Managing Services
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Lecture – 14
Service Uniqueness – 2

Hello, I am Jayanta Chatterjee from IIT Kanpur and we are discussing Managing Services and the Contemporary Issues. Yesterday, we were discussing about some unique challenges created in the service business domain due to the perishable nature of service and due to inseparable nature of service, both terminologies have been well explained in the previous sessions. So, this is the second part of that same unique challenge set 2 and we start with the factor of life.

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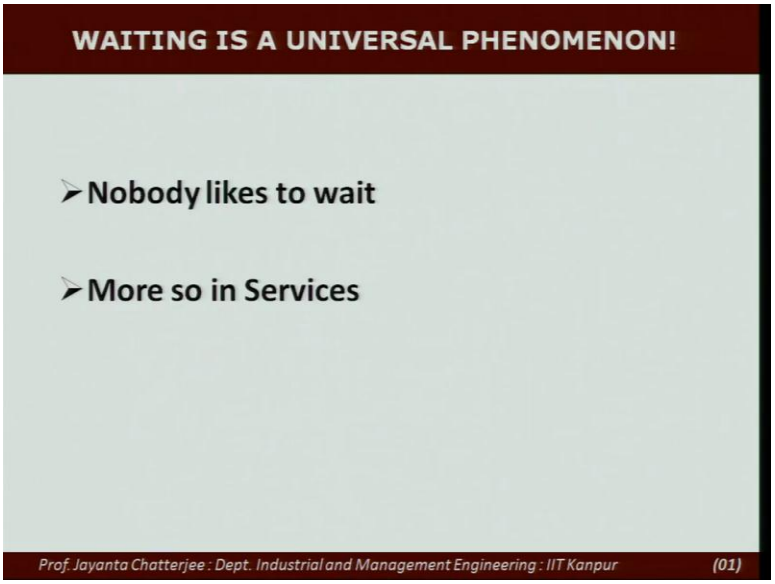

We were discussing about, how in service we can manage capacity and manage demand by creating buffers between the service provider and the service consumer by creating waiting lines, queues, appointments, reservations. Of these techniques that are deployed, nobody likes the waiting line and interestingly, while you might like to wait for buying the latest, your most favorite electronic gadget, be it a new type of watch or new type of mobile phone, you would not like in service to wait for too long for paying your electric bill or for getting in to the movie auditorium. So, it has been researched and found that in the service context people hate to wait.

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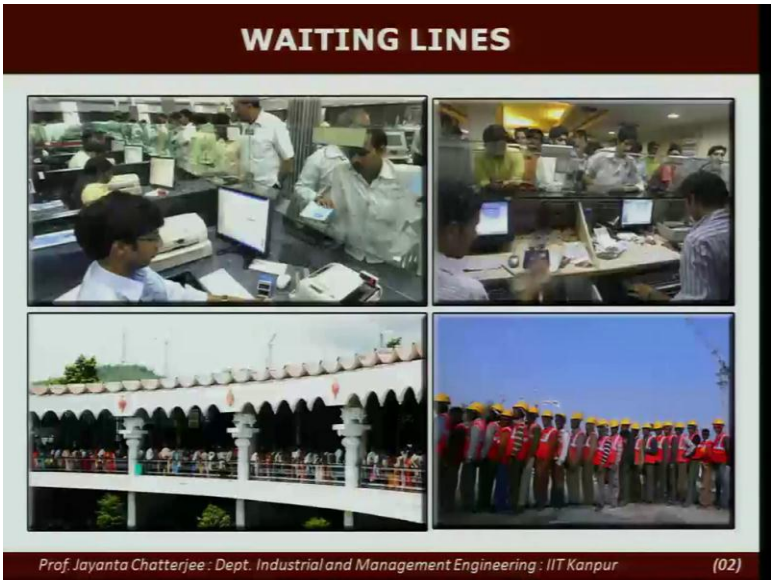

Now, here are some pictures of waiting lines, now we can see on top there are large number of people on the top right quadrant and there are far lesser number of people on the queue on the top left quadrant and these are some important techniques for few management. And then, there are queues shown on the lower right quadrant and a very unique way of queue management is shown on the lower left.

In fact, that is a picture of the famous queue complex, it is in fact called a queue complex at the Tirupati, the famous south Indian Tirupati temple, where millions of pilgrims congregate on certain days and on the whole throughout the year, they have huge flow of people. And this is an interesting service vocation of a particular type, where good queuing theory concepts have been deployed, good industrial engineering practices have been put in to manage the service at a higher level of pilgrim satisfaction, citizen satisfaction.

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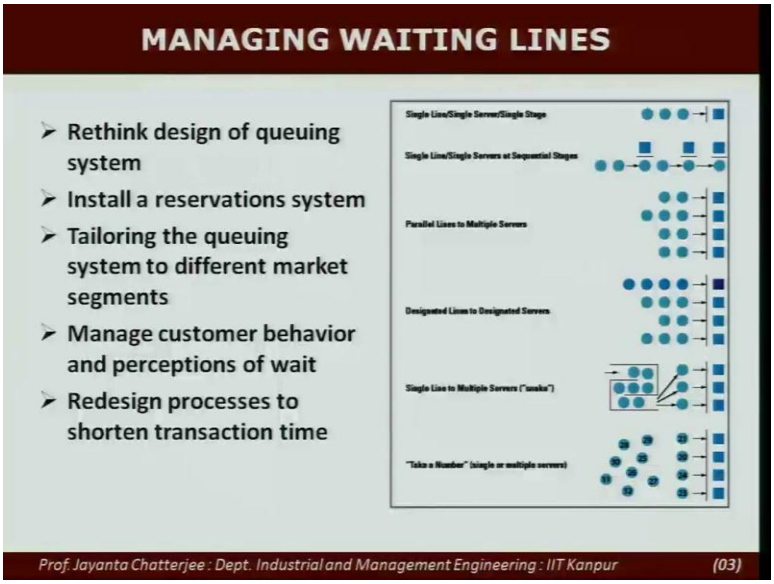

And this is what we are going to study in this particular diagram, which is now in front of you. So, as you can see here, the queue or the waiting line can be structured in different ways depending on the number of servers available. And you can easily see from these diagrams, that simple management techniques can create a much better service level. The first of course is that, if you can increase the number of servers…

So, as you can see in the third line, parallel lines to multiple servers the queue length can be significantly brought down. We will discuss perhaps the same queue management system later on when we come to the closing stage of this course, where we can mathematically show the significant reduction in queue length that can be achieved with simple addition of maybe one or two servers.

But, you will observe even pictorially or from your own experience ((Refer Time: 05:46)) that more the number of servers shorted will be the queue length. Even also actually manage the queue by creating here, for example take a number. You are familiar at banks or many other places, where there are fixed number of servers and there is only one person in front of the server. Because, the queue is buffered elsewhere of course, here the advantage is that a person is not locked in as he or she is in a waiting line.

Because, that person has a number and knows the number being served at this movement and therefore, can estimate that these are hot turn will come half an hour later and can utilizes the time to do something else. So, if the bank is located in a shopping complex, the person may go for some shopping activities and come back for his or her turn. And

again the line itself can be constructed, that it can be like when we do airline checking, that the input line is the same, but there are multiple servers. This has it is own challenges and it is own advantages and we will discuss it little bit more later on when we discuss the queue.

At this moment, we are basically looking at some consumer behavioral aspects in waiting line and how that needs to be manage, because right at this moment we are looking at in this week, the unique characteristics of services and the service consumers engagement to the service processes and their feeling and thoughts and perceptions and how those need to be manage for a better customer satisfaction level, better service delivery level.

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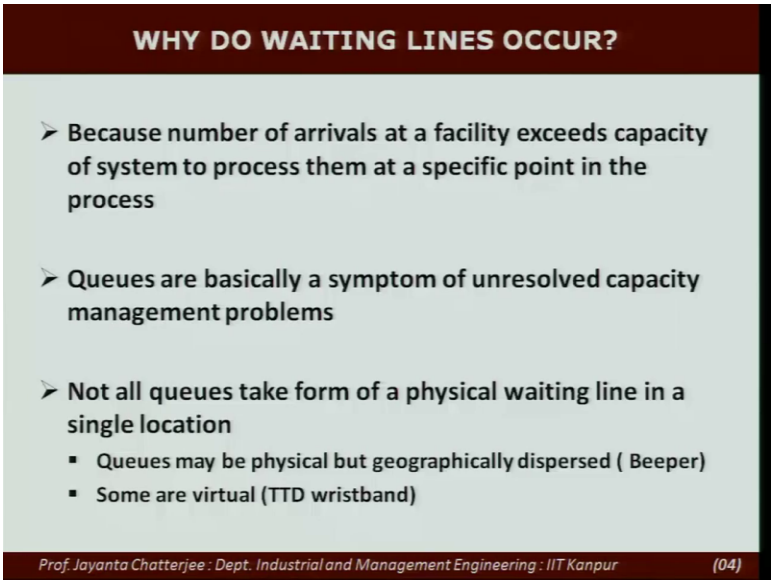

Now; obviously, service lines are… It is our symptoms, waiting lines or symptoms arising from the mismatch between the capacity, which is relatively fixed and variability of service demand. You have seen in the last lecture, how we can create some flexibility in the capacity, but that has limitation. There are some, to some extend it can be done; that is why we have to often manage variable capacity and demand management at the same time.

Before we move to the customer psychology in the queue or waiting line, consumer behavior in the waiting line, it is important to note that queues can be physical, but queues can also be geographical disposed and there is a or it can be dispersed in time and space and thereby actually a much higher level of satisfaction can be achieved. I will just

now showing you the famous queue complex of TTD and I will just come to it that what consumer psychology aspect it takes care off.

But, even the queue, before the queue enters the temple premises, the temple administration have done another genius thing, that as soon as the pilgrims arrive at the Tirupati station and even before the claimed again to go to the Tirumal temple complex. They are given a band with a particular bar code in print and an estimate, when they should arrive at the queue complex door and how long it will take them to offer their prayers to the deity.

So, you may arrive at day x, you will know that in x plus 1; that means, you are on Wednesday, you will know that Thursday morning 8 AM will be the time and you should be there. So, you have the whole of Thursday free and you have time free before the queue you are not unnecessarily waiting, you can do other things productive.

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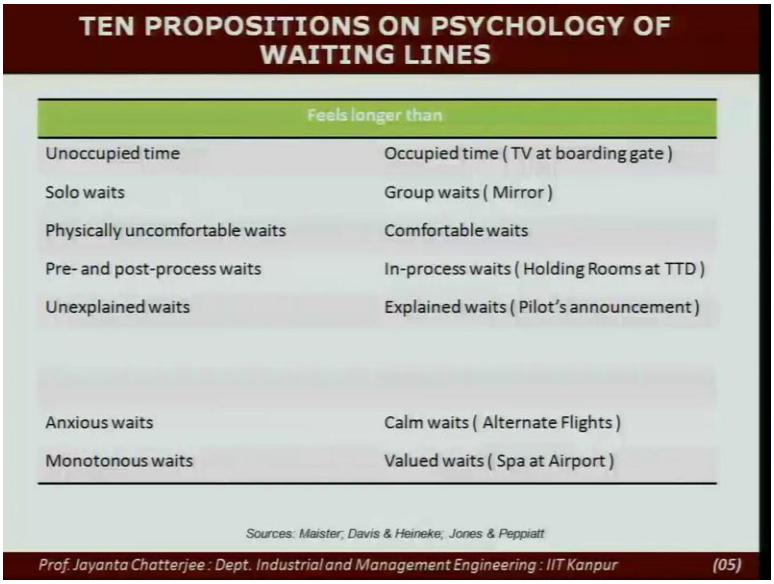

So, there are other tourist attractions created around Tirumala Tirupati Devasthanam. So, the queue is diverted to various other facilities and again brought back with this management of the waiting line estimation of how long it will take and so arrival of pilgrims and departure of pilgrims are matched. So, pilgrims know as soon as they arrive at the station that when they should go to the temple, they know how long it will approximately take them to go in to the inner sanctum.

And thereby higher level of satisfaction is created, because I am occupied time is boring and it feels longer. So, occupied time appears to be shorter; that is why there are

televisions showing regular programs at boarding gate of airports, where typically people have to wait for half an hour to one hour, some time the flights may be delayed, but the TV shows keep people engaged, so that occupied customers feel better.

Obviously, if you are in a group, you have your own discussions going on, so it is much better than a solo wait. It has been observe that, even if you just put a mirror, where people wait to in queue to get in to the elevator, people look in to the mirror and feel, you know adjust their dresses, etcetera, that keeps them occupied and that queue is better managed. Obviously, comfortable waits are better than uncomfortable waits and you can actually… This in process wait is better than outer process wait.

So, people even before they get to the Tirupati temple, they are in the queue complex. So, they feel they are in the process, there are different holding rooms in this picture as you see ((Refer Time: 13:21)). So, people are in the process, they are going around this queue complex, they feel there approaching the inner sanctum and different activities are going on in these holding rooms and people actually go from one room to the other room, there is a sense of movement, the line is moving, the different activities are taking place, people are happier.

Similarly, explained waits are better than unexplained waits. If people are anxious that the flight is getting delayed and the pilot makes some announcement or the pilot even before people express their anxiety, talks about alternate flights that people can take off or the airline arrangements that are being made to put the passengers from one flight to the other flight. This flow of information reduces anxiety or will people are waiting for long time between flights, the so called lay of time, lay over time, you can occupy through value added activities like a spa or a haircut saloon and so on. So, these are important understanding through various research, some of these sources are mentioned here and we get to know how to manage the waiting line.

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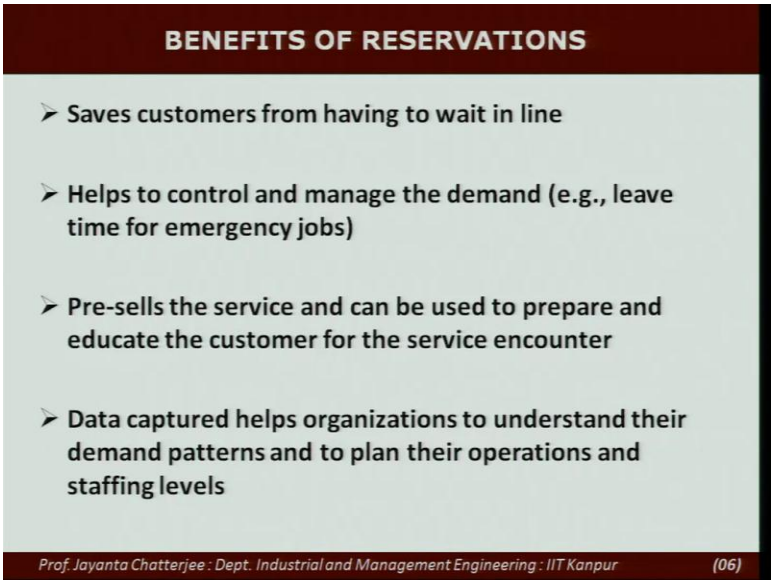

Similarly, there are reservations, reservation are again very necessary, somewhat challenging for the customers. But, at least it safe customers from waiting an unoccupied and it also help us to manage the demand and in some way the reservations system allows us to move peak demand to a lean demand period.

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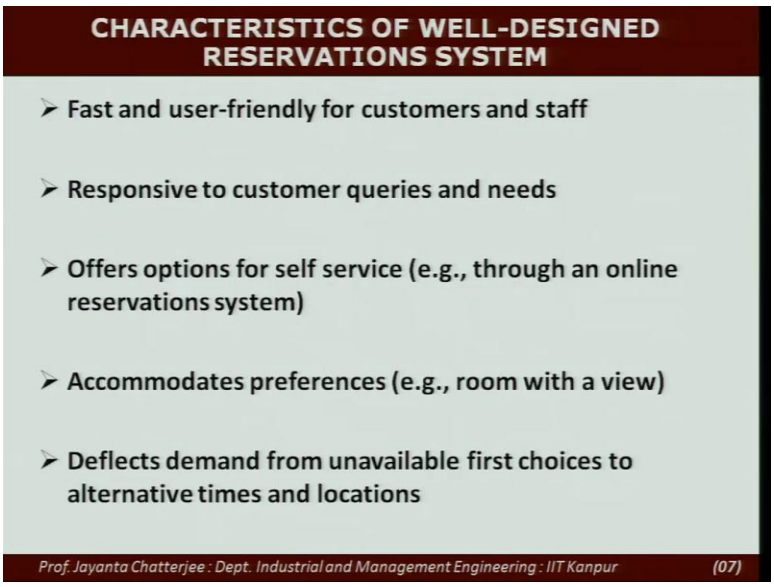

And we can also actually give incentives in the reservation system, so that this adjustment between the peak period and the lean period can be done better. In the reservation system of course, the staff performance the user friend inners the politeness the responsiveness are very important to make the reservation system successful.

In some cases, we can use self services like the example in the banks often the queue managements system the reservations system is that you take a token from the machine and you look at the screen and see, which number is now getting served and you know the gap between estimated gap some time the screens will show that current average service time per bank teller is 9 minutes.

So, if your number is 32 and you see that on the board number 11 is getting served, so you know; that is gap of 21 more people waiting and into average 9 minutes. So, you know about you can easily get something done outside go away for an hour and you will not miss your time. So, creating good technological supports self service technologies and a training people good understanding of the few psychologies like this you can manage the waiting time and the reservation system much better.

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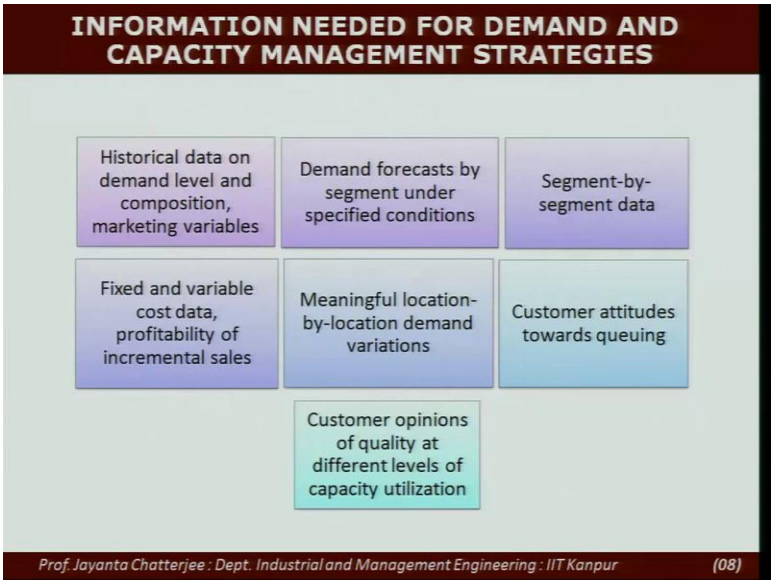

This is a little more details slight and we will actually look into each one of these segments, that as we tackle these various issues more in detail later on. But, the key point here is that could data collection knowing the demand pattern over time, what a long period of time creating good mathematical models that true, what extend those demand patterns can be adjusted. Knowing the result of different intensive that have been provided people before and how it was successful in shifting demand from peak to craft.

Looking at various technology trends and to see how the service itself can be transform for example, the discussion that we had how sports events have been hugely expended in terms of audiences by use of television transmission and internet technologies etcetera.

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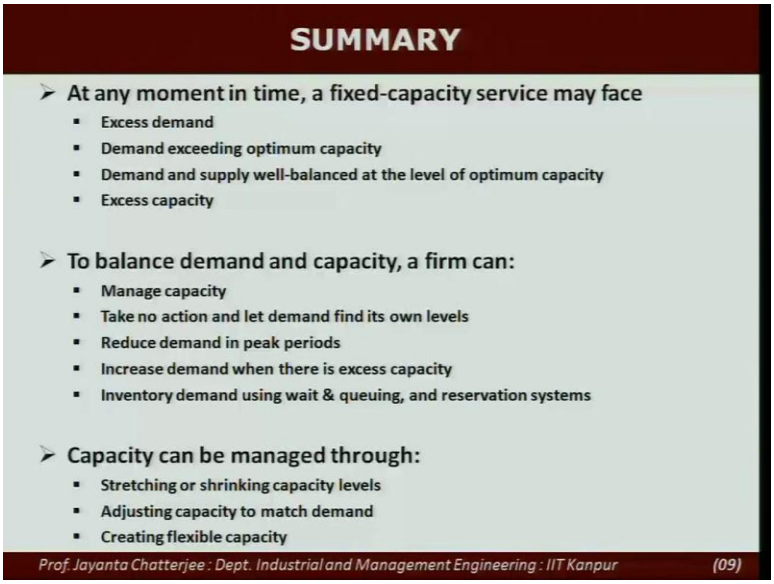

So, will have to see these things in more detail, but to conclude this particular set of session is that at any movement in time a fix capacity service may face excess demand. There would be different types of demand variations we have to balance both demand and capacity, capacity can be managed through stretching or sinking capacity levels adjusting capacity to match demand are creating flexible capacity by engineering.

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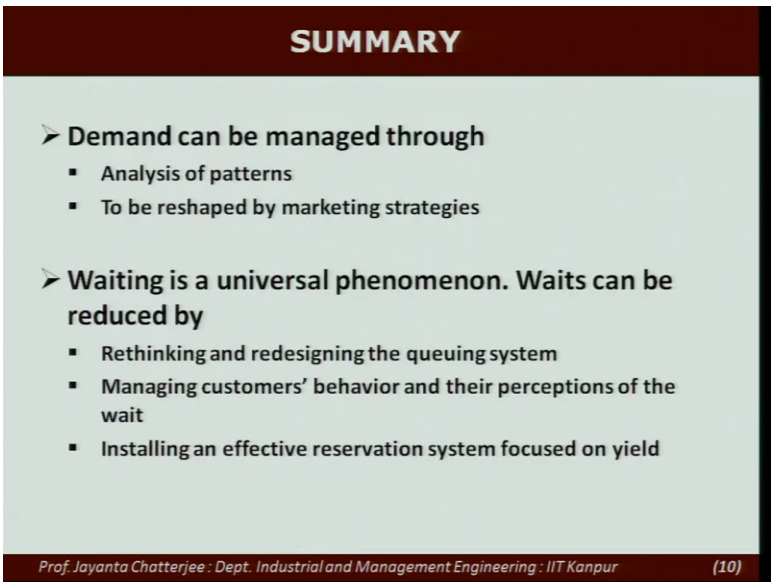

And demand can be manage through analysis a patterns through marketing strategies by providing incentives and so on. And waiting line and reservations system are universal, but we can manage the psychology of the waiting lines better once we understand the problems and good research solution, that are already available.

Thank you.