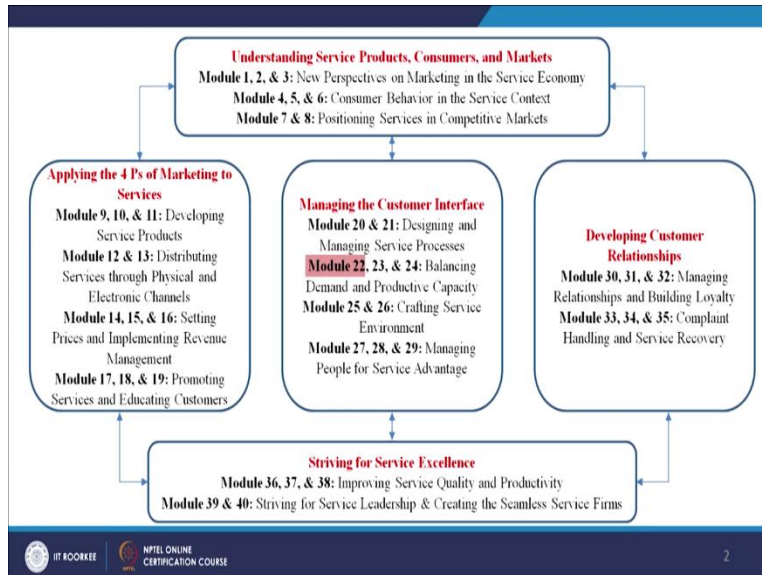


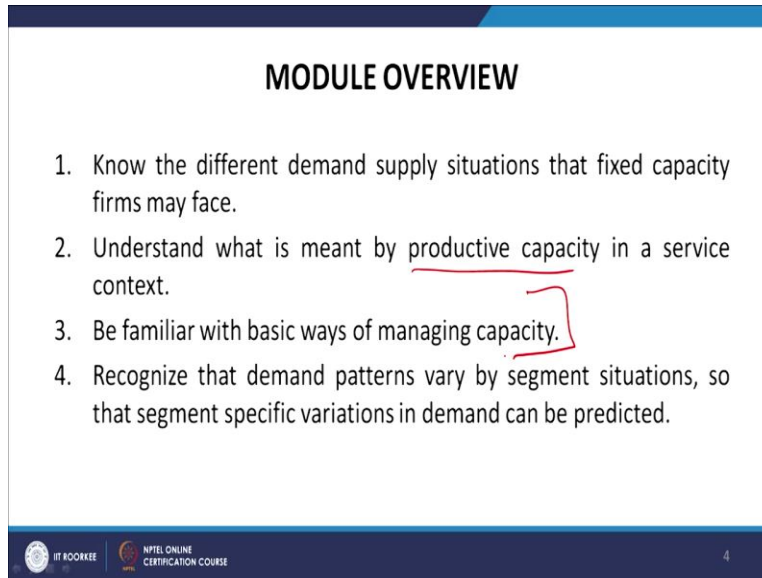
Services Marketing: Integrating People, Technology, Strategy
Professor Zillur Rahman
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Lecture 22
Balancing Demand and Productive Capacity
Part I

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Welcome to this course on service marketing and now we will discuss module 22. Now, we have talked about designing and managing service processes module 20 and 21 and in this module 22, 23 and 24 we will talk about balancing demand and productive capacity, so these are 2 things that we are talking about balancing the demand with the productive capacity, which can be commonly understood as supply. So, let us start with this module 22 and look at what are the things that we will be talking about in this module.

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MODULE OVERVIEW

1. Know the different demand supply situations that fixed capacity firms may face.
2. Understand what is meant by productive capacity in a service context.
3. Be familiar with basic ways of managing capacity.
4. Recognize that demand patterns vary by segment situations, so that segment specific variations in demand can be predicted.

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So, the first is, know the different demand supply situations that fixed capacity firms may face. Now, there are some firms that have fixed capacity. Now, how do they face this different demand situation? What do they do in this different demand situation? And the second thing that we will talk about in this module is to understand what is meant by productive capacity in a service context. Third we will familiarize with basic ways of managing capacity. So, the productive capacity is fixed, then how to go about managing this capacity?

Recognize that demand patterns vary by segment situations, so the segment specific variation in demand can be predicted. So, in several cases sometimes in this service cases sometimes the demand exceeds the supply and sometimes the supply exceeds the demand. It is not like the situation in product, because in products, products can be invented they are not perishable, but services cannot be invented and they are perishable. So, now how to manage this demand and supply in real time?

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FLUCTUATIONS IN DEMAND THREATEN PROFITABILITY

Most services are perishable and cannot be inventoried for sale at a later date.

This poses a challenge for any capacity constrained service that faces wide swings in demand.

To quote a service manager “ It’s either feast or famine for us”

- In peak periods, we’re disappointing prospective customers.
- In low periods, our facilities are idle, and we’re losing money.

In other words, demand and supply are not in balance.

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Now, let us move let us look at the fluctuations in demand that threatens profitability, most services are perishable and cannot be invented for sale at a later date, so they have to be produced sold and consumed at the same time you cannot keep them, so when the capacity is constrained and there are wide swings in demand, then what should the company do? To quote a service manager, it is either feast or famine for us. In big periods, we are disappointing prospective customers and in low periods, our facilities are idle and we are losing money. So, you see that in both the cases, the company is at disadvantage. When there is huge demand, then the customer is getting dissatisfied, when there is no demand, the facilities are lying idle and they are and the company is losing money. In other words, this leads to demand and supply are not in balance.

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FLUCTUATIONS IN DEMAND THREATEN PROFITABILITY

- Fluctuating demand is major challenge for many types of capacity-constrained service organizations, like airlines, restaurants, and theaters. *[no. of seats are limited]*
- These demand fluctuations can play havoc with efficient use of productive assets, thus eroding profitability.
- Service marketers should develop strategies to bring demand and capacity into balance in ways that create benefits for customers & improve business profitability. *] Most important challenge for a capacity constrained service company*

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Fluctuating demand is a major challenge for many types of capacity constraint service organizations, like airlines, so the number of seats remains limited, restaurants again the number of seats remain limited and the theatres and in all these 3 situations the number of seats are limited at any given point in time. So, if more number of customers turn up, then the customers have to be returned back that will read lead to loss in business. If there are vacant seats in airline or restaurant or theatre, so again the business is lost.

So, these demand fluctuations can play havoc with efficient use of productive assets, thus eroding the profitability. Service marketers should develop strategies to bring demand and capacity into balance in ways that create benefit for customers and improve business profitability. So, now this demand and capacity has to be brought in balance, so that the customers also benefited and the companies also benefited. So, that is the most important challenge for a company for a service company, for a capacity constraint service company, well this is not an issue not at all an issue with the product company.

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FLUCTUATIONS IN DEMAND THREATEN PROFITABILITY

Effective use of productive capacity is one of the secrets of success in such businesses.

The goal should not be to utilize staff, labor, equipment, and facilities as much as possible, but rather to use them as productively as possible.

Moreover, the search for productivity must not be allowed to undermine service quality and degrade the customer experience.

Handwritten annotations: "Maximum" above the second paragraph and "Optimum" above the third paragraph.

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Effective use of productive capacity is one of the secrets of success in such businesses. So, this is a key success factor in service were businesses that are capacity constraint effective use of productive capacity. The goal should not be to utilize the staff, labour, equipment and facilities as much as possible, but rather to use them as productively as possible. So, it is not about the maximum use usage of staff, labour, equipment and facilities, but the optimum usage and we are not talking of maximum usage, I will explain why we need to do this.

So the whole the whole ball game is that not to utilize the staff, labour, equipment and facility in the maximum way but in an optimum way. However, the search of for productivity must not be allowed to undermine service quality and degrade the customer expectations. So, the company want to increase productivity, but it should not lead to decrease service quality. And because the service quality, if the service quality goes down then obviously the customer experience also goes down.

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FROM EXCESS DEMAND TO EXCESS CAPACITY

A fixed-capacity service faces one of the four following conditions:

1. **Excess demand** — Level of demand exceeds maximum available capacity with the result that some customers are denied service.
2. **Demand exceeds optimum capacity** — No one is turned away, but conditions are crowded and customers are likely to perceive a deterioration in service quality.
3. **Demand and supply are well-balanced** at the level of optimum capacity — Staff and facilities are busy without being overworked and

Companies aim for

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Now, let us look at how to move from excess demand to excess capacity. A fixed capacity service faces one of the four following conditions. A fixed capacity, so the company is not able to change the capacity and these are the following 4 situations that they face, the first is excess demand. The level of demand exceeds maximum available capacity with the result that some customers are denied the service. So, some customers go to the restaurant and because there are no seats, so they are denied the service they are they are told to go back.

Then there can be a second situation, where demand exceeds optimum capacity, no one is returned away, but conditions are crowded and customers are likely to perceive a deterioration in service quality. So, another is when demand exceeds the optimum capacity, so this is what I was referring to in the last slide, so no customer goes back but the restaurant look overcrowded and the customer looks at this as a deterioration in service quality. And the third is demand and supply are well balanced at the level of optimum capacity, staff and facilities are busy without being overworked and customer received good service without delay, so this is the most important thing that these companies they aim for, to match the demand and supply in an optimum manner.

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FROM EXCESS DEMAND TO EXCESS CAPACITY

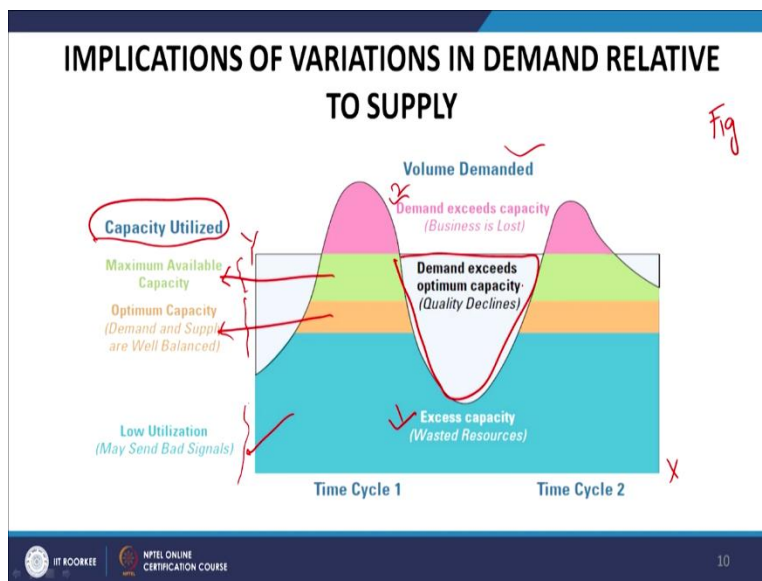
customers receive good service without delay.

4. **Excess capacity** — Demand is below optimum capacity and productive resources are underutilized, resulting in low productivity, *low profit*

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And the fourth option is excess capacity, demand is below optimum capacity and productive resources are underutilized resulting in low productivity and low profits.

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Now, let us look at this figure, now on this X-axis, there are 2 time cycles, time cycle 1 and time cycle 2, here they are, here it is the excess capacity that is wasted resources, here the demand exceeds the capacity that is business is lost. So, in this case in the first case excess capacity the resources are wasted while in this second case, where demand exceeds capacity the business is lost. And in between this area, the demand exceeds optimum capacity, so the quality declines.

Now come to this Y axis this area it shows low utilization and may send bad signals, this is an area of optimum capacity demand where demand and supply are well-balanced, this is the maximum capacity available, so this is the maximum capacity available.

So, on the Y-axis, we have the capacity that is utilized and here it is the volume that is demanded. So, now you see that in this area the quality is declining, in this area that demand exceeds the capacity, so the business is lost, so this yellow portion is this, the green portion is this and this blue portion is this. Now, this huge area it represents a triangle type of a figure where the demand exceeds the optimum capacity and in that case the quality declines, when the quality declines, obviously the customer experience reduces.

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ADDRESSING PROBLEM OF FLUCTUATING DEMAND


Approaches to problem of fluctuating demand

- 1) Adjust level of capacity to meet variations in demand**

This approach requires an understanding of what constitutes productive capacity and how it may be increased or decreased on an incremental basis.
- 2) Manage the level of demand**

This requires using marketing strategies to smooth out the peaks and fill in the valleys so as to generate a more consistent flow of requests for service.

Many firms use a mix of both approaches.

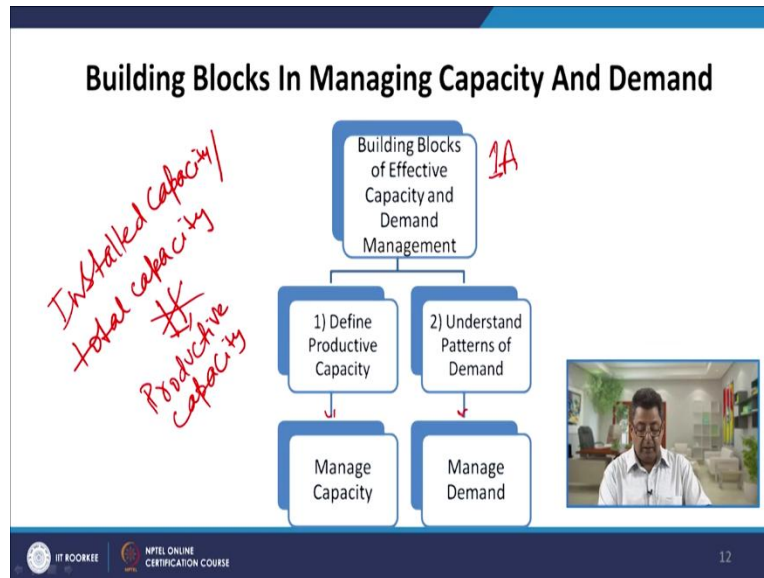


Now, how to go about addressing problem of fluctuating demand? So, approaches to problem of fluctuating demand, the first is, adjust level of capacity to meet variation in demand. So, first we are trying to adjust the level of capacity, so that the variation in demand can be met. This approach requires an understanding of what constitutes productive capacity and how it may be increased or decreased on an incremental basis.

The second approach is to manage the level of demand, this requires using marketing strategies to smooth out the peaks and fill in the valley, so as to generate a more consistent flow of requests for service. So, in the first case, we are managing the capacity in the second situation we are managing that the demand and demand management is done through these marketing strategies,

so that the peaks and valleys they are smoothen out. So, many firms use a mix of both these approaches to increase capacity and to smooth out the demand.

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And these are the building blocks in managing capacity and demand. So, let us start from here, the also the building blocks of effective capacity and demand management. So, the first is define the productive capacity, so here it is important to define what is this productive capacity and the second is, then to understand patterns of demand. So, we are talking about this productive capacity because the installed capacity or the total capacity may not be the productive capacity.

So, the installed capacity or the total capacity may not be equal to the productive capacity, because if total capacity is utilized then the service quality levels it comes down. And in the second case we have to understand the patterns of demand, where they peaks and where they value. And therefore in the first case, there is a need to manage the capacity and in the second case, there is a need to manage that demand.

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DEFINING PRODUCTIVE SERVICE CAPACITY

1) Define Productive Capacity

The term refers to the resources or assets that a firm can employ to create goods and services. In service context it includes:

a) *Physical facilities designed to contain customers* and used for delivering people- processing services or mental stimulus processing services.

Example - hotels, medical clinics, passenger aircraft capacity defined in terms of rooms, beds, or seats.



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So, now let us go about defining the productive service capacity. So, what is this productive service capacity? The term refers to the resources or assets that a firm can employ to create goods and services, so it refers to the resources or assets, that the firm has and it can employ to create the goods and services. And in service context, it includes the first is physical facilities designed to contain customer and used for delivering people processing services or mental stimulus processes services. For example, hotel, so the capacity is limited, the medical clinics, passenger aircraft capacity defined in terms of rooms, beds are capacity. So, in this cases the hotel, medical clinics and passenger aircraft, the capacity is defined in terms of rooms or beds or seats.



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DEFINING PRODUCTIVE SERVICE CAPACITY

b) Physical facilities designed for storing or processing goods that either belong to customers or are being offered to them for sale.
Examples include pipelines, warehouses, and railroad freight wagons.

c) Physical equipment used to process people, possessions, or information may embrace a huge range of items and may be very situation specific, such as diagnostic equipment, airport security detectors, ATMs.



  14

The second thing that is used to define is the physical facility designed for storing or processing goods that either belong to customers or are being offered to them for sale. So, example includes pipelines and warehouse and railroad freight wagons. The third is the physical equipment used to process people, possessions or information. So, may embrace a huge range of items and may be very situation specific, such as diagnostic equipment, airport security detectors and ATMs.


So, how many security detectors are there? So, the number of detectors remain the same, whether there is a huge rush on the airport or there is no rush. Similarly, thus ATMs in a city will remain same over a period of time. And obviously the diagnostic equipment in an hospital, so you will find that, if you look at the service blueprints that these are the places where the waiting, most of the waiting happens, where these diagnostic equipments are used or at airport where the security detectors are there or where the ATMs are there.

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DEFINING PRODUCTIVE SERVICE CAPACITY

d) Labor: Is a key element of productive capacity in all high-contact services and many low-contact ones.
Staffing levels for restaurants servers, hospital nurses and call center staff need to be sufficient to meet anticipated demand- otherwise customers are kept waiting or service is rushed.

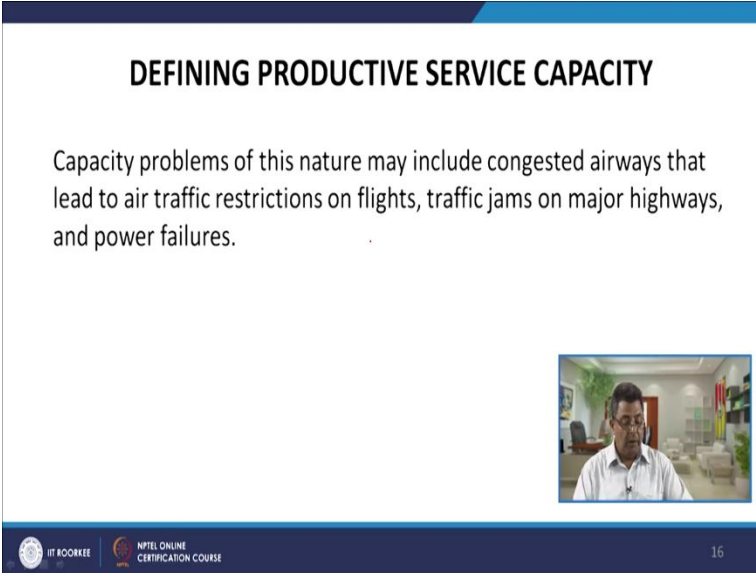
e) Infrastructure: Many organizations are dependent on access to sufficient capacity in the public or private infrastructure to be able to deliver quality service to their customers.



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The next is labour, it is a key element of productive capacity in all high contact services and also in many low contact ones. So, now how this labour is again a limit on your productive capacity. Staffing levels for restaurant servers, hospital nurses and call center staff need to be sufficient to meet anticipated demand, otherwise customers are kept waiting or services rushed through. So, this how many waiters should be there in a restaurant? How many hospital nurses? How many doctors, call center staff? So, that is important, otherwise the customer has to wait and then the service providers they will rush through, rush the customer through the service. The next is infrastructure, many organizations are dependent on access to sufficient capacity, in the public or private infrastructure to be able to deliver quality service to their customers.



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DEFINING PRODUCTIVE SERVICE CAPACITY

Capacity problems of this nature may include congested airways that lead to air traffic restrictions on flights, traffic jams on major highways, and power failures.



  16

Capacity problem of this nature may include congested airways that lead to air traffic restrictions on flights, traffic jams on major highways and power failures. So, the capacity problem that arises can be that the airways are congested, the aircraft may take 15 to 20 minutes or half an hour to land at an airport because the airport is full. Then there are traffic jams on major highways, the power failures.


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MANAGING CAPACITY

Capacity can be stretched or shrunk to match varying demand by:

- 1) Stretched Capacity Levels
- 2) Adjusting Capacity to Match Demand



  17

Then let us look at how to go about managing the capacity. Capacity can be stretched or shrunk, it can be increased or decreased, to match varying demand, so the demand is varying. Now, let us

look at how to increase or decrease the capacity. So, the first is stretched capacity levels and the second is adjusting capacity to match the demand.


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MANAGING CAPACITY

1) Stretched Capacity Levels -

a) The same capacity is stretched to absorb extra demand.

- The actual level of capacity remains unchanged, and more people are being served with the same level of capacity.
- For example the normal capacity of a subway car may offer 40 seats, but at rush hours, up to 100 passengers can be accommodated in jam-pack conditions.



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What does this stretched capacity levels means? a - The same capacity is stretched to absorb extra demand, so there is some incremental demand. The actual level of capacity remains unchanged and more people are being served with the same level of capacity. For example, the normal capacity of a subway car may offer 40 seats, but at rush hour up to 100 passengers can be accommodated in jam-packed conditions.

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MANAGING CAPACITY

b) Utilizing the facilities for longer periods.

- Another way for stretching capacity is to utilize the facilities for longer periods
- Banks extend their opening hours during weekdays.
- Universities may offer evening classes or weekend classes.



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The second is utilizing the facilities for longer periods, another way for a stretching capacity is to utilize the facility for longer period of times. For example, banks extend their opening hours during weekdays and universities may offer evening classes or weekend classes, so that the demand meet the capacity.



(Refer Slide Time: 17:47)

MANAGING CAPACITY

c) The average amount of time customers (or their possessions) spend in process may be reduced. Sometimes it is achieved by minimizing slack time.

For example, a restaurant can buzz tables, seat arriving diners and present menus fast, and the bills can be presented promptly after a meal.



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The third is the average amount of time customers or their possessions spend in process may be reduced and sometimes it is achieved by minimizing the slack time. For example, a restaurant can buzz tables, seat arriving diners and present menus fast and the bills can be presented promptly after the meal. So, without reducing the customer experience more number can be more number of customers can be served at the in the same time period.



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MANAGING CAPACITY

2) Adjusting Capacity to Match Demand —
Unlike the previous option, this involves tailoring the overall level of capacity to match variations in demand- a strategy that is also known as *chasing demand*.

1) Schedule downtime during periods of low demand
To ensure that 100 percent of capacity is available during peak periods, maintenance, repair, and renovations should be conducted when demand is expected to be low.



  21

Now, the second thing about this managing capacity is adjusting capacity to meet the demand. Now, we had, we are still trying to adjust the capacity to meet the demand. So, unlike the previous option, this involves tailoring the overall level of capacity to match variations in demand. So, this strategy is also known as chasing the demand. So, here now this capacity is to chase the demand, how?

The first is scheduled downtime during periods of low demand, to ensure that 100 percent of capacity is available during peak periods, maintenance, repair and renovations should be conducted when demand is expected to be low. Now, you see that, when the restaurant is full and then they start cleaning the restaurant, so that will again affect the customer experience. So, all these maintenance and repair works they happen when the demand is low, that is maybe between the dinner breakfast and the lunch time and the lunch and the dinner time.


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MANAGING CAPACITY

2) Cross-train employees: If employees can be cross-trained to perform a variety of tasks, they can be shifted to bottleneck points as needed, thereby increasing capacity. For example

In supermarkets, managers may call on stockers to operate cash registers when lines become too long.

Likewise, during slow periods, the cashiers may be asked to help stock shelves.



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22


The second thing that can be done is to cross train employees, if the employees can be cross-trained to perform a variety of tasks, they can be shifted to bottleneck points as and when needed, thereby increasing the capacity. So, now these employees they are trained, cross trained, so they can do more than one task and then they can be shifted from one bottleneck to the another bottleneck. In supermarkets manager may call on stockers to operate cash registers when lines become too long. So, they open up more cash registers so that the lines they start moving fast. Likewise, during slow periods, the cashier may be asked to help stock the shelves, so the these cashiers then can go to stock the shelves or in peak period the people who keeps, who stock the shelves they can be called in to receive the cash.

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MANAGING CAPACITY

3) Use part-time employees: Many organizations hire extra workers during rush periods.
For example hotels hire additional workers during vacation periods and retail stores add extra staff during festival season.

4) Invite customers to perform self-service: Capacity can also be increased by involving customers in co-production of certain tasks.
Example, using SSTs at airports for airline ticketing and check-in or automated check-out stations at supermarkets.



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Third way of managing this capacity is using part time employees, so many organizations, they hire extra workers during rush periods. For example, hotels hire additional workers during vacation periods and retail stores add extra staff during festival season and this is very common practice in retail stores and hotels. And the fourth thing that needs to that can be done is to invite customers to perform self-service. So, now that is a great study that the customers they become part of the service, so capacity can also be increased by involving customers in co-production of certain tasks, for example, using SSTs for at airport for airline ticketing and check in, or automated checkout stations at supermarkets. So, then the customers they do their web check in and they drop their bags and this is how they do this self-service.

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MANAGING CAPACITY

5) Ask customers to share: Capacity can be stretched by asking customers to share a unit of capacity normally dedicated to one individual.

For instance at busy airports and railway stations, where supply of taxis is insufficient, travelers going in the same direction may be given the option of sharing a ride at a reduced rate.



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24

And the fifth is, ask customers to share, so capacity can be stretched by asking customers to share a unit of capacity normally dedicated to one individual. So, one unit of capacity is dedicated to one customer, but then they the customers will be asked to extend it. For instance, at busy airports and railway stations, where supply of taxis is insufficient, travellers going in the same direction may be given the option of sharing a ride at a reduced rate, because now 2 people sharing a taxi, so there the rate per head comes down to and that happens when the demand is more and the capacity is limited.


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MANAGING CAPACITY

6) Create flexible capacity: Sometimes, the problem lies not in the overall capacity but in the mix available to serve the needs of different market segments.

For example, the tables in a restaurant can be all two-seaters.

When necessary two tables can be combined to seat four, or three tables combined to seat six.



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25

Next is to create flexible capacity, sometimes the problem lies not in the overall capacity, but in the mix available to serve the needs of different market segments. So, it is not about the overall capacity, but the mix that is available to serve the needs of different market segments. So, different market segments will have different needs at the same point in time. So, for example, the tables in restaurants can be all two-seaters, when necessary two tables can be combined to seat four, or three can be combined to seat 6.

So, now this combination can work, so if even if 15 people come then also you can have this kind of arrangement and then if 2 people come then again, it is very easy therefor the capacity is flexible here and different combination of people can be seated. So, it is not that 2 people are sitting on a table that has the capacity of 5, or 7 people are sitting on a table that has a capacity of 5. So, now this combination can be done and it can be changed as and when required.

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MANAGING CAPACITY

7) Rent or share extra facilities and equipment: To limit investment in fixed assets, a service business may be able to rent extra space or machines at peak hours.

Firms with complementary demand patterns may enter into formal sharing agreements.



26

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Then rent or share extra facilities and equipment. So, now we are not buying facilities and equipment, we are renting or sharing to limit investments in fixed assets or service business may be able to rent extra space or machine at peak hours. So firms with complimentary demand patterns may enter into formal sharing arrangements that may be different hotels obviously will have different demands at different periods of the year. So, within the same group the people, etcetera and equipment can be shifted from let us say from Delhi to Shimla during summers or in peak period and so on.

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UNDERSTANDING PATTERNS OF DEMAND

Demand differs by market segment

Questions about demand patterns and their underlying causes.

a) Do demand levels follow a predictable cycle?

If so, is the duration of demand cycle:

- One day (varies by hour)
- One week (varies by day)
- One month (varies by day or by week)
- One year (varies by month or by season or reflects public holidays)

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Next is to understand the patterns of demand and the demand differs by market segments. So, questions about demand patterns and their underlying causes. The first is, do demand levels follow a predictable cycle? If so, what is the duration of the demand cycle? So, now that is very important the demand may change but is this change, is the cycle predictable? Is the duration of demand cycle one day that is varies by the hour, one week it varies by the day, one month it varies by day or by week, one year it varies by month or by season or reflect public holidays.

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UNDERSTANDING PATTERNS OF DEMAND

b) What are the underlying causes of these cyclical variations?

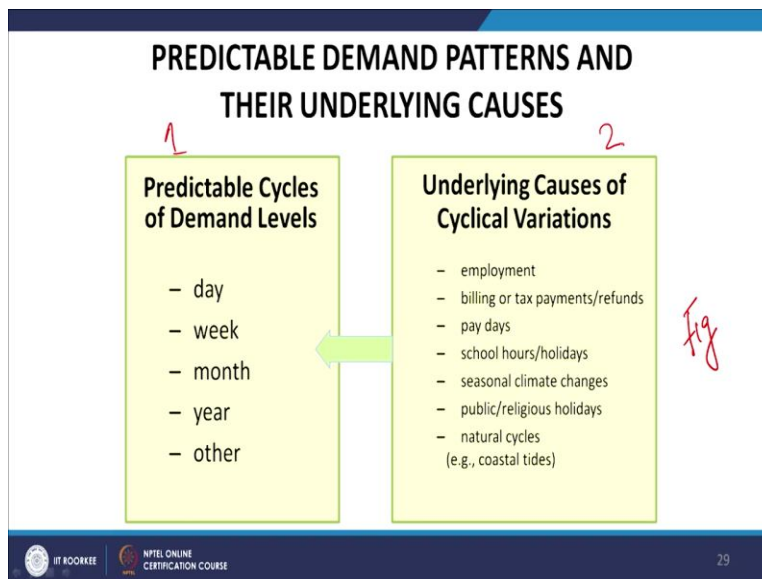
- Employment schedules
- Billing and tax payment/refund cycles
- Wage and salary payment dates
- School hours and vacation
- Seasonal changes in climate
- Occurrence of public or religious holidays
- Natural cycles, such as coastal tides



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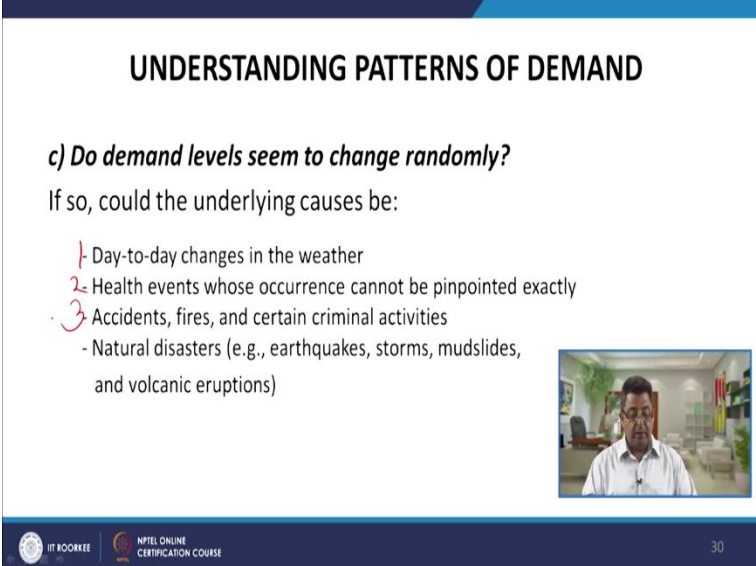
Next is, what are the underlying causes of these cyclical variations? Employment schedules, billing and tax, billing and tax payments, refund cycles, wage and salary payment dates, school hours and vacation, seasonal changes in climate, occurrences of public or religious holidays, natural cycles such as coastal tides.

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In this figure, we look at the predictable demand patterns and their underlying causes. So, here we are talking about the predictable cycles of demand levels and these are the underlying causes of cyclical variation. So, it can be a day, week, month, year and then the causes can be as we have talked about earlier it can be employment or pay days, school hours and holidays, (seasons) seasonal climate changes.

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UNDERSTANDING PATTERNS OF DEMAND

c) Do demand levels seem to change randomly?

If so, could the underlying causes be:

- 1 Day-to-day changes in the weather
- 2 Health events whose occurrence cannot be pinpointed exactly
- 3 Accidents, fires, and certain criminal activities
 - Natural disasters (e.g., earthquakes, storms, mudslides, and volcanic eruptions)



  30


The third is, do demand level seems to change randomly? That is they (do not), they are not predictable. If so, could the underlying cause be, one, day to day changes in the weather, second is health events whose occurrence cannot be pinpointed exactly, so you will find that several times there is a swine flu breaks and cholera breaks, etcetera, etcetera. So, in this case these things are generally random. So, natural disasters earthquakes, storms, mudslides and volcanic eruptions, so in these cases this demand can change it randomly.

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UNDERSTANDING PATTERNS OF DEMAND

d) Can demand for a particular service over time be disaggregated by market segment to reflect such components as follows?

- Use patterns by a particular type of customer or for a particular purpose.
- Variations in the net profitability of each completed transaction.




31

Can demand for a particular service over time be disaggregated by market segments to reflect such components as follows? Use patterns by a particular type of customer or for a particular purpose. The next is variations in the net profitability of each completed transaction.

(Refer Slide Time: 26:24)

CONCLUSION

- In this module, firstly we discussed about the different types of demand-supply situations.
- Next, we identified the various forms of productive capacity in services and ways to manage it.
- Finally we discussed about the demand patterns.





32

Now, to conclude in this module firstly we had discussed about the different types of demand and supply situations, then we identified the various forms of productive capacity in services and ways to manage it and finally we have discussed about the demand patterns.

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REFERENCES

- Wirtz, J., Lovelock, C., & Chatterjee, J. (2017) *Services Marketing: People Technology Strategy*, Pearson Education, Eighth Edition.
- Zeithaml, V. A., Bitner, M. J., Gremler, D. D., and Pandit, A. (2009) *Services Marketing: Integrating customer focus across the firm*, Tata McGraw-Hill Education Pvt. Ltd., Fourth Edition.
- Hoffman, K. D., & Bateson, J. E. G. (2007) *Services Marketing : Concepts, strategies, & cases*, Thomson Publication, Third Edition.

 IIT KHARAGPUR  NPTEL ONLINE CERTIFICATION COURSE 33

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