

Course type: PG

Course: MBA

Title of Attachment: Matching Supply Constraints with Demand Pattern

Name of teacher: Nalin Kishore, Visiting teacher, MBA

---

## Introduction

We often notice that there is heavy demand in a restaurant during lunch or dinner hours, while it is relatively free of customers during other times. As there is a constraint on the capacity of the restaurant, the restaurant can serve a limited number of customers at any point in time. If more customers arrive at the restaurant during the rush hours or 'peak period' they have to wait for the service or they have to leave the restaurant and go elsewhere. Waiting might cause some discomfort to the customer. On the other hand, the restaurant loses business, if customers have to leave due to the capacity constraint.

At the same time, there are few customers during 'lean periods'. This means that there are more servers than required to serve the small number of customers who turn up during the lean period and the service business is wasting its resources due to idling.

This phenomenon of mismatch between service demand and capacity occurs due to the perishable and simultaneous characteristics of services. You might be aware of some methods restaurants use to circumvent the above problems. Some restaurants like McDonald's use 'Happy Hours' during lean periods during which McDonald's provides discounts to its customers. Other restaurants use 'floating staff' who serve customers during peak periods and do other work during lean periods.

## Optimum and Maximum use of Capacity

There is a difference between optimal use of capacity versus maximum use of capacity. Optimal usage ensures that all resources are being used productively to deliver the desired quality while maximum use may require that resources be strained to serve more customers than that can be served at the desired level of quality. Obviously, it is recommended that a service business should make optimal use of its capacity instead of making maximum use of its capacity. Service businesses must understand and codify the optimum capacity of its human resources and other physical facilities in order to be consistently deliver the promised level of service quality.

# Capacity Constraints

Service capacity is fixed for many firms. Depending on the type of service; time, labour, equipment, facilities or a combination of these can be a constraint. For example, time is a constraint for legal and medical services, labour is a constraint for restaurant services, equipment is a constraint for a fitness centre and facilities are a constraint for a school or college.

## Understanding Demand Patterns

We can chart out the periodic and random demand fluctuations and try to understand their causes. This can help us devise strategies towards matching demand and capacity. WE can chart periodic demand hourly, daily, weekly, monthly or yearly. For instance, restaurants will have daily demand fluctuations while retail stores will face yearly demand fluctuations. Similarly there can be random demand fluctuations due to factors like the weather, which can affect demand for restaurant seats. Similarly, demand from different segments can fluctuate. For instance, a bank might face predictable service demand from its business customers but unpredictable demand from its individual customers.

## Strategies for Matching Capacity and Demand

When service businesses have clear understanding of their capacity constraints and the source and periodicity of their demand fluctuations, they can closely match their capacity to their demand. An example of such match for a restaurant business has been described earlier.

There are two generic strategies of matching capacity with demand. The first is to smooth the demand fluctuations by shifting parts of peak demand to lean periods as in the case of 'Happy Hours' by McDonald's in order to match the capacity. The second strategy is to match the excess capacity with the demand peaks and troughs as in the case of using multi-skilled staff who can serve customers during peak periods and do other work during lean periods, as given in the example earlier. Various tactics that can be used in relation to the above two generic strategies are discussed in the following sections.

Figure: Strategies for Shifting Demand to Match Capacity

When the demand is too high as compared to the capacity various tactics can be used to reduce the demand during peak periods as illustrated in the above Figure and discussed below.

1. **Communicate with Customers:** An approach to shifting demand when it is too high is to let customers know the periods of high demand. Customers can be requested to visit the facility at periods of low demand.
2. **Modifying Timing and Location of Service Delivery:** Longer operating hours suiting the requirements of customers can be a method of shifting demand, Moreover, locating facilities like banks and theatres to supermarkets or hypermarkets can also help in smoothing demand for these facilities.
3. **Offer Incentives for Non-peak Usage:** Incentives can be offered for beginning of season or end of season usage in case of seasonal products like AC, cooler, fan etc. Whereas for business like restaurants, lean period rates may be discounted.

4. **Set Priorities:** Service providers can priorities service delivery to the most lucrative needy customers thereby making other customers wait for their turn during non-peak hours.
5. **Charge Full Price:** Service providers can charge full price for customers who require the use of services during peak periods.
6. When the demand is too low as compared to the capacity of the service provider, the demand can be increased using a variety of tactics as discussed below.
7. **Stimulate Business from Current Market Segments:** Service providers like tourists can advertise their services during dull periods to enhance demand during dull periods.
8. **Provide Facility for Alternative Uses:** Service providers like provide their facilities during lean periods for alternative uses. For example, movie theatres can rent out their facilities for business conventions during dull periods.
9. **Vary the Service Offering:** Service providers can vary how the service is offered during peak periods to smooth the demand. When theatres are packed, people may not venture out to buy eatables fearing that the movie would start while they are negotiating long queues. In such cases, the theatre can make provision of eatables inside the theatre and increase demand.
10. **Differentiate on Price:** Service providers can provide their services at low prices during lean periods to whip up demand and at high prices during peak periods to lower demand for their services.

The service capacity can be temporarily adjusted to match the demand as illustrated above. However, when the demand is too high as compared to the capacity, the capacity can be temporarily stretched as discussed below. It must however be kept in mind that quality of the service remains within acceptable limits while the capacity is stretched.

1. **Stretch Time Temporarily:** Accountants can temporarily offer their services during extended periods near the end of the tax season to handle higher demand during those times.
2. **Stretch Labour Temporarily:** Frontline employees are asked to serve more customers during peak times than during longer or lean periods. However, people must be provided enough refreshments so that continuous stretch in labour does not affect their health adversely.
3. **Stretch Facilities Temporarily:** Chairs and tables can be increased temporarily within a facility like a restaurant to serve more customers during peak periods.
4. **Stretch Equipment Temporarily:** Computers, tour busses etc. can be temporarily increased during peak periods to handle peak demand.

The capacity of the service provider can be reduced when the demand for services is too low. Tactics for doing this is discussed below.

1. **Use Part-Time Employees:** Use part-time employees who work during peak periods and leave when

not needed during lean periods.

2. **Cross-Train Employees:** Train employees to be multi-skilled so that they can move to providing some services during peak periods and come back to their own service during normal hours.
3. **Outsource:** Companies can outsource their work during times when the demand exceeds capacity.
4. **Rent or Share Facilities of Equipment:** A church can share its facilities with a preschool during weekdays, while the church can use the facility during weekends.
5. **Schedule Downtime during Periods of Low Demand:** The service provider can schedule repair, maintenance and renovations during off-peak periods. For instance, a college can repair its furniture during the vacations.
6. **Modify or Move Facilities and Equipment:** Hotels can use a temporary partition to create two rooms from one during peak periods. Airplane seats can be reconfigured to vary the number of seats in different classes in the plane to adjust capacity to the demand.