of the wait altogether.
 - E.g. Sushi Tei Restaurant has a self-service touch screen for diners to register; they will receive a call 5 minutes before their table is available



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Then there are virtual waits, customers register their place in a line on a terminal, terminal estimates the time customer will reach front of a virtual line for them to return and claim their place. Innovative ways of taking the physical waiting out of the wait all together, for example, Sushi Tei restaurant have a self-service touch screen for diners to register, they will receive a call 5 minutes before the table is available, so you go and register and then you put in there your mobile numbers, etcetera and they will call you when your turn comes.

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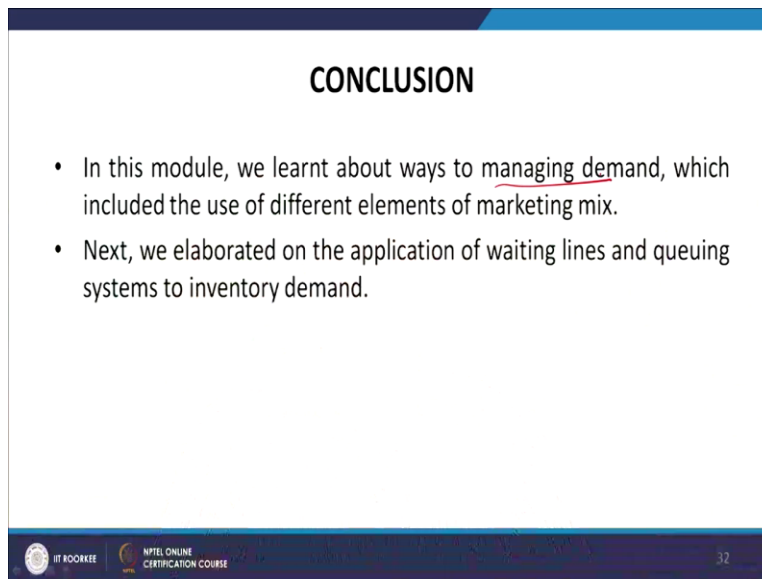
1. DIFFERENT QUEUE CONFIGURATIONS

- **Use of Virtual Waits in a call centre**
- The first-in, first-out queuing system is commonly used in call centres
- When callers call in, they hear a message that informs them of the estimated wait time for the call to be taken by the agent.
- The caller can
 - (1) wait in the queue and get connected to an agent, when his/her turn arrives, or
 - (2) choose to receive a call back, but his/her virtual place in the queue is maintained.
- Cruise ships, all inclusive resorts etc. can use this strategy if customers are willing to provide their cell numbers or remain within buzzing range of a firm-operated pager system.

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Use of virtual waits in a call centre. So, the first in first out queuing system is commonly called in call centres. So when callers call in, when their call is gets through they hear a message that informs them of the estimated wait time for the call to be taken by the agent, so they say that the agents are busy, so the callers can wait in the queue and get connected to an agent when his or her turn arrives or choose to receive a call back, but his her virtual place in the queue is maintained. Cruise ships, all inclusive resorts can use this strategy if customers are willing to provide their cell numbers or remain within buzzing area of a firm operator pager system. So that happens on the airport, restaurant also so you go there and they will give you a pager and when your turn comes the pager will ring and then you can go and pick up your order.

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CONCLUSION

- In this module, we learnt about ways to managing demand, which included the use of different elements of marketing mix.
- Next, we elaborated on the application of waiting lines and queuing systems to inventory demand.



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To conclude in this module, we learned about ways to managing demand, including how this marketing mix elements the product, price, place, and promotion can be used to smoothen out demand. Next, we elaborated on the application of waiting lines and queuing system to inventory demand. So, these are the 2 important things that we have talked about in this module.

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And these are the 3 books from which the material for this module was taken. Thank you.