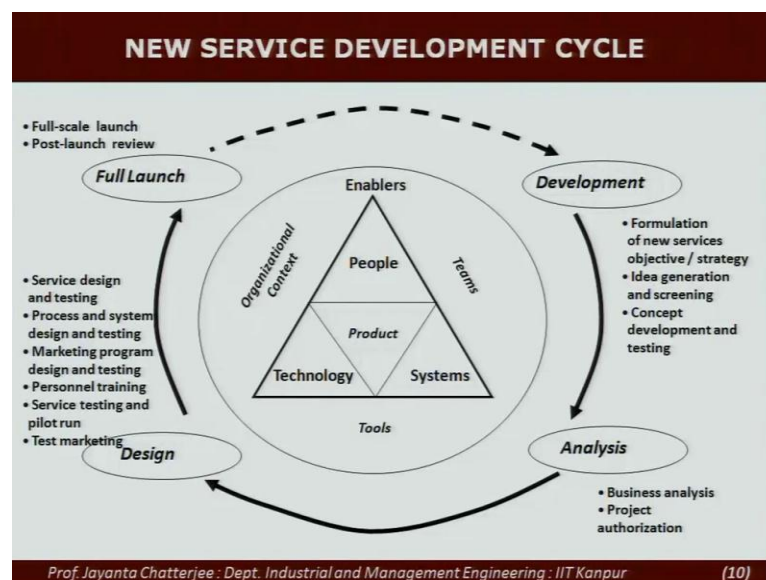


**Managing Services**  
**Prof. Jayanta Chatterjee**  
**Department of Industrial Management and Engineering**  
**Indian Institute of Technology, Kanpur**

**Lecture – 20**  
**Current Service Map to New Service Design**

Hello, I am Jayanta Chatterjee from IIT Kanpur, we are interacting on this existing new topic of services management in the contemporary world and the issues arising out of the interaction between today's technology and today's business imperatives. In the last session, we ended with this particular diagram and this is where we will start today.

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This is a very good rich diagram; it shows more or less the entire new service development cycle. We discussed in the last session, the Ansoff matrix and how new service can be generated in response to the need of new customers or existing customers or existing service can be taken to new customers. But, initially therefore, when a need is felt, an opportunity is recognized, the opportunity is evaluated, we start the process, which we called the business analysis phase.

Then, we go to the design phase, the development phase, where services design and tested, prototype runs are made. This is where the blue print is of immense help, where we can draw ideas from existing services and how the flow can be mapped in existing services. Then, from that blue print by identifying the service blocks and the touch points

and the fail points and the bottle neck points and the weight points or the waiting stages, we can then design subsystems, test those subsystems.

And then in many cases with the services intangible, we need to create some sampling test runs, experience sharing, etcetera as a part of the marketing process and then, all the training of people at which stage we often involve customers. We also involve the customers, when the different process modules are developed and tested and then, we do some pilot runs, some test marketing and launch the service.

In full scale, do some post launch view and then, again come to the development stage. So, this is the cycle that continuous in a good dynamic service company and today, we recognize that we have a role for direct involvement of the consumer at every stage, the analysis stage, design stage. Particularly, in these two stages and of course, at the review stage, post launch review stage, where we can go back to the drawing board and start again with idea generation.

So, again we will look at the triangle, the triangle constituted by service employees, service consumers and service organizations. And we will have internal marketing, external marketing, internal marketing of communication between the organization and all it is employees, so that every bodies on the same page. Intensive communication between service employees and service consumers without any barrier, so that the service creators, the service employees get a direct feedback from the customers about, what is good and what is bad. And the system that flow of knowledge around these three corners must be enabled by good information and communication technology, so that it is real time.

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**SERVICE DESIGN AND PROCESS SELECTION IN LC SYSTEM**

- Similar to manufacturing  
Worker ↔ Technology
- Process selection through a range of options available with respect to equipment and procedures

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In case of a low contact system, often the creation of a new service is very similar to creation of a new manufacturing line and in this kind of services and even in some cases, some high contact services, we can very well use for improving the service, various kinds of techniques like line balancing and so on. We will discuss that at a subsequence session.

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**BASIC TYPES OF PROCESSES**

- Project
  - Long duration
  - Low volume
  - One of a kind
- Well-defined activities
- Duration affected by completion of critical activities

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But, I just wanted to highlight that it is quite often, a low contact service can be created almost like creating a new manufacturing line, but mostly the new service creation takes

the form of a project. So, it can be a long duration, low volume, one of a kind. So, think about a product service bundle, the creations of which takes this particular, follows this particular line, yes, that is right, a movie for example or a theater production or an entertainment happening.

So, these service instances are usually of this project type. So, a movie is one of a kind and it is a low volume, long duration, there are many activities and there are critical and sub-critical activities, you can use project management techniques in this kind of new service creation.

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**BASIC TYPES OF PROCESSES**

- **Batch (job shop)**
  - Short duration
  - Low volume
  - Custom made
- **Different sequence of activities for each customer**
- **Scheduling**

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Then of course, there are batch type of new services, like a new type of spa. So, where actually it is a short duration, volume is still low, because it is still lot of people to people type of service. But, each service instance is quite customized, there are different sequences of activities for each individual customer and in these cases of course, there is lot of scheduling involved.

So, a dentist service is now recreated by the way as a dental spa. You can search on the internet and you will find many interesting instances of what they call a dental spa. So, going to the dentist is no longer a fearful experience, but they are trying to recreate that same service as a pleasurable service that you can good forward to, the dental spa. It will be a new service of the batch type, job shop, short duration, low volume, customization, scheduling is very important and there are different sequences for different customers.

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**BASIC TYPES OF PROCESSES**

- **Line (flow shop)**
  - Short duration
  - High volume
  - Standard product
- **Standardized services**
- **Routine sequencing**
- **Line balancing**

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And then, there can be line type flow shop, short duration, high volume, continuous processing, standard product and again, there can be many instances. Your short assignment for today is to give me some example of a new service or it could be an existing service, which you can enhance, which follows these flow shop or line principle.

I can give you a hint like for example, pathology lab where people are coming in, giving their blood for testing and existing, there is a menu of standard blood tests from which they can select. So, there is a menu of standardizing services and it is, people are coming in or going out, it is a flow shop and techniques like line balancing can be used here. But, I would like you as your assignment to identify and tell me at least two such service instances that you see around you.

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**BASIC TYPES OF PROCESSES**

- **Continuous Critical issue: deployment of service resources** A measure of performance: travel time to customer

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And this is the critical issue in such services, which can give you some hint of looking for ideas for new services.

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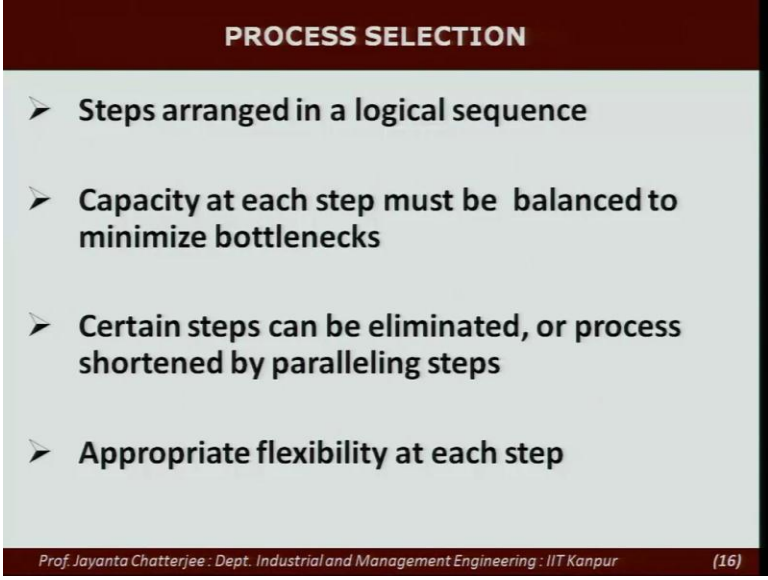
**PROCESS SELECTION - TIME**

- **Access time: from first attempt to obtain service until the start of customer service**
- **Queuing time: length of queue, integrity of queue**
- **Action time: time to provide the service**

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Now, process selection for service, service is based on time here, it can be access time, queue time, action time.

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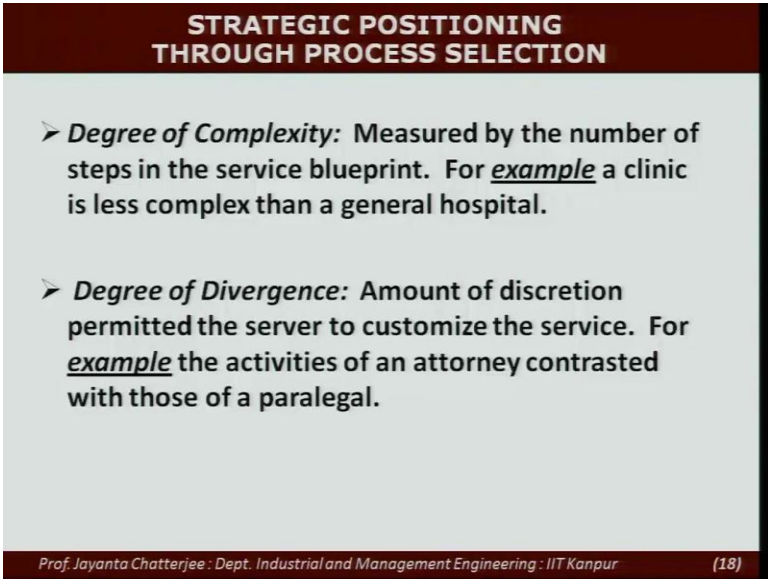
### PROCESS SELECTION

- Steps arranged in a logical sequence
- Capacity at each step must be balanced to minimize bottlenecks
- Certain steps can be eliminated, or process shortened by paralleling steps
- Appropriate flexibility at each step

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And usually the time flow follows a logical sequence, there can be some flexibility. So, if you apply these principles to the restaurant blue print, these issues will become quite clear.

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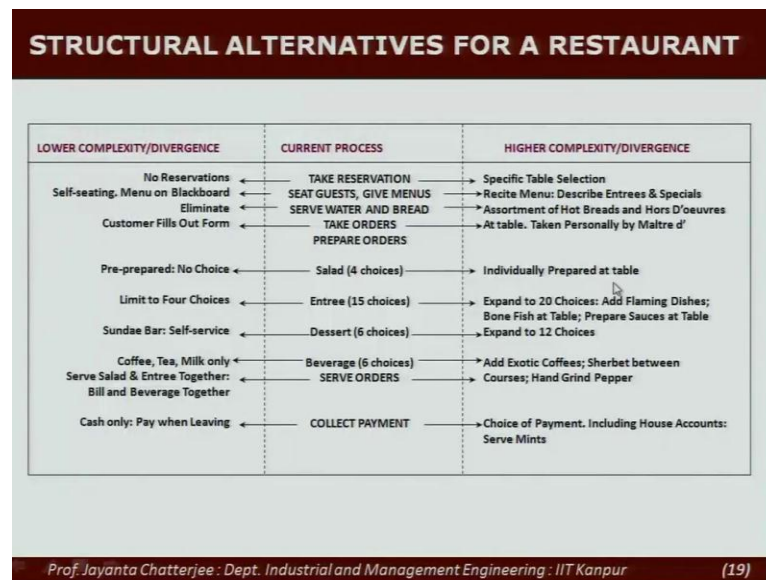
### STRATEGIC POSITIONING THROUGH PROCESS SELECTION

- **Degree of Complexity:** Measured by the number of steps in the service blueprint. For example a clinic is less complex than a general hospital.
- **Degree of Divergence:** Amount of discretion permitted the server to customize the service. For example the activities of an attorney contrasted with those of a paralegal.

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Now, once you have identified that, whether it is your new service that you are trying to configure, whether it is like a movie making type of service or like a dental spa type of service or a pathology lab type of service. Then you can look at another dimension or rather two dimensions, one is degree of complexity and another is degree of divergence.

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And you can create new services by looking at a chart like this. So, we have again use this restaurant for simplicity, because we have all familiar with such a service and you can see here, that right from the beginning where we take reservation. So, we can have a restaurant which has a reservation system; obviously, a fine dining restaurant, where tables are given to customers not on the basis of frequency, but on the basis of maximizing the revenue from a particular session, which means that, we want the customer to spent more time, order more food, more drinks, enjoy themselves and in the process also, create more value for the restaurant.

But, that sort of service is not the service which you would offer at an idly, dosa restaurant or a hamburger or parotta restaurant. There we want flow; we want more customers per seat, per hour. So, you want to maximize the turnaround time, we do not want people to sit at a table for long time without consumption; obviously, in such restaurants, there will be no reservation. So, we see, how we look at the different elements and we can change and match mix and match and create different kinds of services. So, for example can we have a restaurant, whenever we think of a restaurant, we think of fruit and beverage, eating and drinking?

Can we have a restaurant, where no food is served, there are no tables and chairs? Yes of course, there are restaurants which are take away service only. But, can there be a restaurant, which has the shape and size of a restaurant, but it does not deal with food



and beverage. So, it is a bar, but it does not serve drinks. Is that feasible? If we look here beverages, I mean, we can on one hand, add choices on the right hand side or reduce the number of choices.

This is going from complexity to simplicity and creating different value proposition, but in many cases, we can even eliminate. So, for example, this beverage part and food part, we can eliminate and create a restaurant like service, very popular in Japan or in other high polluted cities, there call oxygen bars. So, people though in their to breath for at while good high quality air, unfortunately this may become a reality in our country very soon.

But, it is an example of a service, which is socially needed and demanded, gainfully provided and conceived as an innovation by looking at this simplicity complexity chart. So, this is a simple chart, add delete, mix and match, create different service alternatives.

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**PRODUCTION-LINE APPROACH TO SERVICE DESIGN**

**Design the system to control the process**

- **Standardization and consistency**
- **Division of Labor: specialization of skills**
- **Substitute Technology for People ( retain empathy )**
  - **Standardize the Service: limit service array**
    - **Opportunity for pre-planning; predictability**
    - **Uniformity in quality**

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And there will be always production line components in the service, but the whole service maybe very much like a line that we discussed a little while back, it is a flow chart. And therefore, all the things that we normally do in creating a new production line, will need to be done in such a service. In this kind of service, we will like to create or rather induct more technology rather than people that we careful that we do not empire empathy.

I discussed in a previous session, the example of banks, you have originally moved all the tailors out and installed ATM machines. But, then board back relationship executives, because there was a customer dissonance, because a significant percentage of senior citizens, we like to interact with persons. So, branches dominated by such customer profile brought back they are relationship executive.

So, do not substitute people with technology, if you are not sure about this part, but in general, because of the nature of the production line service. So, banks are often considered in this configuration. People come into put in money or take out money. So, both putting in and take out money, you try to automate, try to adopt the production line approach and leave the bank executives for more value generating activities like giving loans or collecting loans or financing of business activities and so, on.

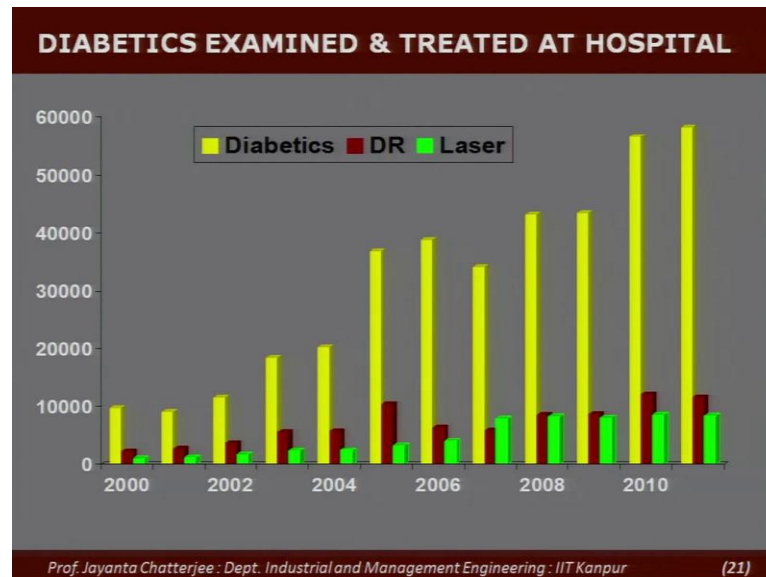
So, in most services, these days we would like to involve the customer more and more, create standard blocks, create self service and reserve the human machine composite system, expert system and expert personnel only for higher value adding activities. Adopting these principles, great services new services have been created and excellent example is Aravind Eye Care in India, world famous now, spread to many countries, the model has been replicated, an emulated number of countries.

Aravind Eye Care themselves are spread their wings and want to many countries, originally started as a dream project by one individual Doctor V and his dream was to provide cataract operation and simple eye care to many people at a fordable price. He started in South India, where by looking at the process of cataract operation we understood, then the most critical part in the most high value part of that service operation is, where the doctor lifts the original lens out of the eye and puts in an artificial lens.

Everything, else giving eye drops, keeping the patient under observation for some time before the process starts, giving the eye drop, again observing the patient, all the other necessary hygienic treatments and post operation all the process. So, Aravind Eye Care adopted industrial engineering principles to some extend production line principles and understood that the most high value machine has to be feat through multiple lines and non-value adding stop should be removed.

And get it many of those many very innovatively, I am not discussing all of those, I would request you to look on the web and search you will find great presentations on You Tube and about this are Aravind Eye Care.

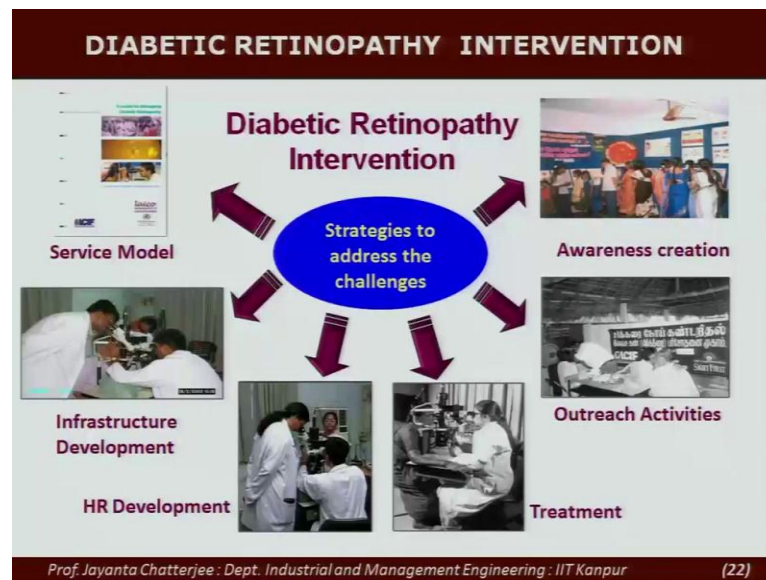
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But in creating a new service by involving the customer and adopting process flow manufacturing line design techniques, where it is applicable, reserving human empathy and a human touch for the most critical portions, one can create very profitable. But, very valuable for the society high quality new services, so for example, Aravind Eye Care was recently engaged over the last decade or so, this very complex area of diabetic retinopathy.

The macular degeneration of diabetic patients and their eyes and the treatments they need and you can see here the result of their 2000 to 2010 and you can see the number of diabetics treated with almost the same facility have gone up very, very significantly using the service design principles.

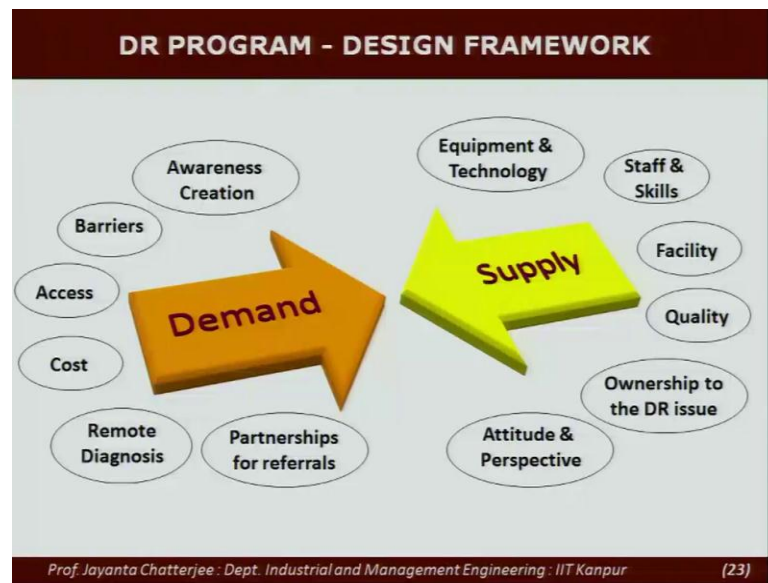
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And some of the examples are shown here, the use they start with awareness creation among patients. So, the start to eliminate the need to visit the hospital and when through the various outreach activities they have and this awareness spreading sections in many cases, when the customer arrives for the treatment, the customer as already come prepared with fore knowledge.

So, there is an active involvement of the customers to discussions and various kinds of demonstrations in the pre-treatment stage and then, the treatment happens and then, here is a they are description of the new service model, whether customers play very significant part and industrial engineering principles are gainfully employed. So, please do search for information on Aravind Eye Care and they are path breaking new service design methodologies and share your understanding and share your comments on the forum.

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And see how this critical part that we have discuss before of managing supply and demand dynamically can be used for a new health care service, critical service gainfully. So, Aravind Eye Care is a life case for you to study and discuss on the forum and give your inputs that how the new service has been created, what are the futures, what are the challenges they have met and how those learning's can be deployed in other services.

Thank you.