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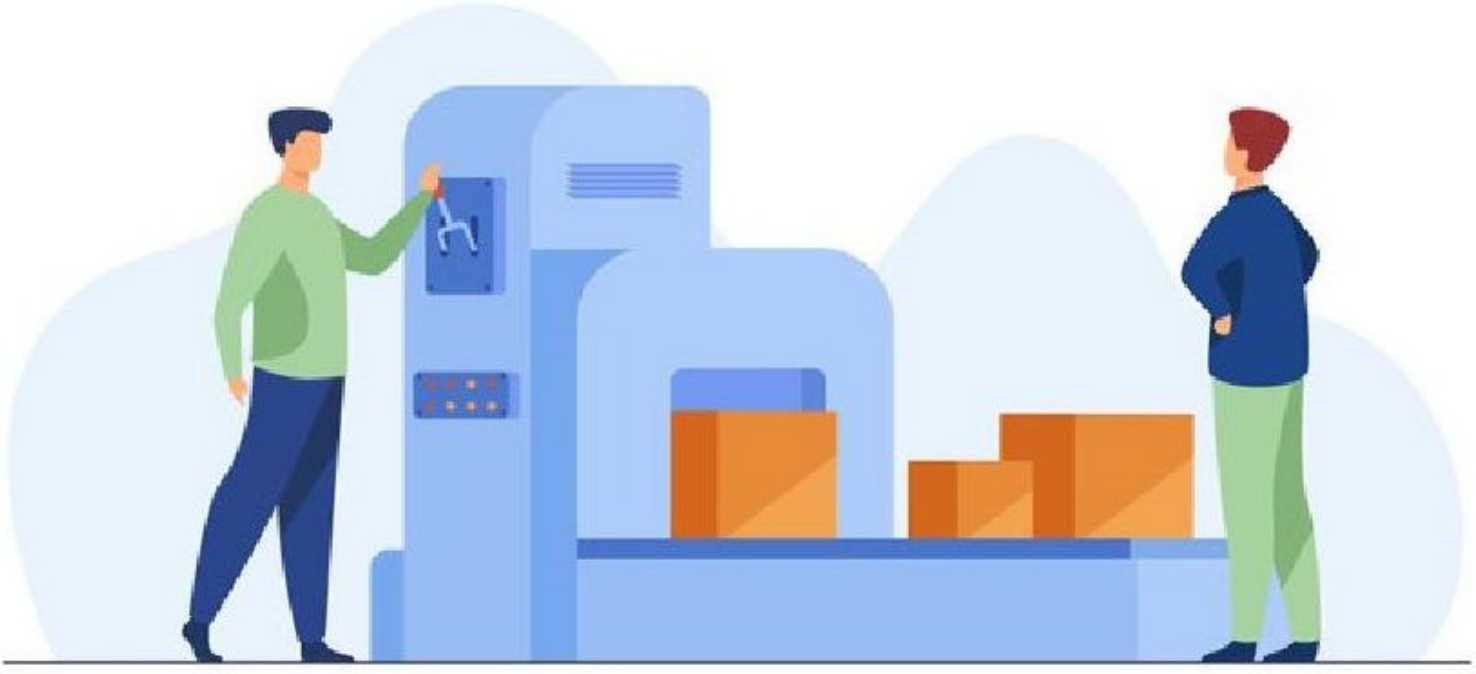
Service Operations Management



Dr.Radha Ganesh Kumar,
Mr. K.Guru & Ms. A.Umadevi

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SERVICE OPERATIONS MANAGEMENT

Presenting A **Brief Discussion** About the Increasing Importance of **Operations Management** in The **Service** Sector

Dr.Radha Ganesh Kumar
Guru.K
Umadevi.A

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PREFACE

This book is about how to manage and improve the operations in service organisations. Service operations are the parts of the organisation that create and deliver service to customers. The service could be that delivered to customers inside an organisation, such as staff in other functions, or the service provided by public sector organisations, voluntary organisations, mass transport services, professional services, business-to-business services, retailers, internet services, tourism and hospitality, for example. In this book we do not focus on any particular type of service but seek to cover the many decisions faced by operations managers in all these organisations. To illustrate this diversity, we have provided examples from many different organisations Operations managers are usually responsible for most of the costs in an organisation, and for most of the revenues, and they manage most of the people and physical assets. Although many organisations are motivated by profit, most operations are also assessed on criteria such as costs, revenues, adherence to budgets, customer loyalty and technological leadership.

The aim of this book is to provide a clear, authoritative, easy to read and brief description on important topics interesting treatment of service operations management. Our objective in writing this book is to help students and managers understand how service performance can be improved by studying service delivery and associated management issues. This book is intended as a textbook for those who want to build on knowledge of the basic principles of service operations management. It will also serve as a handbook for operations managers in service organisations as they seek to develop and implement operations strategies. We would welcome feedback and suggestions to help us develop our textbook. Please do not hesitate to contact gurukmarketing@gmail.com.

Authors' Acknowledgement

We thank our almighty God for blessings towards our work on this Text Book. Also many people have helped us in the writing of this book. Academic colleagues of SRM Valliammai Engineering College have provided stimulation, encouragement and/or contributions, including important ideas and material, useful feedback, illustrations and case examples. We would like to express our gratitude to all of them. Practising managers from around the world have also been kind enough to provide some rich material about their activities and organisations; our grateful thanks to them.

We are particularly grateful to Dr.B.Chidhambararajan, our beloved Principal and Dr.M.Murugan, our beloved Vice Principal of SRM Valliammai Engineering College for motivating our considerable efforts and expertise provided to us with comments, ideas and suggestions in our academic contributions, all of which have had a significant influence on the text.

We have greatly benefited from the guidance, encouragement and support of Mr.Saravanan.S, President of GLAD and the highly polished and professional team at GLAD Publications. It is appropriate also for us to thank all our students, both past and present. They have, over many years, been a source of great stimulation and development. Each one of them has had an influence on this book.

Finally, we would like to thank our parents and partners, allowing us to dedicate a significant amount of our time to this project. They have been our major source of encouragement; without their support, and also their direct involvement in the book, we would never have completed this task.

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He has guided TNSCST government funded student projects for the year 2017 and 2019. He has contributed for Book chapter titled, “Trends and Methods to evaluate Online Assessments” in Management and Engineering Research Tome. Published patent titled, "BLOCK CHAIN-BASED SHOPPING CART" and received Grant for international patent titled, “BLOCK CHAIN BASED RICE ATM”. He has been a NPTEL MOOC Translator for the course, “Operations and Supply Chain Management”. He is a member of Editorial Board of ‘International Journal of Research Publications’. He is a qualified trainer on “Entrepreneurship Development Programme” (Learn-Wise course) by EDII. He is currently exploring research on MOOC and Online Learning platform in the educational field.

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CHAPTER 1

UNDERSTANDING THE NATURE OF SERVICES

The services industry has gained considerable interest in the recent years, from daily human personal needs to many more sectors such as engineering. In the first chapter, we can explore the role of services in the economy of the country, the evolution of services and the drivers of service sector development. Each service exhibits distinctive features that distinguish services from commodities. This distinction is explored in this chapter with the assistance of presenting the essence of the services, the distinguishing aspects of the services and eventually= defining the services as a business kit. In terms of labour needs, expenditure requirements and many other factors, the service industry is composed of different sectors that are complex in nature. For example, the labour demand extends from a hair salon operation with few workers to an overwhelming number of employees in the airline industry. A broad multi-specialty hospital is a healthcare sector that is more capital expensive than a small doctor's clinic concerned with a single specialty. Despite such diversity, certain service sectors share some comparable characteristics that can be capitalized on to incorporate standard marketing and service strategies. In Chapter 1, various classifications are discussed, helping to categorise different service sectors into similar categories.

1.1 Introduction

Services play an important part in our everyday lives and in every nation's economy. Between business to business, customer support, and where the facilities can be used. The service process may be delivered by government, private or non-governmental organisations. Services arise as consumers direct such practices to the service supplier in order to obtain intrinsic benefits which should be provided by such items. The production may be achieved in the form of operation on customers such as processing or repair.

1.1.1 Definition and Perspectives of Services

The service sector comprises all business operations whose production is not an individual commodity or development and is typically consumed as it is generated and promotes types of ease, convenience, timeliness or wellbeing, which are mainly intangible consumer issues (Quinn, Baruch and Paquette, 1987).

A service is a more or less invisible process or sequence of operations that usually take place through transactions between the consumer and service staff and/or physical infrastructure or services provider's products and/or processes, as solutions to customer issues (Gronroos, 1990). Services are actions, procedures and accomplishments (Zeithaml and Bitner, 1996). A service is a time-lost, intangible experience

for a client that works as a co-producer (Fitzsimmons, 2006).

Any gesture or performance that a group may deliver to another party that is ultimately invisible and leads to no control of something. It may or may not be connected to a physical product (Kotler, 2003). Services are economic operations that create time, location, shape or psychological services (Haksever et al., 2003).

- A crèche service facility takes care of baby and saves parents ***Time***
- Buying grocery or household items in one convenient ***Place*** that is supermarket or big malls
- A database service provider providing information in a ***Form*** to insurance manager for easy usage
- Going for a movie or theater for ***Psychological refreshment***

1.1.2 What is Service?

Service is a process or a set of activities in which a customer interacts with service provider to produce intangible experiences as an outcome. Service can be provided as a combination of tangible good and intangible experience.

Customer's inputs and mostly physical presence

are important to initiate the service. In some self-services, customer acts as co-producer of service.

The simultaneous activities, customer request and service delivery, leads to the perishable characteristic of services. A service process is shown in Figure 1.1.

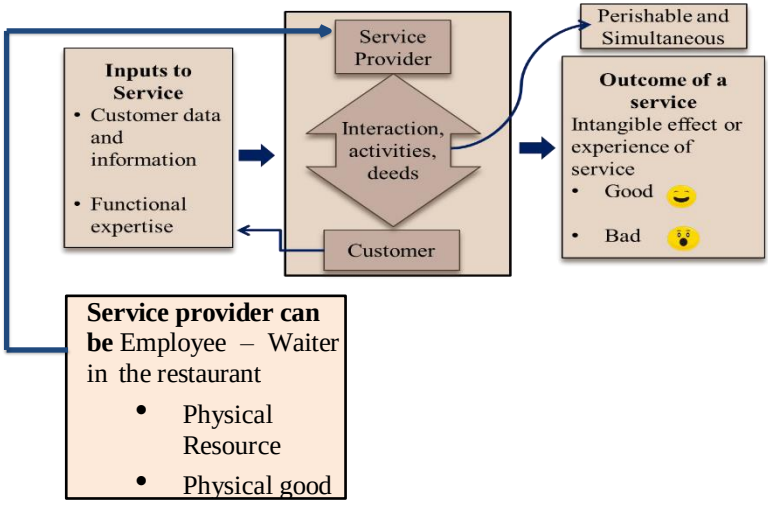


FIGURE 1.1: SERVICE PROCESS

Forms of Services

Services that deploy resources in order to deliver some form of service, which are given below.

- Business to consumer (Financial services, retail)
- Business-to-business (Consultants, communications)

- Internal services (Personnel, IT)
- Public services (Education, health services)
- Not-for-profit services (Charities, faith organizations)

1.1.3 Imperatives of Services

We begin our daily routine powered by numerous service providers such as newscasts, foodstuffs and home delivery of household goods. The implementation of new services made it simple and convenient for a human being to concentrate on his core work. For instance, childcare and ready meal facilities have led women (especially in India) to enter the workforce without any reservations about their homes or children. Services desire and reliance can be highly understood by industries that are not classified as services like manufacturing. The following points provide us with some service criteria,

- The need of service can be realized in our daily personal requirements as can be seen in Figure 1.2.

- Manufacturing companies are evolving their products, which are to be accompanied by services as shown in Figure 1.3.

- Growing attention by the service provider on service quality and customer satisfaction. Service sectors have been marking real impact on nation's economy.

- Need for cost effective and convenient services available anytime and from anywhere.
- Direct contact of customer: Feedback to innovate and improve.
- Women are increasingly joining the workforce results in rising two-income families hence there is more dependency on services like Care taker at home, baby-sitting jobs, dry-cleaning and laundry services.
- More industrialization and increasing penetration of companies in cross border markets result in new and variety of services like advertising, logistics, event management and placement services.
- Competition between companies has been moved from mere technology and process based to the service based competition.

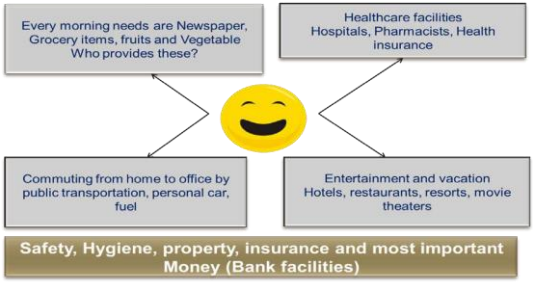


FIGURE 1.2: DAY-TO-DAY SERVICE REQUIREMENTS OF HUMAN

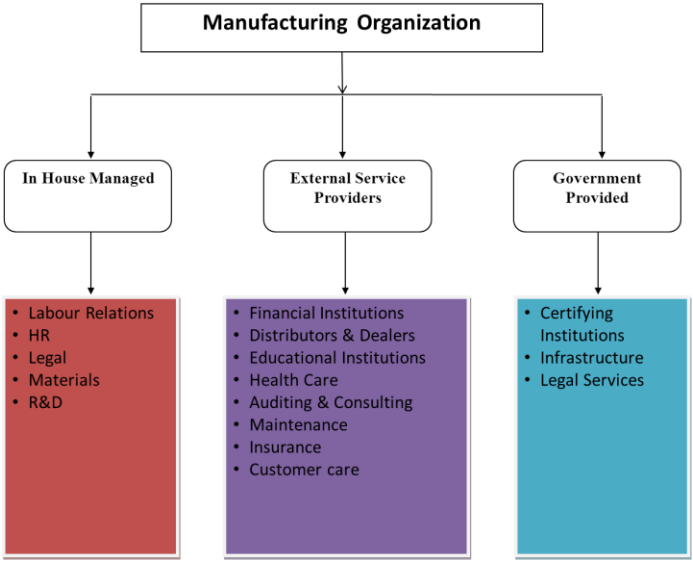


FIGURE 1.3: SERVICES REQUIRED BY MANUFACTURING SECTOR

The different levels of service perspectives are as follows,

- Individual Perspective ("Quality of Life")
- Organizational Perspective ("Routine machine tending jobs, Shift to white-collar")
- Nation's Perspective ("Nation's security providing utilities")

The service sector of any developed or developing nation has evolved from Pre- industrial era through Industrial era to Post-industrial era as shown in Figure 1.4

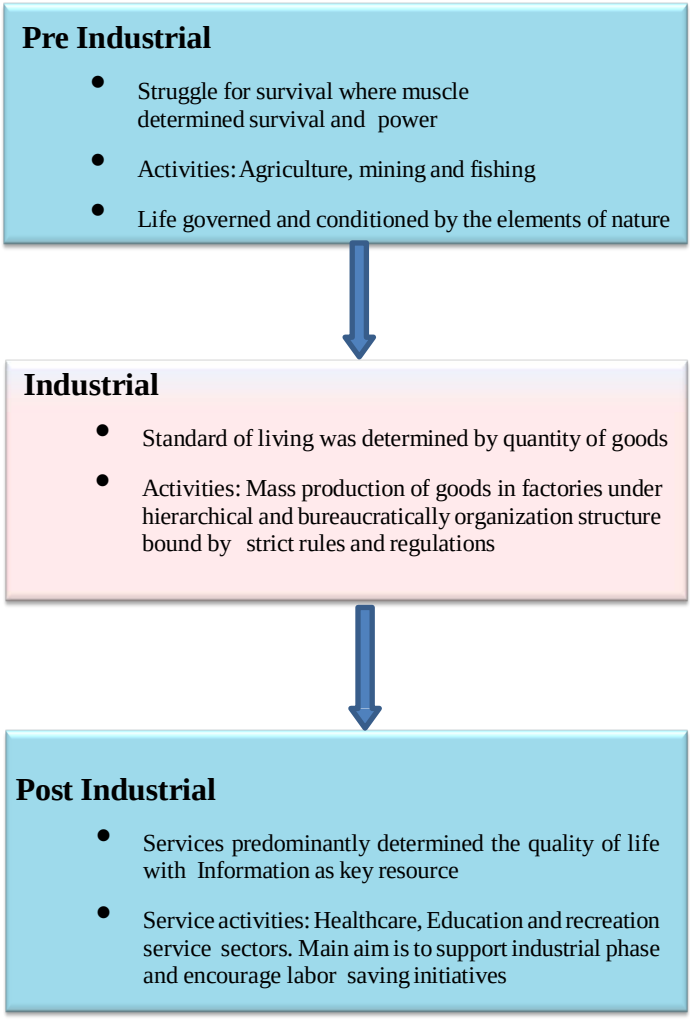


FIGURE 1.4: EVOLUTION OF SERVICES

1.1.4 Service Sector in Indian Economy

Service sector contributes to Indian Economy by having 54 % in gross domestic product (GDP) in 2019-2020. The COVID-19 pandemic, the subsequent lockdown and social distancing measures have had a significant impact on the contact-intensive services sector. During the first half of the financial year 2020-21, the services sector contracted by almost 16 percent. The service sector has been contributing to about 44% of total employment. The Indian IT services industry is expected to reach US$ 100 billion in revenues in 2021, with exports contributing to about 69 billion.
(Source:https://www.indiabudget.gov.in/economicsurvey/doc/vol2chapter/echap09_vol2.pdf).
Service industries have assumed the mantle of economic leadership and it supports manufacturing and agriculture sector.

1.1.5 Various Sectors Constitute Service Industry

Service sectors of Indian economy are classified as following

- Trade
- Hotels and Restaurants
- Railways
- Other Transport & Storage
- Communication (Post, Telecom)
- Banking
- Insurance

- IT
- IT enabled services (ITeS)
- Real Estate
- Business Services
- Public Administration; Defense
- Personal Services
- Community Services and other services

The service sectors of Indian economy that have grown faster than the economy are as follows:

- Information Technology (the most leading service sectors in Indian economy), IT-enabled services (ITeS), Telecommunications, Financial Services, Community Services, Hotels and Restaurants.
- Increasing income levels have resulted in higher spending by middle class on value added services like communications, entertainment, hospitality and healthcare, which has led Indian Service sector to high levels of sustained growth. (**Source:http://www.ibef.org/industry/services.aspx)**

NATURE AND CHARACTERISTICS OF SERVICES

1.2 Nature of services

a. Customer's presence, varying demands which cannot be stocks and intangible nature of service required by the customers in any service system makes the service environment unique. We cannot apply the knowledge or experience from manufacturing techniques to the services directly. We need to devise specialized and different managerial techniques for services.

b. The main challenge in understanding the services is that companies provide products to the customers which are a package of goods and services. At the same time many companies provide pure services and pure goods as shown in figures 1.5a and 1.5b.

c. It is important to understand the differences between goods and services so that the service operations can be managed using appropriate tools and methods. The distinguishing factors which differentiate goods from services are presented in Table 1.1.

d. We need to define the distinctive characteristics of services.

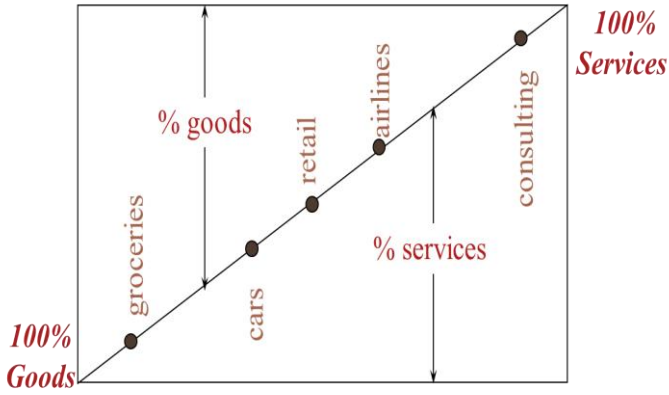


FIGURE 1.5 a: PRODUCTS ARE "BUNDLES" OF GOODS AND SERVICES

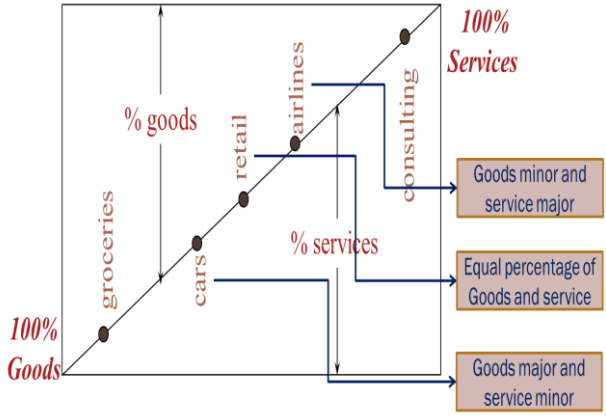


FIGURE 1.5 b: PRODUCTS ARE "BUNDLES" OF GOODS AND SERVICES WITH FURTHER CLASSIFICATIONS

TABLE 1.1: DISTINGUISHING FACTORS BETWEEN GOODS AND SERVICES

GOODS	DISTINGUISHING FACTOR	SERVICES
Tangible	Output	Intangible
Uniform	Demand per product	Variable
Possible	Ownership	Not possible
Yes	Storable Inventory	No
Separate both in time and in place	Production and consumption	Takes place simultaneously in time and place
Low or no involvement	Customer involvement	High involvement and many times customer act as producer also
Easy	Patents	Very Difficult

1.3 Service Package

Defines a product as a bundle of goods and services

a. Service organizations sell bundle of goods and services. Any service bundle is composed of explicit physical items having sensual benefits and Implicit intangibles having psychological benefits which is better represented with the help of Service Package
b. Service Package

- Supporting facility
- Facilitating goods
- Information
- Explicit services
- Implicit Services

Supporting facility

Physical resources where services are offered such as college building, a hospital and an airplane.

Facilitating goods

The materials or items purchased or consumed by the buyer and/ or provided by the customer, for example are food items in airplane and legal documents to real estate.

Information

Any data or information provided by the customer to

enable efficient and customized service, for example records of past medical history of patient and availability of movie tickets.

Explicit services

Benefits readily observable by the senses and that consist of essential or intrinsic features of the services, for example, removal of pain after tumor surgery

Implicit Services

Psychological benefits that can be sensed vaguely or the extrinsic features of the services, for example, status of IIT degree.

1.4 Distinctive Characteristics of Service

a. Customer Participation
b. Intangibility
c. Simultaneity
d. Perishability
e. Heterogeneity
f. Transferability
g. Cultural Specificity

1.4.1 Customer Participation

- Physical presence of customer in service process many

times is inevitable.

- What a customer notices when he/she enters the service process?
    - Physical surroundings of service facility
    - Matching the service facility design of physical surroundings as per customer's perceptions (Interior decoration, Layout, Noise)
- Customer participates in the service system by providing right information, by acquiring knowledge about utilizing the self-service technologies and by being motivated to learn advance technologies which are substitutes of labor intensive services
    - Effective learning at school depends on the efforts of students
    - The effective treatment of a patient depends on the right and correct medical record provided by the customer
    - Customer must learn how to use internet to perform web check-in well in advance of flight departure to avoid any delay at check-in counters at airport

1.4.2 Intangibility

- We cannot touch service, feel service and test the performance of service with objective measures like we do for goods
- Intangible service outcomes: Feelings of anxiety and joy, convenience, personal satisfaction

- Services are ideas, concept and performance
- Difficult to obtain patents for services and hence innovations can be copied easily and quickly.
- Due to intangibility, companies need to materialize the service to make the customer aware that he has been served.
- How to measure?
    - Reputation of service firm
    - Government regulations

Managing Intangibility

- Address customer's psychological needs
    - India's successful airline Indigo always provide services which are on time performance, clean, neat aircraft and good onboard service. Indigo believe that on-time flights means on-time meetings
- Avoid being copied by the competitors by introducing innovations which are highly dependent on infrastructure of services like information systems
    - Implementing flexible expensive information systems where new services can be introduced with ease can prevent companies from being copied
- Materialize the service by using some symbols and slogans, offering gifts
    - Some hotels give a fruit basket, some cookies and drinks on the arrival of guest just to convey the guest that he is being cared by the

hotel.

1.4.3 Simultaneity

- Services are produced and consumed at the same time hence service production and service consumption are inseparable.
- Service is an experience, which cannot be stored as inventory unlike goods which can be inventoried.
    - Goods inventory can act as buffer to meet varying demand
    - Customer's demand for goods is met quite late after the production of goods in some factory from the stored inventory
    - Goods can be inspected for quality before delivering to the customer because of time gap between production and consumption
- We cannot inspect services before the consumption of service by the customer
- We do not get any opportunity to check the quality of service before it is delivered because the perception of a customer may change during the service is being delivered.
- Once a service provider commits a mistake, it may be very difficult to correct the mistake in services.

1.4.4 Perishability

- Service is a perishable commodity and cannot be inventoried.

- In contrast to services, tangible goods can be stored for long and can be used at the later date. Fluctuations of demand can be accommodated by keeping inventory. During the lean demand periods inventory can be held for later periods when demand rises.

- Services cannot stock its inventory. During less demand periods or no demand periods the idle capacity leads to opportunity loss. The opportunity lost is a loss forever in services.

EXAMPLES

1 Can we measure the cost involved in Unoccupied room during Off season in a hotel?

2 Can we store a service and retrieve it for later use? An hour of lawyer or a doctor?

Perishability occurs due to highly varying customer demand and due to fixed capacity of services.

Example of Perishable Airline Seats

- An airline opened booking of 100 tickets 3 months in advance on June 15, 2011 for the flight to depart on September 15, 2011. On September 10, 2011 the airline realizes all tickets sold. They stopped entertaining further reservation.
- On September 15, 2011, three hours before the departure of flight, airline realized that 5 passengers cancelled their trip. After deducting reservation charges, airline had to refund back some amount to the

passengers.

- Can Airline get 5 new passengers within three hours of flight departure?
- What would be the loss of flying with 5 empty seats?
- Can we adjust capacity (in terms of number of seats) of airplane?

1.4.5 Heterogeneity

- Services provided by humans for other humans
- Inconsistent behavior of service provider
- Consistent performance of service provider can be experienced differently by different customers due to varying perceptions as shown in figure
- Same service provider may perform differently due to physical and psychological conditions
  - Due to lack of proper training and employee retaining policies
  - Due to nonstandard working environment
  - Due to lack of proper evaluation of performance of employee during customer is getting served
- All above points lead to Inconsistent service delivery

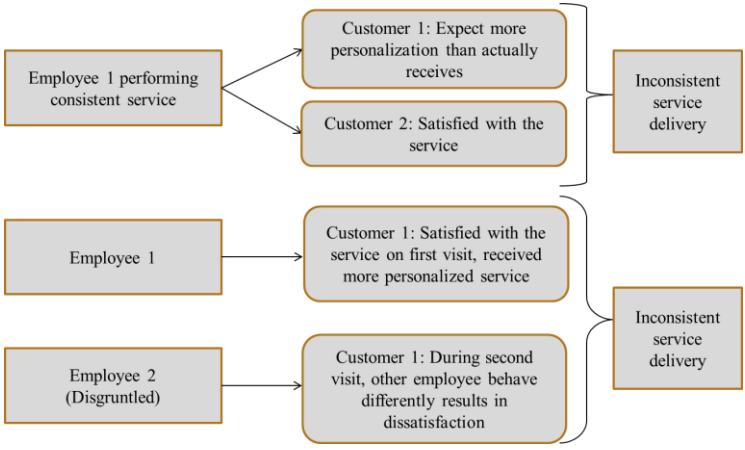


FIGURE 1.6: HETEROGENEITY AT SERVICE PROVIDER

1.4.6 Transferability

- Customer expectations are transferable from one type of service to another type of service or from one service sector to other service sector.
- Can we compare two goods: A Car and A T- shirt?
- Diverse services tend to have more in common because of similar elements.
- EXAMPLES: Level of personal contact, length of time spent, assistance provided by sales person and guarantee of satisfaction.

  Customers compare a particular service not only with direct competitors but with the other similar non related services.

1.4.7 Cultural Specificity

Culture is very important attribute of service

- Culture influences the expectations and behavior of customers and service providers
- Existing gaps between service provider's and customer's cultural orientation can either enhance or detract from the service encounter
- EXAMPLE: In India people like to buy the grocery items in a way local grocery (Kirana) stores provide that is in a customized amount and packing (loose grocery items like grains, lentils etc.). Many upcoming retail shops with multinational presence are accounting for this factor, which were earlier selling the grocery items in a fixed quantity and in pre-defined packaging.

Examples of service industries exhibiting distinctive characteristics

Example of the service package in hospitality sector
Supporting facility

The physical resources that are necessary to provide the services include hotel rooms, dining area, recreational area and overall building.

Facilitating goods

The facilitating goods which are purchased by the buyer includes the food and beverages consumed.

Information

The information required to facilitate the service for

example the type of room required, date and time of arrival, requirement of taxi services, preferences and choices regarding the rooms services.

Explicit services

The explicit services expected to be must by the customer. The swiftness of the room service, cleanliness in room and hotel, behaviour of the staff are some of the explicit services that are readily observable by senses and create an impact on the efficiency of the overall service.

Implicit services

Psychological benefits that customer gets include comfort level during the entire stay.

CLASSIFICATION OF SERVICES AND ANALYZING SERVICE OPERATIONS

1.5 Why Classifying Service?

Classification of services helps in devising guidelines to propose and implement appropriate service strategy as shown in Figure 1.7

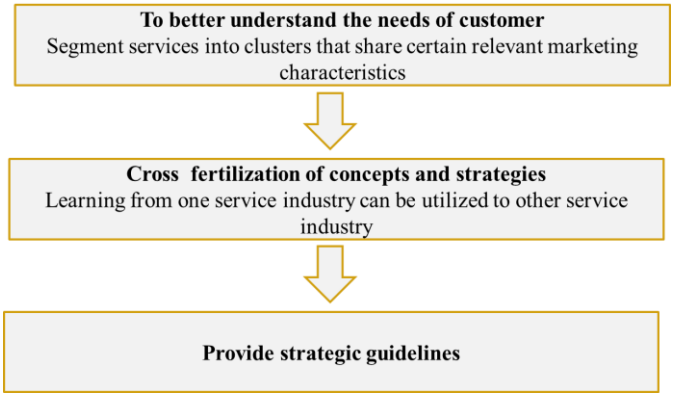


FIGURE 1.7: SERVICE CLASSIFICATION TO PROVIDE STRATEGIC GUIDELINES

1.5.1 Service classification imperatives

Classifications of goods have proved to be beneficial in the following ways. Similar benefits can be reaped after service classification also.

- Better understanding of needs and behavior of customers by classifying goods in categories convenience and specialty goods, durable and non-durable goods and consumer and industrial goods.
- Such classification helps in product evaluation, purchasing procedures and usage behaviour and directs appropriate manufacturing and marketing strategies

Some service industries have similar challenges and common problems to address. Most of the services share relevant marketing characteristics which are given below,

- Relationship between customers and

service provider

- Patterns of demand
- Supply constraints

Examples: Similar behavior of different service industries

- Telecom industry and call center
  - Similar demand patterns
- Doctors, consultants and lawyers
  - Frequent meetings with more personalization
- Airlines and Hotels
  - High infrastructure costs
- Haircutting, boutique and spa
  - More personalized services
- Education, health and other utilities provided by government
  - Maximum reach to each individual of nation

1.6 Service classifications

Services can classified based on

- Nature of service act and the recipient of

service

- Customization required by customer and the judgment of customer contact personnel
- The nature of demand for the service relative to supply
- Common problems across service industries in terms of degree of labor intensity and degree of interaction and customization. Mostly used classification is represented by Service Process matrix

1.6.1 Service classification 1-Service Act and Recipient if service

This classification is based on nature of service act and actual recipient of service as presented in Figure 1.8.

- **The service act or performance**
  - Service performance may result in tangible action
  - Service performance may result in intangible action
- **Actual recipient of service**
  - Directly people or more precisely people bodies or mind
  - Services directed at goods and other

physical possessions or intangible assets

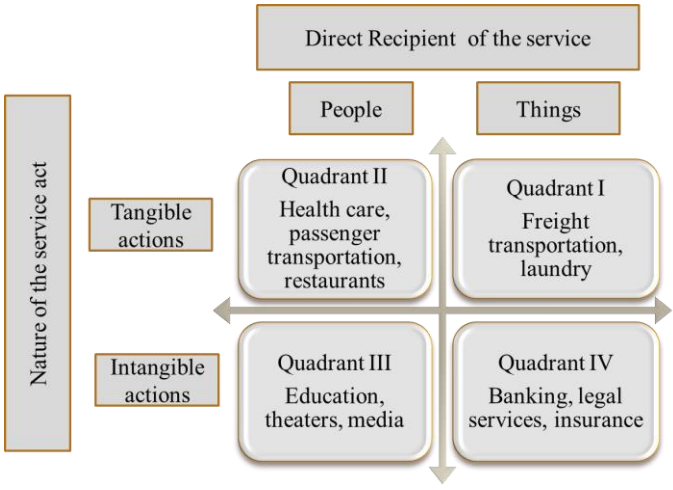


FIGURE 1.8: SERVICE CLASSIFICATION 1 - NATURE OF SERVICE ACT AND ACTUAL RECIPIENT OF SERVICE

1.6.2 Insights from classification based on service act and recipient of service

OBSERVATIONS on this classification can be seen in Figure 1.9:

- Physical presence or mental presence of customer in service. No physical presence but mental presence through some communication mode

- Physical presence is required

➢ Duration of customer's presence in service system

- Throughout the service
- Only to initiate or terminate the transaction

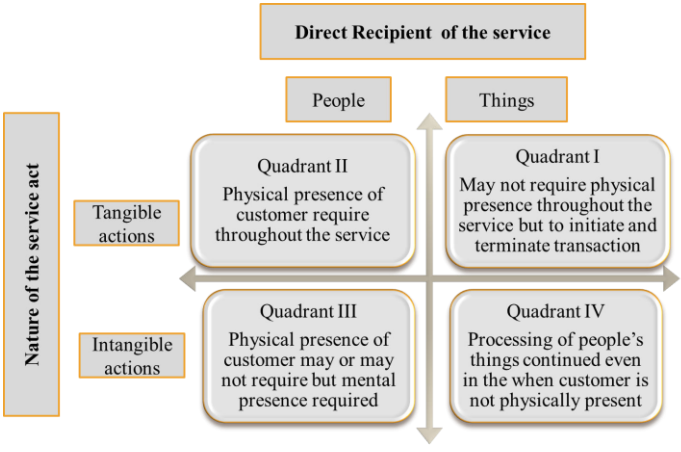


FIGURE 1.9: INSIGHTS FROM CLASSIFICATION BASED ON SERVICE ACT AND RECIPIENT OF SERVICE

➢ Physical presence of customers involves and demands

- Interaction with service personnel

- Attention given to nature of service facilities: Facility location and facility design

- Characteristics of other customers using the same service

➢ No physical presence of customer

- Customer does not meet service provider face-to-face

- Focus on facilities may not be that important but effectiveness of service needs great attention as you cannot see the customer physically

How we can automate the service in the most convenient form for the customer using information technology avoiding travel by the customer?

1.6.3 Service classification 2: Customization and Discretion given to contact personnel

This classification is based on customization required by customer and the judgment of customer contact personnel as shown in Figure 1.10.

➢ **Extent to which service characteristics are customized**

- Low: A service leaves less choice to

the customer

- High: A service leaves wide choice of options to the customer

➢ **Extent to which customer contact personnel exercise judgment in meeting individual customer needs**

- Low: Standardized service delivery, little discretion given to personnel in altering the characteristics of the service delivery
- High: Personnel is given wide latitude in delivering the service

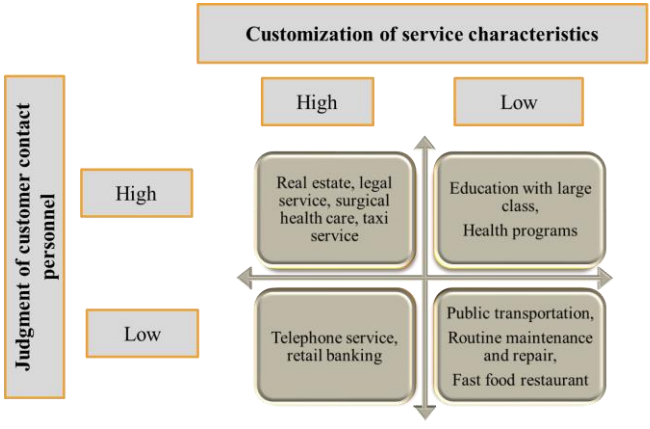


FIGURE 1.10: CUSTOMIZATION REQUIRED BY CUSTOMER AND THE JUDGMENT OF CUSTOMER CONTACT PERSONNEL

1.6.4 Insights from classification 2: Customization required by customer and the judgment of customer contact personnel

- Standardization and customization
  - The strategy to adopt standardization or customization depends on how service organization tradeoff between price and value.
  - Customization comes in many forms like variety, speed, convenience, self-service etc. The most important point is to make the customer aware that what he or she can expect from a particular service provider. That is the service concept should be clearly defined by the service organization.

- Low judgment of customer contact personnel
  - Have relatively little discretion in altering the characteristics of services. It is important to see whether the service employee follows the standard procedures to provide consistent service

- High judgment of customer contact personnel
  - Knowledge, training and expertise or specialization in the service domain become very important here to acquire skills required for satisfactory service delivery. Specialization may be required to such an extent that

some services like surgical operations are so critical that customers (patients) will place their lives in surgeon's hands.

1.6.5 Service classification 3- Constrained supply and demand fluctuations

This classification is based on nature of demand for the service relative to supply as shown in Figure 1.11.

- Extent to which supply is constrained
  - Peak demand can usually be met without a major delay
  - Peak demand regularly exceeds capacity
- Extent of fluctuations over time
  - Wide
  - Narrow

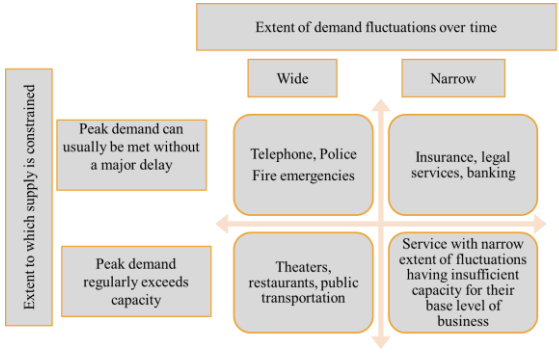


Figure 1.11: CLASSIFICATION BASED ON NATURE OF DEMAND FOR THE SERVICE RELATIVE TO SUPPLY

1.6.6 Insights from classification 3: Constrained supply and demand fluctuations

- Due to perishable nature of services we cannot store services as inventory. Opportunity loss due to excess demand results in losing customer to the competitor. In contrast excess supply or capacity results in idle time or waste resources.

- The need of extra capacity can be managed by hiring part time employees or renting extra facilities to manage excess demand.

- Understand the nature of demand fluctuation (predictable or random) and reason for this fluctuation. This understanding will help in devising strategies to smoothen the demand.

1.6.7 Service Classification 4-The Service-Process matrix

Service Process matrix proposed by Roger Schmenner, 1986 is based on degree of labor intensity and degree of interaction and customization as shown in figure 1.12

- Degree of labour intensity
  - Ratio of labor cost to capital cost
- Degree of Interaction and customization
  - Ability of customer to affect personally the nature of the service being delivered

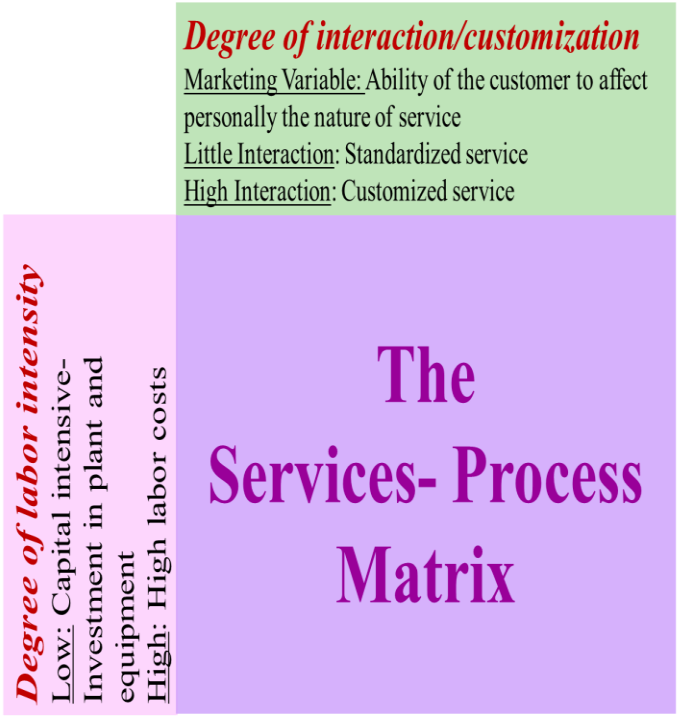


FIGURE 1.12: THE SERVICES PROCESS MATRIX

The classification as per service process matrix is shown in Figure 1.13 is based on following

Degree of labor intensity

- Low
- High

Degree of Interaction and Customization

- Low
- High

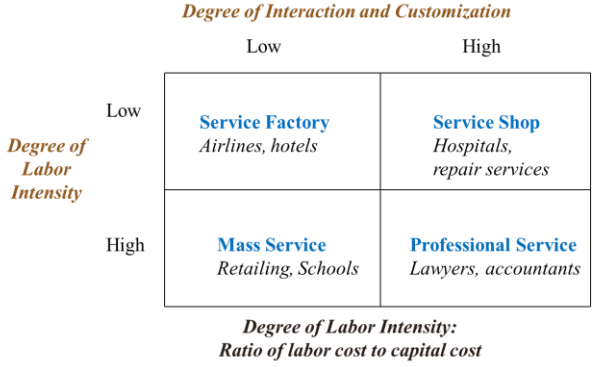


FIGURE 1.13: CLASSIFICATION BASED ON DEGREE OF LABOR INTENSITY AND DEGREE OF INTERACTION AND CUSTOMIZATION

1.6.8 Insights from Classification 4: Service Process Matrix

In the service process matrix, service sectors pertaining to each quadrant faces managerial challenges as shown in Figure 1.14.

- Low interaction/low customization: Service Factory
  - Marketing; Attention to physical surroundings
- High interaction/high customization: Professional Service
  - Cost control; Quality; Advancement of employees; Flat hierarchy; Employee loyalty
- Low labor intensity:
  - Capital decisions; Technology advances;

Peak/Off-peak management; Scheduling service delivery poses challenges for service organizations belongs to Service factory and service shop.

- High labor intensity:
  - Hiring and training; Development of methods and Workforce scheduling poses challenges in mass services and professional services

FIGURE 1.14: CHALLENGES IN SERVICE-PROCESS MATRIX

1.7 Why Service Operations?

- The word 'Operations' is defined as the

transformation process in which inputs in the form of people, raw material, technology and money are transformed using some process to an output as goods, service or product.

- When we talk about operations in context of services, we see many service organizations are labour intensive that is the people or humans contribute the most as input factor in the transformation process. The output also involves human beings. Involvement of customer in the production and consumption of service makes the service operations very dynamic.

- The absence of set standard practices and performance measures due to human dynamics make the service operations a challenging task. Contrary to services it is easier to evaluate the performance of goods in terms of visible features, strength, and quality.

- The other dimension which brings more challenges in the services is the involvement of people from different functional areas of an organization. The transformation process in services depends on the efforts of all functions like Human resources (training), marketing (managing demand), operations (optimal utilization of resources), finance (budget constraints), Information Technology (automate the manual processes).

CHAPTER - 2

ALIGNING SERVICE STATERGY AND SERVICE COMPETITIVENESS

For any organization it is very important to have a strategy in place to sustain competition. Developing a better service strategy poses many challenges to service organization due to low entry barriers. In this module, service strategy is defined by considering competitive environment of services using Porter's model. In Chapter 2 various competitive strategies are discussed which can be adopted by service organizations to achieve competitive environment. The strategies are adopted based on how a service organization wants to be viewed in the market or among competitors. Finally in this chapter, various elements of strategic service vision are presented which will help in targeting the right customer with a clear service concept and provide better service delivery by keeping productivity and cost under operating strategy in mind.

INTRODUCTION TO SERVICE STRATEGY

2.1.1. What is strategy?

- Determination of the basic long-term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of the resources necessary for carrying out those goals. – Alfred D. Chandler, Jr. (1963)

- Deliberate search for a plan of action to develop business competitive advantage & compound it. Recognize where you are and what you have now. Strategy is a destination to aim for. – Bruce D. Henderson (1991)

2.1.2. Why do organizations need strategy?

- Strategy provides a path or direction and a destination to aim for by defending and sustaining competition.

- Strategy helps the organizations to focus on core competencies

- Strategy provides meaning for the members of an organization as well as outsiders

- A properly designed strategy reduces uncertainty and provides consistency in organizing and dealing with experiences.

- How a Manager perceive the relationships among actions, context and performance which helps in making specific business decisions as shown in Figure 2.1.

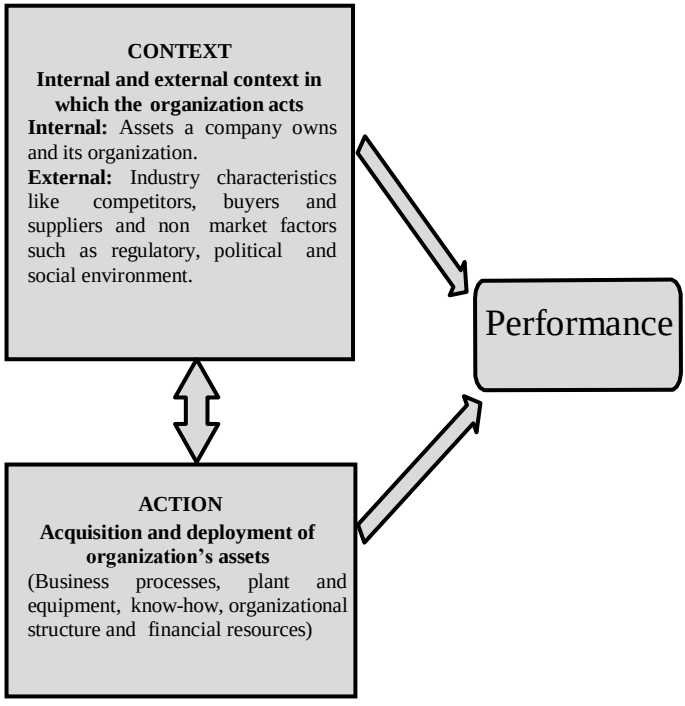


FIGURE 2.1: STRATEGY AS A GUIDE TO BUSINESS DECISIONS

2.2 Service strategy

In context of service sector, strategy provides guidelines for service organizations for designing services, competitive strategies and service delivery systems. Imperative of service strategy can be seen in Figure 2.2. A service strategy is required to be in place because service organizations need to take decisions like:

- Who will be the customers?
- What can be offered to the potential customers which competitors do not?
- On which customer desires will a service organization compete?
- How will the business grow?
- Why a service organization should be the first choice of customer?
- Are customer's expectations aligned with the service concept? Or Do customers see value in service product? How to create value?

FIGURE 2.2: SERVICE STRATEGY IMPERATIVES

2.2.1 How to formulate service strategy?

A competitive service strategy must consider the customer's expectations and the competitive environment. A service organization has to define service value which should be aligned with the perceptions of customers. To win over customers or market share. Service organization analyze critically the competitive environment.

After capturing service value and competitive environment, a service organization may develop competitive service strategy towards strategic service vision. Strategic service vision needs a cross-functional approach with clear service concept to develop appropriate service delivery system. Following steps will help service organizations to formulate service strategy.

- Create value to achieve competitive edge.
- Understand the competitive environment of services.
- Formulate a strategic service vision.
- Formulate competitive strategies.
- Role of information in formulating strategy to achieve competitive advantage.

Formulation of appropriate strategy is the most challenging task for any sector or organization. Due to the nature of services, which exhibit distinctive characteristics as compared to manufactured goods, formulating right strategy for services becomes very difficult for the following reasons.

- Unlike manufacturing most of the services are not capital-intensive, hence, these are low entry barriers for competitors.
- It is difficult and rare to file patents for innovative services, hence, services can be imitated by new-comers.
- Services cannot take advantage of economies of scale by keeping buffers of inventory because of simultaneity of services. Whereas, manufacturing strategy can focus on low cost strategy by getting discounts on large volumes, which can be stored for use later.
- The latest technology advancements may substitute for different kinds of services, That means with introduction of some product innovation the existing service might become obsolete.

2.3 Create value to achieve competitive edge

To create competitive edge service organizations must understand how the customers value the service as shown in Figure 2.3. Value can be defined as the ability of goods or service a need or provide benefits to a customer. Value is subjective, which depends on the perception of a customer. Service organizations can achieve service value by adopting successful service strategy.

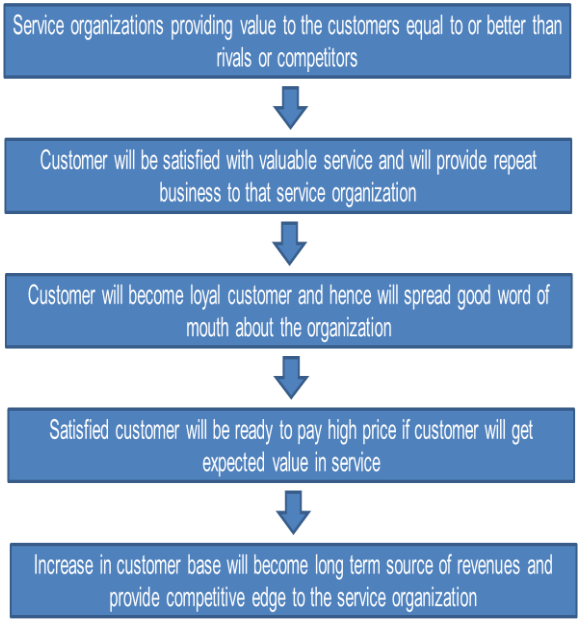


FIGURE 2.3: SERVICE VALUE PERCEIVED BY THE CUSTOMER

Service Value model

A customer look for perceived quality, intrinsic attributes, extrinsic attributes, monetary price, nonmonetary price and time as important elements of Service value as shown in Figure 2.4 and example of service model for Airline industry can be seen in Figure 2.5. Intrinsic attributes are comprised of core service and supplementary service as defined below

- Core Service: Basic or minimum service a customer expects from the service
- Supplementary Service: Supporting the delivery of core service

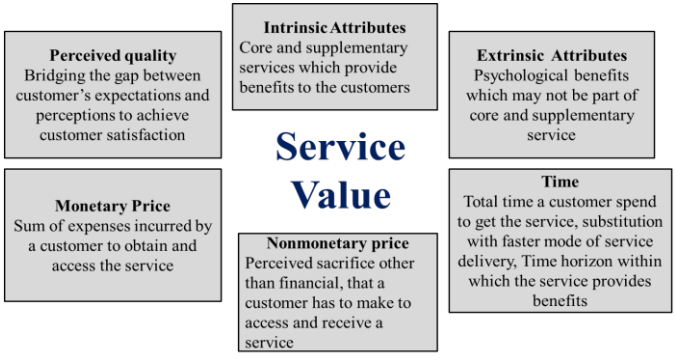


FIGURE 2.4 ELEMENTS OF SERVICE VALUE

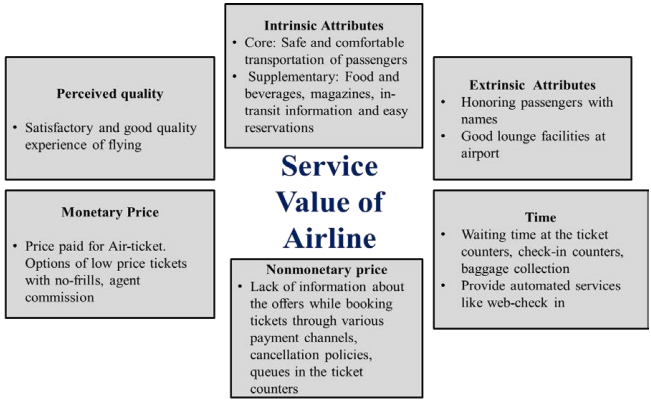


FIGURE 2.5: SERVICE VALUE MODEL FOR AIRLINE INDUSTRY

2.4 Competitive Environment of Services

To develop an effective strategy it is important to understand the competitive environment of an organization. Porter's model of 5 forces to define the competitive environment as shown in Figure 2.6.

- ✓ New Entrants
- ✓ Intensity & rivalry among competitors
- ✓ Substitutes
- □ Buyers
- □ Suppliers

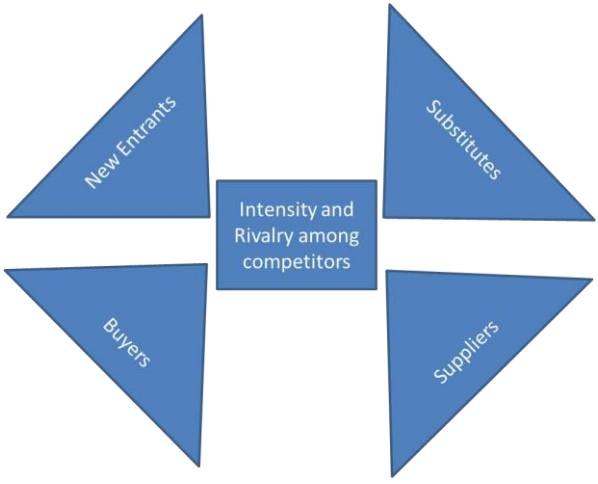


FIGURE 2.6: PORTER'S FIVE FORCE MODEL OF COMPETITIVE ENVIRONMENT

2.4.1 Intensity and Rivalry among competitors

Companies compete on prices, advertising, offerings, and innovations due to many reasons

- Companies which are equal in size and resources. Examples are HCL and TCS, which are ITeS companies.

- Competition is more in slow-growing industry. Each company fight for market share. Intense price competition due to high fixed costs. High fixed costs create pressure to use full capacity of a company.

- Price competition due to lack of differentiation or switching costs, which is more common in commodities.

2.4.2 New entrants What new entrant can bring?

Additional capacity to industry in terms of new facilities and more work force. New Ideas, new technology or new services not available with existing service organizations.

Impact of new entrant on competition

- New competitive challenge.
- Loss of customers & market share.
- Reduction in revenues.

Examples

- Earlier BHEL was the only company bidding for state electricity projects till new entrants came like ALSTOM, Mitsubishi and L&T.
- Jet Airways has also entered into the race of air transport services where Indian Airlines had long been the only public sector enterprise in this industry.

Managing threat of New Entrants: Entry Barriers

Below factors will help as entry barriers for new entrants

- Economies of scale: Declining unit costs as the volume of production of services increases. This is due to the fact that fixed costs will spread over large customer base.
- Product Differentiation: Create strong brand identification and form a loyal customer base.
- Substantial investments by service companies in equipment, facilities, Research and development can create entry barriers for companies which cannot invest to that extent. It is difficult for a Generic medicines producers to enter R&D sector of pharmaceutical industry due to heavy investments.
- Competitors will find it difficult to enter in market if customers are unwilling to switch to new competitor from existing service organization. The reasons can be the switching costs, comfort and human touch.
- Establishing strong distribution channels for services will prevent new entrants to create new distribution channel or access existing ones.
- For certain service sectors there are government policies such as licensing requirements in healthcare, which poses challenges to new entrants.

2.4.3 Substitutes

Another service that performs the same basic function. Customer's willingness to substitute and availability of substitutes. Price change of substitute service product impact the demand of existing service product.

Challenges in managing substitutes

- Cost of switching to substitutes.
- Customer's expectations are unique.
- The value of service perceived by customer has to be matched with customer's expectations.
- International callers prefer to call over internet telephone instead of calling from ISD booths.

2.4.4 Buyers

Customers create competitive pressures on the organization in an industry

- Demand for lower prices, higher quality, and more service.
- By playing organizations against each other.

Challenges in managing buyers

- Varying customer demand as a function of time

of day and day of week.

- Number of buyers by value or volume.
- Buyer switching cost.

2.4.5 Suppliers

How suppliers create pressure?

- Demand for higher prices.
- Challenges in getting good quality product.
- Labor skill or workforce skill: a very important supply resource in service industry.

Factors important to understand supplier's bargaining power

- Degree of differentiation in inputs.
- Number of suppliers by value and volume currently supplying.
- Availability of number of suppliers.
- Supplier switching costs.

Example of managing suppliers in competitive environment

- Airlines have only two main options to buy aircrafts from: Boeing and Airbus.

As an illustration of presenting porter's model to services, competitive environment for Indian Information Technology enabled services (ITeS) as shown in Figure 2.7

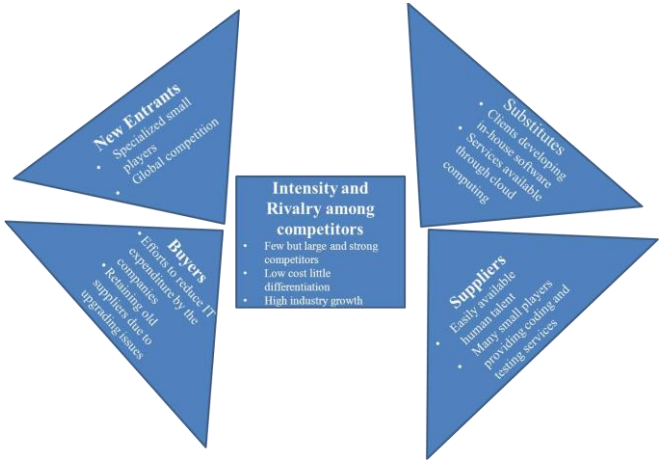


FIGURE 2.7: PORTER'S MODEL FOR ITeS

COMPETITIVE SERVICE STRATEGIES

2.5 Generic competitive strategies

- Overall cost leadership
- Differentiation
- Focus
- Fragmented Industries

2.5.1 Overall Cost Leadership

- This overall cost leadership strategy can be attained by being the low cost producer in the industry while providing almost same benefits as of competitors.

- Sources of overall cost leadership strategy are:
  - Achieving economies of scale
  - Leveraging on learning curve effects
  - Introducing innovative techniques
  - Minimizing and controlling overheads

How to achieve cost advantage?

- Provide standard services
  - Routine professional services
- Offer no-frill service products
- Spice jet is a no frill airline in India
- Reduce transaction costs
  - ATMs have reduced the personal element in banking sector tremendously
- Run service operations like factory
  - A small restaurant offering limited menu helps in quick table turnover, hence hires less skilled employee at lower wages.
- Seeking out low cost customers

- Spice jet airlines targets price sensitive customers

Low Cost Leadership Competitive Strategy Example

- Wal-Mart has no-frills self-service stores which provide lowest prices. Wal- Mart has a very good supplier and distribution network. Wal-Mart collaborates with suppliers to develop them and help them in their manufacturing processes to minimize the overall cost and hence charge less price to the customer.

2.5.2 Differentiation

- Differentiation strategy is achieved by a service organization when the service provided is perceived to be unique by the customers.

- Customers generally are willing to pay a premium price for the uniqueness of a service and will become loyal customers of the service organization

- Differentiation can be achieved by offering unique or different features
  - Product attributes
  - Brand image
  - Delivery system
  - Technology
  - Customization

  - Location
  - Quality (warranties, reliability, after sales service)

Differentiation Competitive Strategy Example

- Emirates leveraged on location based differentiation strategy by based at Dubai. Emirates considered the fact that of the seven billion people on the planet; about 3.5 billion live within an eight-hour flight of Dubai.

- Emirates positioned the airlines to take advantage of developments in the fast-growing and heavily populated economies of India and China.

2.5.3 Focus

- Focus strategy involves concentrating on a narrow or limited customer/product segment.

- Serve narrow segment effectively and efficiently by having
  - Cost focus within a limited market
- Differentiation focus for limited market
- Cost Focus
  - Serve set of customers which are inexpensive to serve
- Differentiation Focus
  - This strategy is best suited to situations

where customers have distinctive preferences or specialized needs

The focus can be specific to

- Particular Buyer Group: METRO only members can access
- Service Offered: Specialized hospitals
- Geographic region: Nilgiris grocery chain in south India

Focus Competitive Strategy: Examples

- Cost focus
  - Companies selling software with yearly updates over internet to leverage on costs by charging minimal subscription fee

- Differentiation focus
  - Dr.Agarwal's Eye Hospital located in Chennai is a focused eye hospital offering expert ophthalmic care for a segment of patients offering all treatments for blurred vision, double vision, white reflex in eye, watering, retinopathy, glaucoma, etc.

2.5.4 Fragmented Industries

- An industry comprises of many companies where no company has a dominant position or significant market share

- Such industry is comprised of large number of small and medium size firms
  - Laundry and dry cleaning
  - Shoe repair (Mr. pronto)
  - Auto repair

2.6 ROLE OF INFORMATION IN THE COMPETITIVENESS OF SERVICES

2.6 Competitive Role of Information and Information Technology in Services

2.6.1 Information in any Service Organization

- Represents large percentage of cost structure to manage and store

  Example: A hospital captures, stores and process information on patient records, physical notes, test results and insurance claims
- Determine the relative bargaining power of players.

Example: Auto dealers can have information on types of repairs the customers ask for their auto vehicles. Such information can act as a source to achieve competitiveness by taking action on changing design of vehicles or improving the parts and components which seeks frequent repair.

The retailers of supermarket have information on the sales of different products which can be

acquired by various companies supplying to supermarkets to analyze customer's preferences or choices or buying behavior.

- Act as a glue that holds the whole value chain.

2.6.2 Information Technology forms Basis to Achieve Competitive Advantage

- IT based entry barrier. American Airlines introduced SABRE reservation system which altered industry structure by creating switching costs among reservation agents. It helped American airlines to achieve higher level of capacity utilization than its competitors.
- IT helps in eliminating cost and time utilized for manually undertaking repetitive tasks of information processing. This helps in reducing overall cost and companies can exhibit overall low cost strategy.
- IT can be utilized to merge various services like banking and insurance to provide differential service products with large variety.
- IT helps in achieving lower overall costs by avoiding traditional distribution channels and by avoiding physical search of suppliers and buyers. (Example: Many software vendors or anti-virus vendors use internet to distribute softwares with some subscription fee. E-market place helps in searching for suppliers and buyers and conduct auctions to finalize deals

over internet.

- IT links the supply chain entities and increase inventory turnover. (Example: Walmart utilizes point of sales data with item-by-item sales to plan for reordering of inventory. Walmart's stores are linked to the suppliers for automatic reordering with visible information on available inventory. So, as compared to the competitors, Walmart tie up less money in the inventory.

2.6.3 Economies of Information

- Reach
  - Number of people at home or at work exchanging information
- Richness
  - Bandwidth (Amount of information)
  - Degree to which an information can be customized
  - Interactivity (Dialogue possible?)

CHAPTER 3

SERVICE DESIGN, DEVELOPMENT & AUTOMATION

In the last module we have discussed the competitiveness in services. In general service industry exhibit low entry barriers, this forces the service companies to innovate continuously. This module discusses the role of innovation in services and new service development cycle. Service blueprint is one of the tools to design service delivery system. In Chapter 3, various approaches towards service delivery design are discussed which complement the service delivery process. Technology and mainly Information Technology has revolutionized the businesses of all sectors. In this chapter, role of technology is presented in the context of service industry. The last lecture of this module throws light on what happens when a customer is being served that is service encounter. The service environment is discussed in which the service organization, contact personnel and customer himself or herself influence the service encounter.

NEW SERVICE DESIGN & DEVELOPMENT

3.1 SERVICE DESIGN SYSTEM

- Service design process is comprised of service system elements which form a blueprint to communicate the service concept to customers and employees
- Service system elements can be categorized as structural and managerial elements which should be in place to offer services that achieve strategic service vision.

3.1.1 Structural Elements

The decisions pertaining to structural elements are of strategic in nature, which have to be planned considering long-time horizon while designing service delivery system. These structural elements are presented below.

Delivery System

- Front & back office operations
- Automation like self-service technologies
- Customer participation

Facility Design

- Size of facility
- Aesthetics and ambience
- Layout and expansion consideration

Facility Location

- Customer demographics
- Single versus multiple sites
- Site characteristics

Service concepts and objectives of service delivery

- Capacity Planning
- Managing waiting lines
- Accommodating average and / or peak demand
- Service –line balancing

3.1.2 Managerial Elements

Once structural elements are in place, service organization take into account the activities require personal interaction or virtual interaction with the customer as a service encounter. It is important to consider managerial elements while designing service which can improve customer interaction and service quality at the same time provide hassle free service with less waiting time. Such elements are discussed below,

- Service Encounter
  - ✓ Characteristics of service provider, employees & customer
- Quality
  - ✓ Reducing gaps between customer expectation and perceptions
- Managing capacity & demand
- Information

3.2 New Service Development

- For their survival, service companies must develop new services continuously. New service is defined as an offering not previously available to the customers using Innovation process.
- New service development process is required to accommodate dynamic requirements of customers/ market, to bring service innovations that achieve Competitive advantage leveraging the speed of technological developments
- New service development process faces challenges in terms that service cannot have extensive R & D departments like manufacturing or processing industry? It is very difficult to imitate or make prototype of new service and test it in some laboratory.
- New Service Development (NSD) can be demonstrated as a cycle shown in Figure 3.1, which takes service innovation as inputs to the NSD cycle.

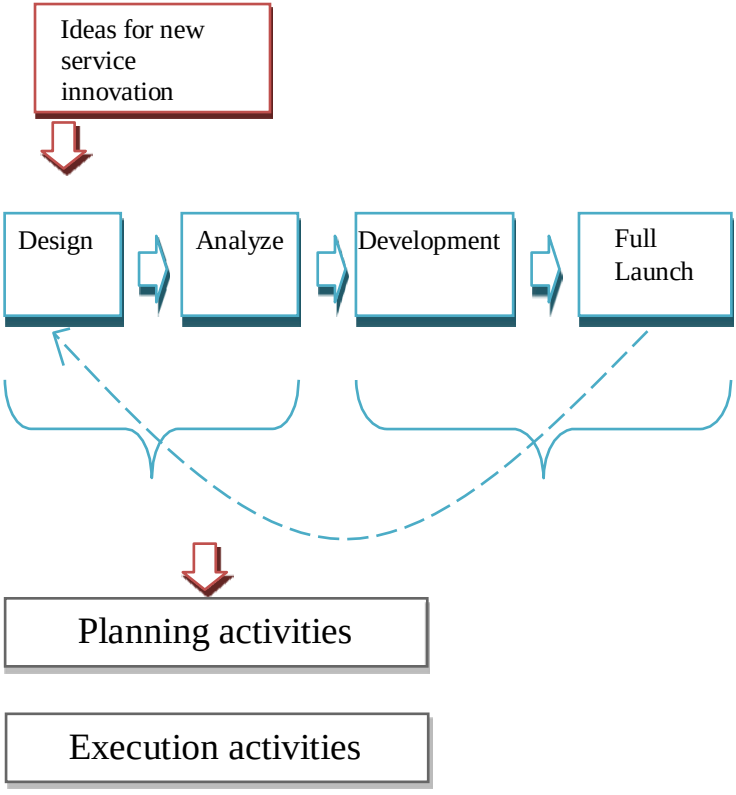


FIGURE 3.1 NEW SERVICE DEVELOPMENT (NSD)

3.2.1 New Service Development: Innovation

Innovation can be defined as successful exploitation of new ideas. Innovation is must to face the challenges or competition in service due to

- Low entry barriers in service

- Few patent protection
- Lower capital investments
- Shorter service product cycles

Innovation can also be perceived as novel, useful and creative ideas that improve effectiveness & delivered to the customers to create commercial value.

3.2.2 Challenges in Service Innovation

- Services are mainly thought of consumers of innovations (mostly developed in manufacturing sector) and Imitators of or facilitators to innovation of manufacturing firms
- Difficulties in realizing innovation in services because
    - Services may or may not use specific resources in the form of R&D departments like other goods
    - Service innovations may be are not result of deliberate activity at all
    - Innovations are recognized only a posteriori as they emerge in the process of service provision on the basis of customer's specific needs
    - Service is both a product and a process and because of nature and

characteristics of services it is difficult to change or improve service.

- Service organization or employees may innovate while providing good quality service or while meeting extra ordinary client's request, but they may think that it is to satisfy customer and never realized that they have actually innovated something.

3.2.3 Classification of service innovation

Service innovation can be classified as radical innovation and incremental innovation as shown in Figure 3.2.

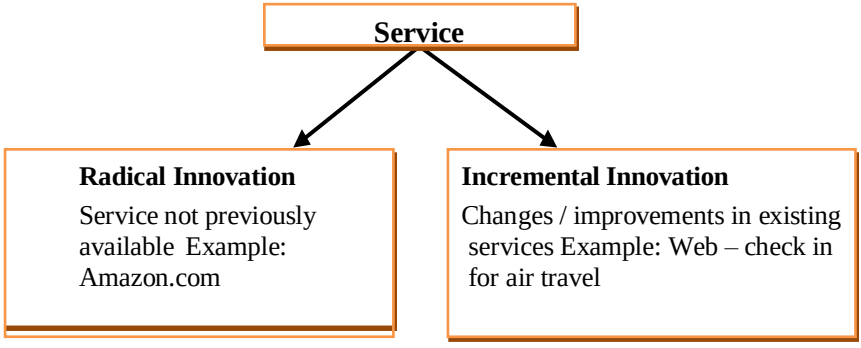


FIGURE 3.2: CLASSIFICATION OF SERVICE INNOVATION

3.2.4 Drivers of Innovation

- Financial pressures or increased competition to decrease costs, increase efficiency

- The changing economy
- Stricter government regulations
- Need for sustainable development
- Shorter product life cycles
- Community and social expectations and pressures
- Demographic, social, and market changes
- Rising customer expectations regarding service and quality
- Greater availability of potentially useful and inexpensive new technologies
- New ideas from customers, strategic partners, and employees

3.2.5 Radical Innovations

In radical innovation new service system with final service product, technical and competence characteristics replaces the old service system. It can visualize as step change in some measure of growth like sales and efficiency. This innovation can take following forms.

- Major Innovation

  New service for markets as yet undefined mostly driven by information and computer based technology such as eBay

- Start-up Business

  New services in a market that is already served by existing services such as make-my-trip, clear trip

- New Services for the Market Presently Served
  New service offerings to existing customers of an organization such as ATMs at Airport

3.2.6 Incremental Innovations

Incremental innovation results due to modest changes in the existing services. It can take different forms.

- Service Line Extensions
  - Augmentation of existing service line such as new menu items in some restaurants

- Service Improvements
  - Changes in features of currently offered service such as web based check-in services offered by airlines

- Style Changes
  - Modest visible changes in appearances such as changes in aesthetics

Example 1: Service Innovation

Dell Computer Corporation offers same design of computers (laptops) and utilizes similar manufacturing systems as their competitors, but they differ significantly in terms of how they serve their customers' needs both in terms of sales and after sales services. Dell's strategy of skipping the middleman (i.e., the sales

agent) and allowing customers to configure their computers to their own requirements have kept Dell apart from its competitors and helped build its significant market share. At the same time Dell provides online after sales service, where engineers can interact with the customer and rectify the problems using internet.

Example 2: Service Innovation

RFID (Radio Frequency Identification Device) tags are now replacing the use of bar codes. The current process of purchasing goods using bar codes in a supermarket takes a lot of customer's time in form of waiting. The bar code has to check and scan each individual item before a customer pays. If RFID tags are used in place of bar codes then RFID tags can be detected remotely by radio receivers. If all the items in a customer's basket have RFID tags, then all it need to do is push the shopping basket under such a receiver. It will remotely detect every item in the basket. RFID tags will reduce the customer's waiting time in queues and hence supermarkets which install RFID tags can attract more customers than their slower-to-innovate rivals.

3.3 New Service Development Cycle

- After considering innovations as input to NSD cycle, the cycle as shown in Figure 3.3 enters into planning stage, which is comprised of

- Design: Formulation of new services, objective / strategy, Idea generation and screening and Concept development and testing

- Analysis: Business analysis and Project authorization

◆ After planning stage, cycle enters into execution stage which is comprised of

- Development: Service design and testing, Process and system design and testing, Marketing program design and testing, Personnel training, Service testing and pilot run and Test marketing

- Full launch: Full-scale launch and Post-launch review

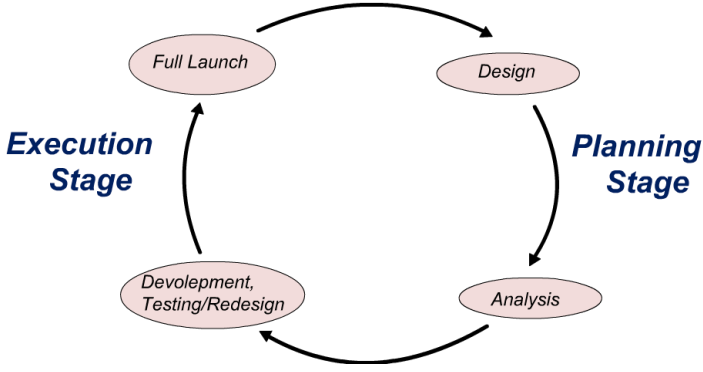


FIGURE 3.3 NEW SERVICE DEVELOPMENT CYCLE

3.3.1 NSD Cycle: Service Delivery System

Service delivery system is a very important component while designing & delivery of new service as shown in Figure 3.4. The elements of service delivery system are,

People: Organize people into cross-functional teams

Technology: Use appropriate tools and resources for planning and execution

System: Develop organizational culture that facilitate the entire service delivery process so that products can be developed quickly and effectively.

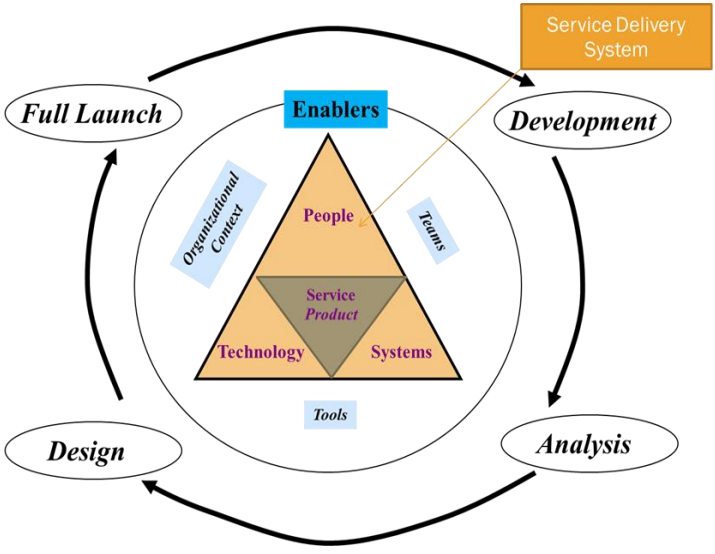


FIGURE 3.4: NEW SERVICE DEVELOPMENT CYCLE WITH SERVICE DELIVERY SYSTEM

3.4 Service Delivery System Design: Service Blueprinting

Service blueprinting is a technique to design service delivery system as shown in figure 3.5.

- A customer focused approach for service innovation and service improvement
- Helps in visualizing the service processes and hence provide a bird's-eye view of the service system
- Identifying points of customer contact with service system
- Physical evidence associated with services from customer's perspective

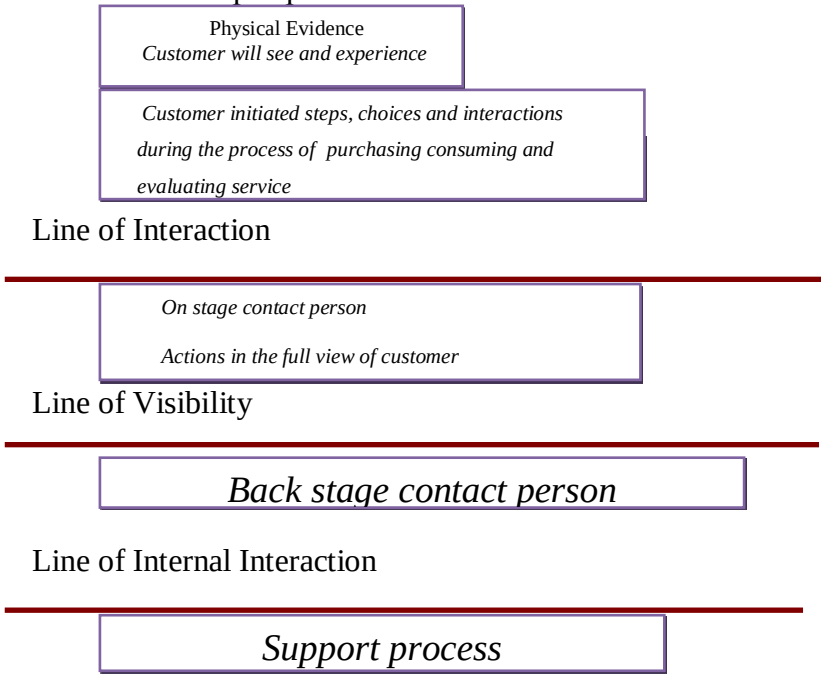


FIGURE 3.5: BLUEPRINT - TESTING OF THE SERVICE CONCEPT

- Connects the support processes throughout the organization as shown in Figure 3.6.
- In place of costly implementation of pilot studies, blueprints allow the creation, study and testing of services conceptually on a paper. See one example of hotel blueprint in Figure 3.7.

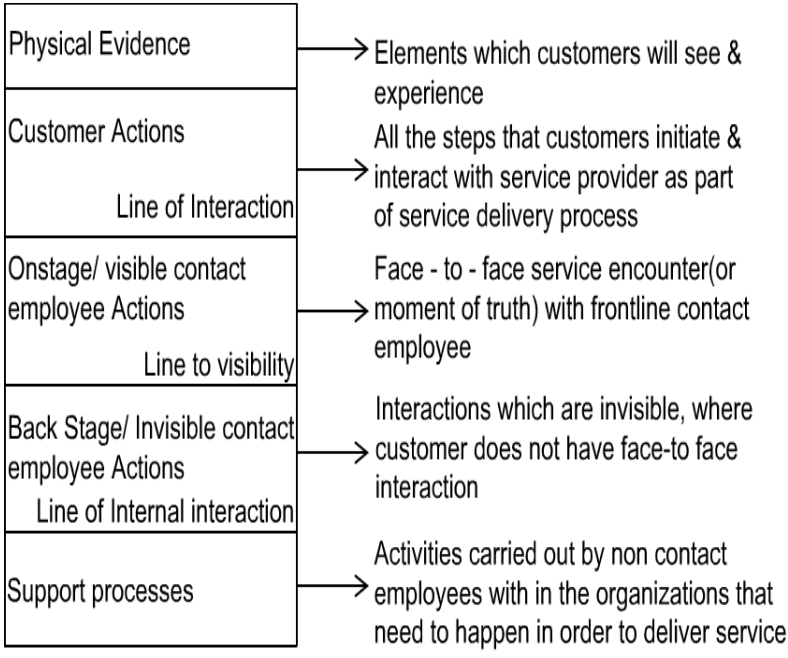
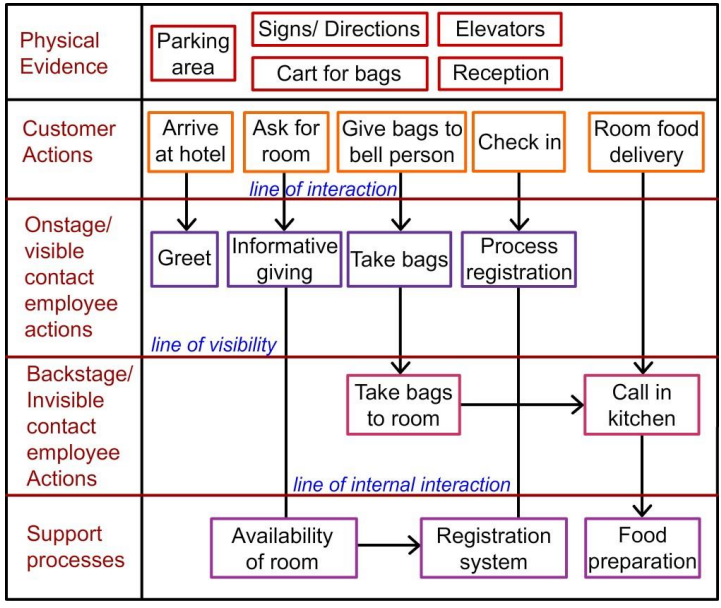


FIGURE 3.6: COMPONENTS OF SERVICE BLUEPRINT



EXAMPLE 3.7: SERVICE BLUEPRINT OF A HOTEL

3.4.1 Service Blueprint Advantages

- In the service blueprint we can visually see the activities which need direct customer contact and which activities are back-office activities. This information can be utilized to provide appropriate training to employees and to develop good communication skills.

- Service blueprint can also enhance the quality and efficiency. It gives a good scope to determine potential areas where service failure may occur, hence failure mode analysis can be performed.

- Service Blueprint facilitates problem solving and creative thinking and hence a good tool to innovate in services.

- Considering quality issues right at the design stage will help in avoiding quality losses or service failure later.

- It provides a service process structure which can help in devising different approaches for service system design appropriate for different types of service organizations

- Blueprint provides a common platform for all stakeholders to participate in the process where everybody gain insights into how their roles fit into the integrated whole, which facilitate innovation.

SERVICE SYSTEM DESIGN AND DELIVERY PROCESS

3.5 Structure for Market Positioning

We can get the service process structure from service blueprint which captures the steps and sequences in the service process. Each service organization can have different set of steps and different complexity in handling these steps. We also see that some of the steps need direct customer contact. How the service employee handles this contact? Does an employee have discretion to customize the service as per the customer requirements? Who is the actual recipient of service?

3.5.1 Classification of Service Processes

Service processes can be classified on the basis of following service concepts

- Degree of complexity
- Degree of divergence
- Degree of customer contact
- Actual recipient of service

This classification also helps in strategic positioning of services

3.5.2 Degree of Complexity

- The number of steps and intricacy of steps in any service process can vary from one service organization to other service organization which can be represented by degree of complexity of the service delivery structure.
    - Example: The service process steps involved in a specialist clinic like ENT are less in number than the process steps involved in designing a big hospital.
- The service process can be classified as Low complexity and High complexity
- Low-complexity: Narrow scope of service or specialized focused strategy. For the success of such services, the service should be of very high quality and perceived to be unique
- High complexity: Increase customer base and hence maximize revenue is the strategy followed for such services. It is applicable where objective is to gain greater market penetration

3.5.3 Degree of Divergence

- The amount of freedom an employee or a server has to customize the service is the represented by degree of divergence. Example: Call center agents are given standard instructions to answer

routine questions whereas a hair styling salon may provide customized hair styles to the customers

- Services can be classified as processes with Low-divergence and High- divergence.

  Low-divergence: Standard services generally involved routine task. It does not require specialized skill and hence provide consistent quality and reduced cost

  High-divergence: It can be viewed as niche strategy where customer is willing to pay extra money for the personalized value perceived and received by the service.

3.5.4 Degree of Customer Contact

There can be different ways a customer can come in contact with service system as shown in Figure 3.8.

- Direct customer contact
  - A customer is physically present throughout the service encounter and may interact directly with service provider or have no interaction with service provider such as in self-service case.
- Indirect customer contact
  - Customer can contact a service provider via email.

- No customer contact
    - Service is performed without any contact with customer such as calculating and crediting interest on saving accounts in the banks does not need customer contact but service is being performed for the client.

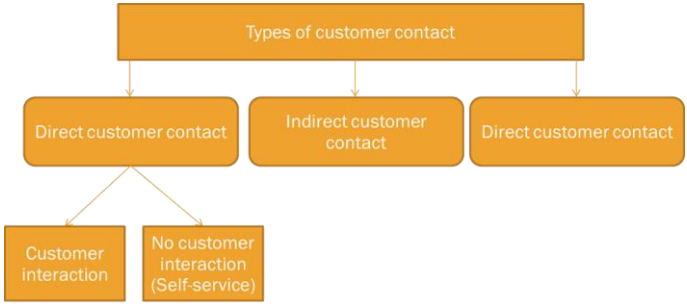


FIGURE 3.8: TYPES OF CUSTOMER CONTACT

3.5.5 Actual Recipient of Service

- Service can be processed on the customer's body physically for example a doctor performs surgery on a patient
- Service can be performed on the customer's property or on the goods belonging to the customers like auto vehicle repair
- Service can be seen as information processing where service is performed utilizing some

customer's data. Example can be of investment plan. A client has to give preference of investment plans and personal information so that the information is processed and converted to a service product.

3.5.6 Service Process Classification and Approaches to Service System Design

- The classification of service process presented earlier helps in devising appropriate approach for service design.
- Service design varies with the degree of divergence. The service design approach should match the ultimate objective of customization or standardization of service
- Service design must account for the fact that direct customer contact services need more attention in terms of facility design and location.
- Service design should consider the care required to handle the customer's objects and information on which service is processed.

3.6 Various Approaches to Service System Design

- Production line approach
- Customer as co-producer
- Information intensity

3.6.1 Production Line Approach

- Emphasis on control of the process.

- This control comes from breaking a job into groups of small tasks. Dedicate specialized skills to these small tasks.
- The employees performing the tasks have limited discretion. The employees are not empowered enough to customize the service because production line approach focus on standardization and consistency in each service product. This approach is analogous to a typical assembly line in manufacturing system where the output is machine paced and jobs are designed with explicit tasks utilizing special tools to produce consistent and uniform products. Such approach improves the productivity and helps in achieving cost leadership strategy.

3.6.2 Production Line Approach: Service Process Classification

- We know that products produced in factory are more uniform in quality and features. Same output can be seen in the services by applying production- line approach

- In the service process classification categories, production line approach can be seen as presented in table 3.1.

TABLE 3.1: LINKING PRODUCTION LINE APPROACH WITH SERVICE PROCESS CLASSIFICATION

Service process	Production line approach
Discretion	Low
Complexity	Can be high or low but in case of high the jobs are divided into small tasks
Customer contact	Mostly direct and indirect
Actual recipient of service	Mostly customer receives facilitating goods from service provider

3.6.3 Production Line Approach: Examples

McDonalds

- Controlled execution of each process: Rapid delivery of uniform and high quality prepared burgers in a clean environment

- No discretion: Size, quality and raw material consistency is preplanned pre prepared, which cannot be changed by any employee. McDonalds provide pre cut and partially cooked potatoes for making the french fries on

the spot

- Size of equipment: Size of fryer is optimum so that at any point of time number of french fries to be fried are neither too much to avoid sogginess nor too small to avoid costly and frequent frying.

3.6.4 Customer as Co-producer

- Customer as co-producer means customer can also provide productive labour while service is being performed. In such approach some of the service activities or all activities are shifted from service provider to the customer

- Customer as a co-producer can customize the service as per his/ her convenience and requirements, hence participates in service production and delivery. Customers mostly prefer self service activities when they perceive monetary and time savings.

- In case of all activities being shifted to the customer like self service approach, service provider save on the operating cost. Customer substitutes for service employee and hence service provider can earn savings by not hiring physical labor or employee

- Customer can also create capacity for service provider by making prior appointments and reservations during non peak hours (or during

idle time of service provider) of service and hence helps in proper utilization of service capacity.

- In such approach customer's perceptions about service quality are improved.

- In Service Process Classification customer as co-producer can be seen as in Table 3.2.

TABLE 3.2: LINKING CUSTOMER AS CO-PRODUCER WITH SERVICE PROCESS CLASSIFICATION

Service process classification	Customer as co-producer
Discretion	High as customer can customize the service
Customer contact	Direct or indirect contact
Actual recipient of service	Mostly a bundle of service product

3.6.5 Customer As Co-producer: Examples

- Self-service facility in many fast food outlets or restaurants
- Services over the Internet, such as Federal Express package tracking
- Online brokerage services

3.6.6 Information Intensity

- Some of the services have information as a main contributor of value generation. The information is very essential component to

make decisions.

- In such services documents, databases, software applications, or other explicit repositories are ubiquitous and essential to meeting the goals of the client.
- Such services have empowered service providers or employees and customers in making decisions as well choices utilizing information systems.

SERVICE ENCOUNTER

3.7 Service Encounter

A situation or episode in which the customer in the form of human being or machine comes into contact with any aspect of the organization through employee or machine to experience the service and perceive the quality of service within service scape or virtual contact as shown in Figure 3.9. It is also known as moment of truth.

Service scape: The physical environment of the supporting service facility influences both a customer and service provider aligned with the service concept. In a service encounter we will discuss the role of each interface in performing service.

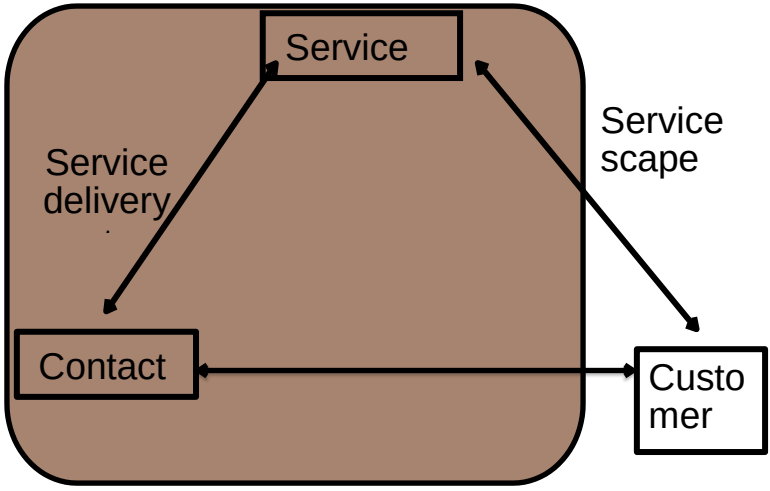


FIGURE 3.9: ELEMENTS OF SERVICE ENCOUNTER

3.7.1 Service Organization- Customer Interface

- Given the service strategy of an organization, what amount of discretion the contact personnel can have?
- Whether operating procedures of service organization allows standardized service or personalized service

Standardized service:

- Few options are present
- No personalized service to attend individual customer needs
- For example Mc. Donald's

Personalized service:

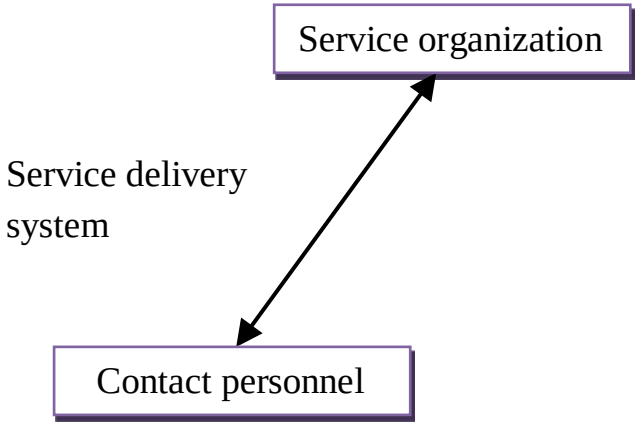
- Enjoys more service options with customization

Responsibilities of customer in getting the right service

- Right & complete information given by the customer impacts the service encounter

- For new forms of service transactions mostly technology oriented self-service forms may demand proper training to the customer & complete set of guidelines. Right information IN leads to right information OUT

3.7.2 Service Organization-Contact Personnel Interface



Service strategy of the organization may drive

- Efficiency (standardized service)
- Autonomy(provide personalized service)

Selection of employee

- Check competency & credentials
- Proper training for technical service delivery, unrealistic customer expectations & unexpected service failure

3.7.3 Customer in Service Encounter

The customer perception about the service may generate value for service organization which result in repeat purchase of service product. Service encounter may deal with Customer's body or mind and Customer's possessions. A customer may drive service encounter by his / her expectations and attitudes. It is Economizing customer who wants to maximize the value obtained from service

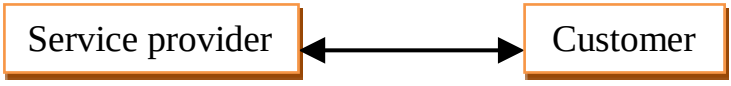
- ❑ Personalizing customer looking for gratification
- ❑ Convenience customer who is willing to pay extra for personalized & hassle free service

- ❑ Ethical customer when customer feels a moral obligation to patronize socially responsible firms

Customer's physical presence over longer period in service organization influences the judgment & perception about quality of service.

3.7.4 Service Provider in Service Encounter

- Service provider can be of various types.



1. Servicer provider: A human being
   - Customer expects courtesy, respect, safety & comfort
2. Service provider: A machine
   - Convenience & ease of usage of self-service technology
   - Clear instructions education on how to use

- Service provider represents the organization
- Drives the service delivery system
- Looks service encounter & processes from the customer's viewpoint
- Should have personality attributes

- ✓ Flexibility, tolerance for ambiguity empathy for customers
- ✓ Other attributes like age, education, product related knowledge, sales training & intelligence

- Good interpersonal skills to ease customers concerns about the process
- Service provider expects from customers
  - ✓ Courtesy from customers
  - ✓ Appreciation from customer
  - ✓ Right information from customer
- Service provider expects from service organization
  - ✓ Appreciation from fellow members & management
  - ✓ Training regarding innovation & flexibility to recover during unexpected service failure
  - ✓ Clear instructions regarding the discretion

3.7.5 Service Delivery System

The following points help in facilitating a satisfactory service encounter.

- Clear rules and regulations and procedures
- Culture of the organization
- Proper equipment, processes & procedures

3.7.6 Service Profit Chain

A service organization considers all the above points to improve the profitability and or revenue growth. Such improvement is seen when an organization has loyal customers which gives repeat business.

The customers will appreciate service when employees perceive a strong service orientation and when employees are satisfied with workplace support like Information Technology and improvement given to make decisions related to customer service. Hence, the customer and the employee can form perceptions about organizational effectiveness which are related and represented as satisfaction mirror as shown in Figure 3.10.

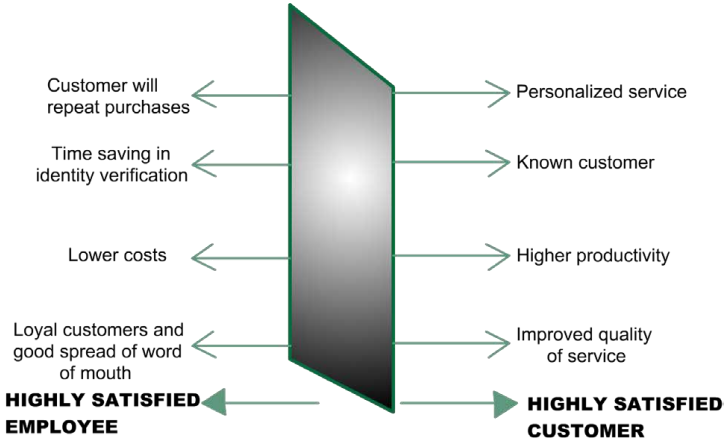


FIGURE 3.10: RELATION BETWEEN PERCEPTIONS AND CUSTOMER AND EMPLOYEE ABOUT SERVICE EFFECTIVENESS – SATISFACTION MIRROR

The relationship between employee satisfaction, employee retention, service value, customer satisfaction, customer loyalty and profitability and growth of a service organization can be linked in the service profit chain as presented in Figure 3.11.

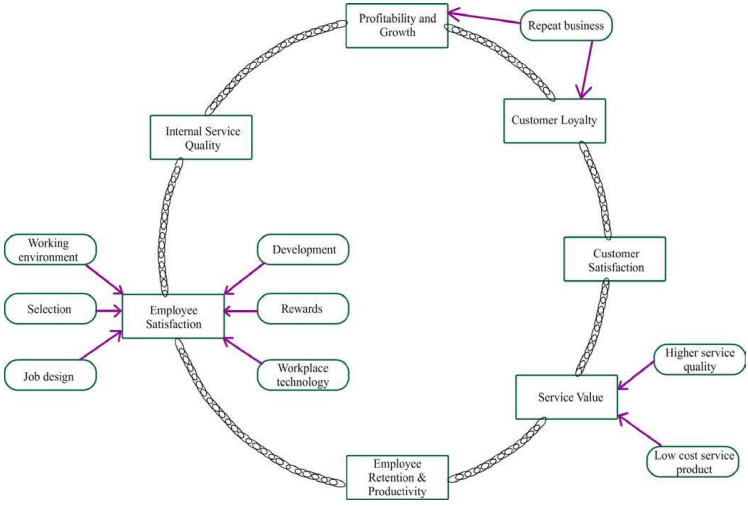


FIGURE 3.11 SERVICE PROFIT CHAIN

CHAPTER 4

PROCESS ANALYSIS OF FACILITY LAYOUTS

4.1 Process Analysis of Product Layout

To balance the service line in a product layout it is important to identify the bottleneck operation and to determine the system capacity. It can be determined by analyzing the process with the help of process diagrams.

The notations typically used in process diagrams are given below.

1. **Operation:** A rectangle encloses the operation name and cycle time (CT)
2. **Decision:** A diamond encloses the operation name and cycle time (CT)
3. **Wait:** A triangle represents customers waiting or inventory of goods
4. **Flow:** An arrow shows movement of customers, goods, or information

4.1.1 Terms Used in Process Analysis

1) **Cycle time (CT):** Average time between completions of successive units. For an operation, CT is the average service time to perform the activity. Cycle time for entire service system is the time between successive customers exiting during a busy period. So it depends on the bottleneck activity.

2) **Bottleneck:** Bottleneck operation is the slowest operation with longest CT which limits the production or service time. Bottleneck operation determines the CT of entire service system.

3) **Capacity:** Capacity is a measure of output per unit of time when system is fully busy, for example, applications processed per hour; customers served in 8 hours of shift. The unconstrained capacity of any operation is measured as reciprocal of CT i.e., 1/CT. The system capacity is the inverse of CT of bottleneck activity.

4) **Capacity Utilization:** Capacity Utilization is a measure of actual output achieved relative to the process capacity when fully busy.

5) **Throughout time:** Throughput time is the total time taken to complete a process from time of arrival to time of exit. It is determined as sum of the critical path operation times plus the average time spent in all queues. If we omit waiting time from throughput time, the rest of the time (critical path) is called rush order flow time.

Example: After a customer arrives to Delhi Airport from overseas, it requires a sequence of activities to be performed before boarding a domestic flight. The activities with their average time in seconds are given below in the table 4.1.

TABLE 4.1: ACTIVITIES TO BE PERFORMED WHILE BOARDING FLIGHT

Activity Number	Activity	Average Time (seconds)
1	Deplane	36
2	Immigration	60
3	Baggage Claim	90
4	Customs	40
5	Check-in baggage	40
6	Boarding domestic flight	45

All the activities except baggage claim needs to be performed in the sequence mentioned in the table 4.1.

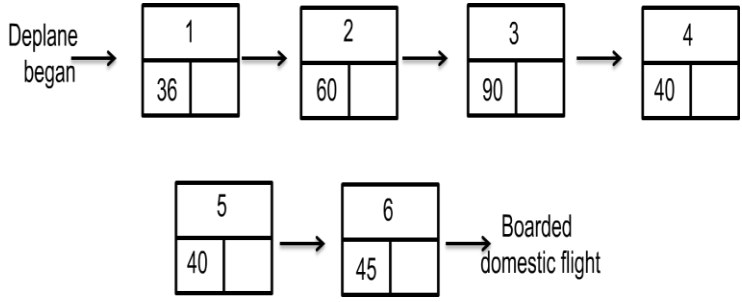
1) What is the bottleneck activity?
2) What is the capacity of system in terms of member of passengers processed per hour?
3) Is the service system balanced? If not, how to balance it?

Solution: Step 1

Draw the process diagram using following notation

Activity Number	
Cycle time (seconds)	Capacity per hour

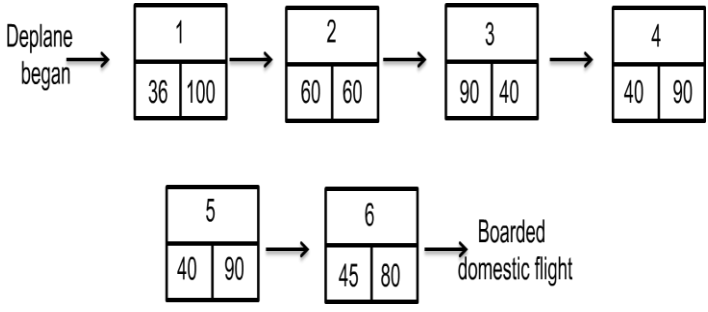
By using notation in above Figure draw the process diagram as shown below



The activity number 3 is the bottleneck activity which is "Baggage claim", the slowest operation taking 90 seconds.

 100 passengers per hour

Similarly we can determine capacity of each operation and write on the lower right hand side box in process diagram.



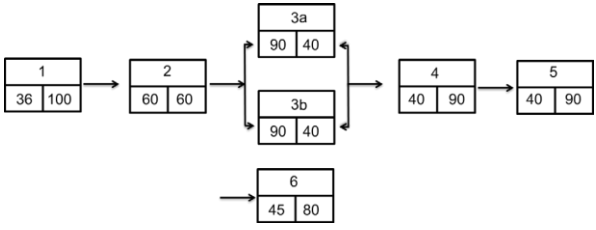
The capacity of the system is the capacity of bottleneck activity 3 i.e., 40 passengers per hour.

The service line is not balanced one because we see that the time taken by each activity is not same, which leads to idle time for some of the activities. To balance the line we can suggest two ways

1) We can add extra server to the bottleneck activity to increase the capacity

2) We can merge some activities or combine some activities.

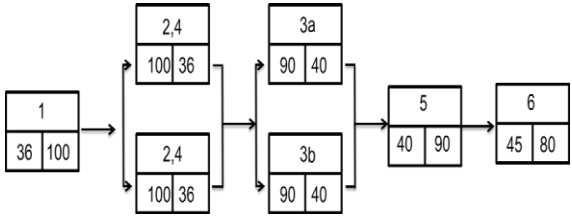
Option 1) will certainly increase the number of workers or servers at activity 3. The revised layout will look as shown in Figure.



FIRST REVISION OF PROCESS FLOWDIAGRAM

Now the capacity at activity 3 is 80 passengers per hour. But the bottleneck will shift to activity 2 and 6 with system capacity of 60 passengers per hour. We can apply option 2) that is combining activity 2 and 4. The revised layout will look like as shown in Figure. The total time at 2 and 4 will be 100 seconds with capacity of 72(36+36) passengers per hour. The average cycle time will be 50

seconds.



The revised layout will have capacity of 72 passengers per hour which is more than the original layout but definitely with addition of one worker or server and merging of two activities.

4.2 Process Layout

In process layout, similar activities are grouped together according to the process or function they perform. Such layout is appropriate to implement when there exist many, low-volume and different customer requests. In process layout, customers need and specifications are different hence provide some degree of customization. Some examples of process layout are professional services such as health clinics or hospitals and consulting. The advantages of process layout are the simultaneous handling of wide variety of services and flexibility in assigning employees to the servers. At the same time there are some difficulties in managing process layout. The customers with different needs may choose different sequence of activities. The service provider sees the flow

of customers to be intermittent. At any point of time, any functional department may face fluctuating demand. After arriving into next functional department from the previous functional department the customers may join new queue and hence waiting must be evolved. The service provider has to plan for waiting area in each functional department and also consider the travel time between the departments.

The objective of process layout is to arrange department or service centers in the most convenient locations, which can be achieved by placing departments with large inter-departmental flow of people or paperwork next to one another.

Example:

When we go to an apparel, accessories and home furnishings retail shop we see the layout in a manner presented in figure 4.1.

Jewelry & Cosmetics	Kid's Wear	Home Furnishings
Women's Formal	Kid's Play Area	Shoes &Bags
Women's Casual	Entrance	Men's Apparel

FIGURE 4.1: A PROCESS LAYOUT OF RETAIL SHOP

After entering any retail, ladies may like to explore dresses and jewelry so there will be maximum flow of ladies between three departments; women's casual, women's formal and jewelry and cosmetics. The customers who will visit retail shop with their kids would like to have kid's play area approachable from all other departments, hence it should be located at the center of retail area. The layout must incorporate the inputs like, the type of customers (boys, girls, married couples, and couples with kids), intermittent flow between department and demand requirements.

4.2.1 Fixed position Layout

In fixed position layout, the service is performed around a customer that remains stationary while the work is being done. For example a surgery is performed on a patient, where patient remains stationary in operation theatre. Different doctors or specialist perform different activities in a sequence on a stationary patients like an Anesthetist will give anesthesia, doctors will start operation, surgeon will perform surgery, radiologist will monitor other health measures, and then the team of doctors may perform stitches and complete the whole process.

4.2.2 Office Layout

Office layout is an arrangement of departments, people or workers and their equipment so as to maximize the flow of information among people, effectively utilize the space and maximize employee or worker productivity. The decision factors for office layout are given below.

1. Smooth flow of work

The office layout can be a straight line, circle or U-shaped to ensure steady & unhindered flow of work. The floor space should be free from partitions and columns.

2. Space Utilization and Uniformity

Office layout should make fullest utilization of space. Proper aisles should be provided. The furniture and other equipment's should be of uniform size and appearance with greater flexibility.

3. Working environment

Office layout must consider comfort, safety, and ventilation and light requirements.

4. Location of departments

The employees performing similar functions can be grouped together. Interrelated departments with maximum flow of people or information should be placed together. Common facilities like canteen, printing facilities, client meeting room should be easily accessible.

4.2.3 Retail Store Layout

The retail store layout emphasizes on maximizing the net profit per square of display space. More of the customers have exposure to the products greater the sales and hence revenues. The retail stores can have strategy of focusing only a segment of customers and accordingly plan the layout. For example, the grocery stores can place daily routine items like bread, milk and eggs at the entrance of stores so that the working couples can quickly buy the goods. Any retail store outlet can consider two factors,

- The overall arrangement or flow pattern for the store.

- Allocation of space within that arrangement to various products

To increase the profitability the retail store layout can consider the following points

 To encourage impulse buying the daily necessity products can be stored far away from the clear vision of the customers. In such manner the customer will view other products also which are not in the customer's buying on the way to the necessity products.

 Sufficient aisle space should be provided for free movement of customers

 Convey the mission of the store by carefully selecting the position of the lead – off department.

FORECASTING DEMAND IN SERVICES

4.3 Managing demand in services

- There is no option of inventory buffer to meet variations in service demand
  - Perishable nature of service : simultaneous production and consumption of services
- Fixed capacity of service system restricts flexibility to entertain demand
  - Rooms in a hotel and seats in airplane
- Seasonality in demand for some services & spur of the moment decisions of customers that is unpredictability of demand
  - Heart attack emergency cannot can be planned
  - Visiting hill station during summer season can be planned
- Personalized service take varying service times

4.3.1 Forecasting demand for services

- Forecasting demand forms the basis for planning activities. Forecasting involves in estimating future event by systematically combining past data in some predetermined way.
- Estimates the number of units of services that could be sold
  - Number of customers
  - Number of hours of service supplied
  - Units of service product supplied (liters of petrol, number of caller tuner, number of transactions)

- Various forecasting methods can be adopted to forecast the demand for service.

4.4 Subjective or qualitative forecasting methods are used where

- No past data is available
- If some data is available, cannot be used for long run forecast
- Mostly used for new technology or new products introduced
- The patterns can be trend, seasonality, cycle, regular and irregular variations as shown in Figure 4.2.
- **Trend**: A gradual increase (upward movement) or decrease (downward movement) in observations over time.
- **Cycle**: An unpredictable long-term cycling behavior. This behavior may be due to business cycle or service product life cycle
- **Seasonality:** A predictable short-term cycling behavior due to time of day, week, month, season or year.
- **Random error:** Remaining variation that cannot be explained by the other four components also called residual variations.
- **Irregular variations:** Variations due to irregular circumstances which do not reflect any typical behavior.
- **Level:** Short term patterns that are not repetitive in nature.

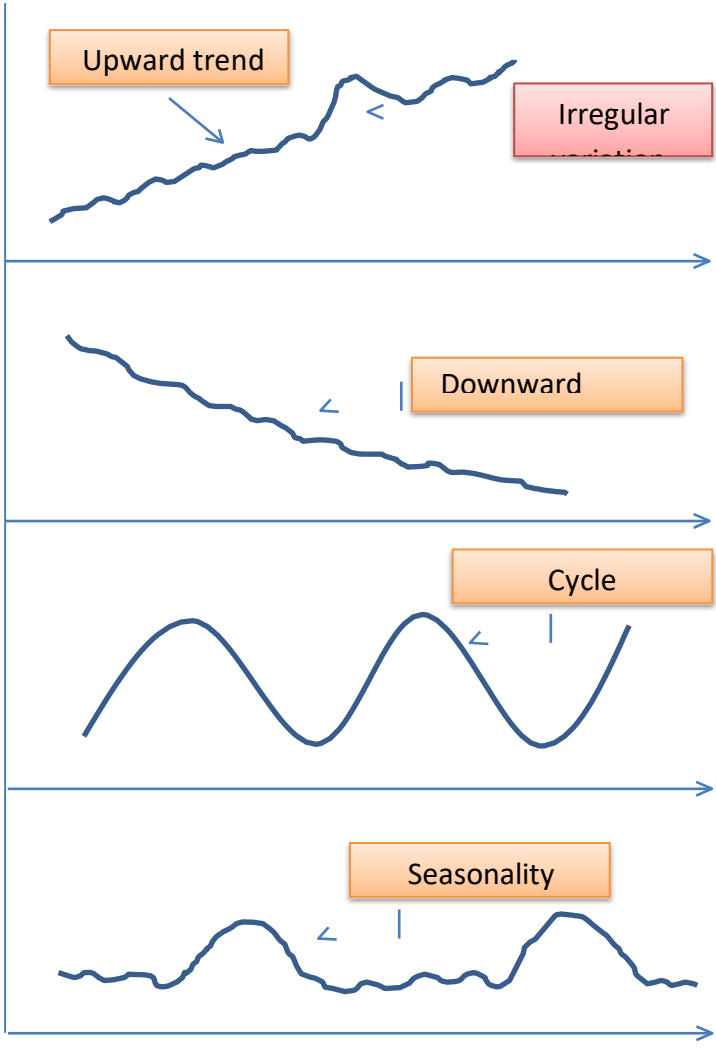


FIGURE 4.2: TIME SERIES FORECASTING PATTERNS

4.4.1 Delphi Method

Steps in Delphi Method

1. The administrator prepares some questions using scale like likert scale and some open ended questions.

2. Send the questionnaire to the experts in the area. The experts are not allowed to interact with each other.

3. The experts are expected to give numerical estimates as per the proposed scale.

4. The test administrator tabulates the responses into quartiles. This completes the round 1 of Delphi method.

5. The administrator send the findings from round 1 along with some updated questions based on the open ended responses to the experts.

6. The experts are expected to reconsider their answers and to justify their opinions.

The steps (2) to (6) are repeated till all the experts arrive at a consensus

4.4.2 Cross Impact Analysis

The main assumption in this method is that some future event to be occurred is related to the occurrence of an earlier event.

- The earlier event & future events are correlated.

- The conditional probabilities are estimated for the events, which are revised over a series of iterations by the experts.

4.4.3 Historical Analogy

To forecast the growth pattern of new service it is assumed that it may show the pattern of a similar concept for which data are available.

4.5 Quantitative forecasting methods

- Short term forecasts where future of a data set is assumed to be function of the past of that set
- An ordered sequence of observations taken at regular intervals of time
- The past data set presents an identifiable pattern over time
- Cannot include new factor in future

4.5.1 Time Series Forecasting: Moving Averages

- Let's forecast the demand for a service
- N- Period moving average for time period t found by adding the actual observation or demand during past recent N- periods and dividing by N
- For each next time period forecast, the most recent observation of previous forecast is added and the oldest observation is dropped.
- It helps in smoothing out short term irregularities, also called Level.

- Each observation is weighted equally. If there is 3-period moving average then all three recent observation will have weight of 1/3.

4.5.2 Time Series Forecasting: Weighted Moving Average

- The demand data or observations when follow some trend or pattern
- Give different weights to different observations
- Respond to changes where recent observations are more emphasized or given more importance.

SMOOTHING CUSTOMER DEMAND IN SERVICES

4.6 Challenges in Managing Demand

- Uneven demand for service
  - Due to cyclical demand (daily, weekly, monthly)
  - Random arrivals are services versus planned arrivals
  - Heterogeneous source of demand
- Pricing has influence on demand
- Limited capacity throws challenges in meeting uneven demand
  - More waiting time versus underutilization of capacity

Examples

1. Cyclical Demand
In any hotel or restaurant, the demand will increase sharply during lunch hours and dinner hours of the day

2. Random arrivals & planned arrivals
In hospitals, some patients will just walk in for their emergency medical problems whereas other patients will take appointments with specialists

3. Heterogeneous source of demand
In travel industry, airlines may face demand originating from weekday business travelers and from weekend pleasure travelers.

4.7 Strategies to Manage Demand

Segmenting demand

The demand can be segmented as planned demand and random demand.

- Use previous or past data on random arrivals or walk-in customers for each weekday.

- Subtract the random arrivals from the daily capacity of server or employee of service organization.

- The time left after attending or scheduling walk-in or random arrivals of each day of the capacity can be devoted to planned arrivals in the form of appointments.

Utilizing Off Peak Capacity for Countercyclical Demand Patterns

- The demand for some service can be originated from different sources in each season (peak capacity demand and off –peak capacity demand)
- Use of off-peak capacity demand creatively for some other purpose

Example: A Hotel during the offseason can be booked for business meeting or conference

Developing Complementary Services

- Provide complementary services to avoid long waiting time of customers, which may result in loss of demand

Examples

- Movie theater have developed kids zone and video games for the impatient kids accompanying parents who have to wait for the movie to begin
- Start providing drinks or divert waiting customers to some lounge in the restaurants.

Offering Price Incentives to Increase Demand

- To shift peak period demand to off-peak period demand- smoothen the demand
- Helps in efficient utilization of service capacity
- To promote off peak demand

Examples

- Different tariff rates of telephone calls for weekend and night
- Different prices at movie theaters for morning shows and for evening shows or weekend shows
- Discounts provided by big bazaar on Wednesday to offset the weekend demand to weekday demand

Reservations

Reservations for a service can be viewed as inventorying or backlogging the demand or pre selling the potential service. Mostly applied in Hotels, Airiness, railways.

Benefits to the customers

Reduced waiting line; Guarantee of service availability

Benefits to the service organization

Steady level of demand; Guarantee that demand will not exceed the set limit

Drawback of reservation

What is reserved demand fails to show up that is results in no-show. Opportunity loss to the service organization if the no-show cannot be replaced by some other customer

Example

- An airline flying with empty seat or a hotel with vacant room due to no –shows
- Solution to manage no-shows is overbooking

CHAPTER 5

SERVICE QUALITY

Each service product is actually a bundle of goods and service. It is very difficult to separate them. Equally difficult is to define service quality. Service quality has many different perspectives from customers or client, employees and service organization as a whole. This chapter 4 presents various perspectives on service quality, various dimensions of service quality and gaps between perceived service quality and expected service quality. The cost of unsatisfied customer can result in huge loss to a service organization. It is important to consider quality parameters pertaining to customer requirements right at the time of designing service product. This Chapter discusses the tools of quality service design like Quality Function Deployment (QFD), Poka-Yoke and Taguchi's approach. The other reason of bad service quality can be variations in providing service. Statistical process control using control charts are useful tool to monitor the performance of service quality, which are discussed in this Chapter. Continual improvement in service quality is the right approach for the success of any service organization. The philosophies concentrate on continual improvement, cost of quality, quality circles and many more. Some of such philosophies and various performance excellence models are briefly discussed in Chapter 4. The last content in this chapter presents various strategies of service recovery and service guarantee to manage the instances of service failure.

DEFINING SERVICE QUALITY

5.1 Quality a Survival

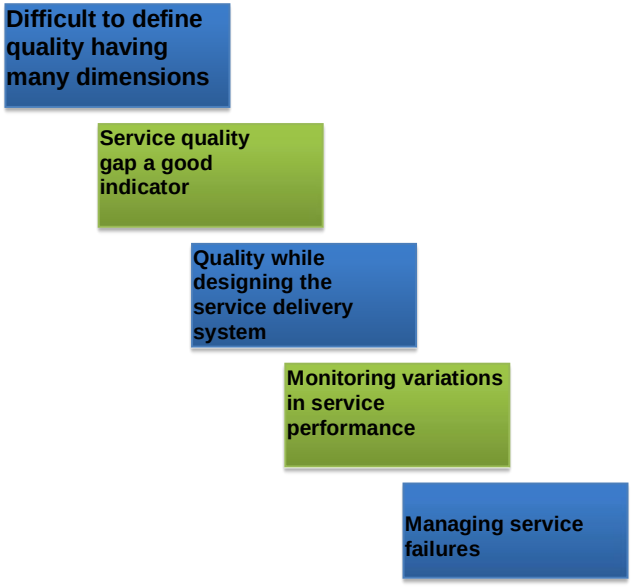
Due to the nature of services, where service output is nothing but good experience, service quality has to be considered throughout the service encounter and to make customers and employees of service organizations satisfied as discussed below. Good quality service results in

- Higher customer loyalty
- Higher market share
- Higher returns to investors
- Loyal employees
- Lower costs
- Lesser vulnerability to price competition

Defining Quality

A prerequisite for being in business "Survival"

Service Quality Issues



Different Perspectives of Quality

In general quality has been viewed differently as mentioned below

- **Transcendent**
  - Innate excellence can be recognized only through experience
- **Product based**
  - Based on measurable quantities, objective assessment of quality

- **User based (individual consumer's perspective)**
  - Fitness for use and Quality is in the eyes of beholder
- **Manufacturing based**
  - Conformance to requirements
  - How well the output matches the design specifications?
- **Value based**
  - Balance between conformance or performance and at acceptable price

Definition of Service Quality

Customer and service provider must understand each other's definition of quality.

- The totality of features and characteristics of product or services that bears on its ability to satisfy given needs.
- Customer Satisfaction: Bridging gap between customer's perceptions of service received and expectations of service desired.

Quality of goods versus quality of service

- Measurement of service quality is difficult due to intangible nature of service

- Unsatisfactory service delivery cannot be undone whereas defective product can be replaced or repaired.
- Different customers desire different attributes in same service because customers' expectations from services are very subjective in nature.
- Quality specifications are provided by multiple simultaneous sources for example service provider would perceive quality as per standard operating procedures of service organizations whereas customers will specify their own specifications based on the value they perceive in the service and personal expectations. In goods quality standard operating procedures will guide quality achievement.

5.2 Dimensions of service quality

Customers use five dimensions to judge service quality

- Reliability
- Responsiveness
- Assurance
- Empathy
- Tangibles

Reliability

Perform promised service

- dependably and accurately
- in same manner
- right the first time
- without error every time
- **Example:** Banks keeping loan related records correctly, The waiting time at dentist is not

more than the promised waiting time

Responsiveness

Willingness to help customers

- Promptly
- to recover quickly after service failure
- **Examples**: In case of lost debit card/credit card, the customer care people will block the card immediately, An airline provide meals at the airport in case of delayed flight

A service recovery is satisfying a previously dissatisfied customer and making them a loyal customer.

Assurance

Ability to convey trust and confidence

- Knowledge and courtesy of employees
- Competence
- Effective communication
- **Examples**:being polite and showing respect for customer vastly exhibit by airline crew

Empathy

Ability to be approachable

- Caring and Individualized attention
- Understand customer's needs
- Ease of contact
- **Example**: Being a good listener to the customers concerns

Tangible

Physical evidence of services

- Facilities and facilitating goods
- Appearance of service provider
- Tools or equipment used to provide the service
- **Example**: The new international airports in New Delhi, Hyderabad and Bangalore have been constructed at par with International standards.

5.3 Service Quality Assessment with Service Quality Gap Model

The difference between customer's perception of service quality and expectation of service quality is represented as Gap as shown in Figure 5.1. This gap exists due to other gaps between the management perceptions of customer expectations, service delivery specifications and service delivery by service organization.

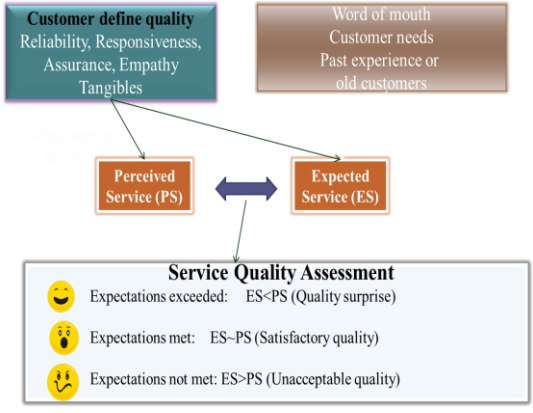


FIGURE 5.1 : GAP BETWEEN CUSTOMER PERCEPTION AND EXPECTATION ABOUT SERVICE QUALITY

The gap between customer's perception and customer's expectation is represented by Gap 5 which is caused by other 4 gaps as shown in Figure 5.2.

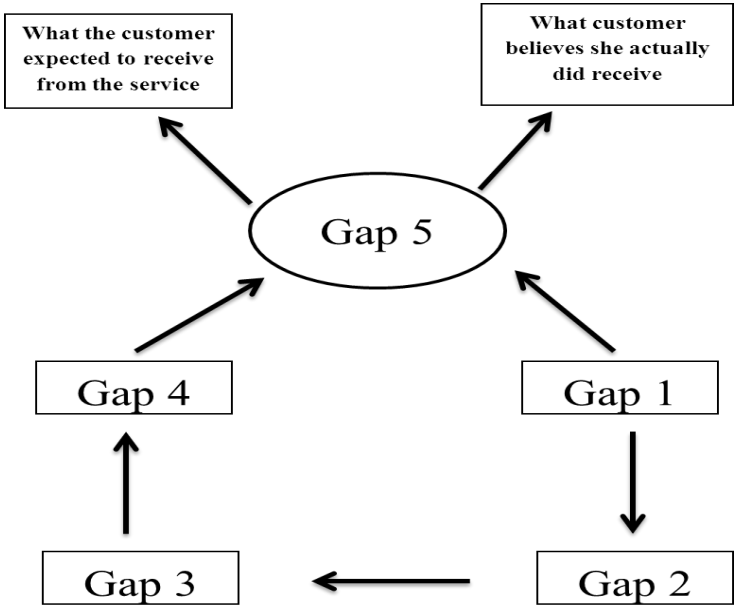


FIGURE 5.2: SERVICE QUALITY GAP

Gap 1: Customer expectations and Management perception of Customer expectations

In figure 5.3, the causes of gap 1 is presented along with ways to bridge this gap.

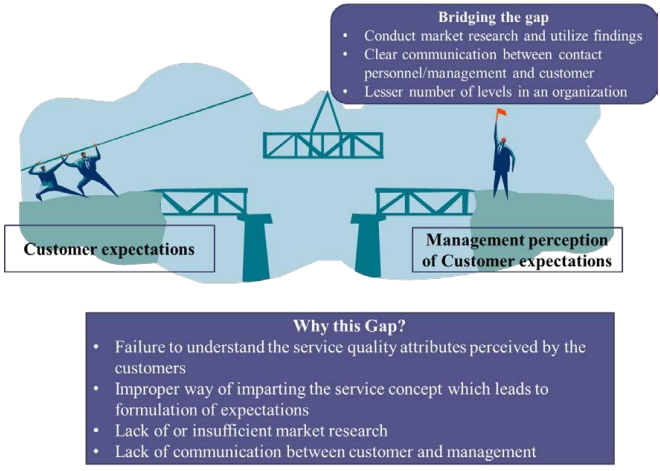


FIGURE 5.3: QUALITY GAP BETWEEN CUSTOMER EXPECTATIONS AND MANAGEMENT PERCEPTION OF CUSTOMER EXPECTATIONS

Lack of communication between contact personnel directly dealing with the customer and management may be due to so many levels in an organization or hierarchical structure. Due to these reasons service organizations fail to understand the customer needs and requirements and how they evaluate the service, which may result in low quality service. Sometimes, employees providing servicing of equipments like water filters attend to the maintenance requests regularly on time but fail to discuss the technical reasons of equipment failure. Customers expect to be informed about technical attributes of equipment along with right service.

Gap 2: Management perception of customer expectations and service delivery specifications

In figure 5.4, the causes of gap 2 are presented along with ways to bridge this gap.

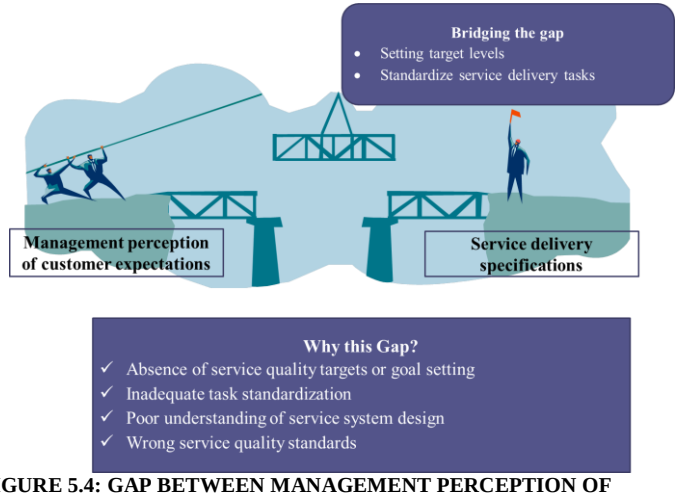


FIGURE 5.4: GAP BETWEEN MANAGEMENT PERCEPTION OF CUSTOMER EXPECTATIONS AND SERVICE DELIVERY SPECIFICATIONS

It is well said that you cannot manage what you cannot measure. By setting right performance measures and guiding employees to achieve these measures, this gap can be managed. Setting measurable goals for employees will bring sense of ownership for delivering standard service. Many banks emphasize the eye-contact between the teller and customer as one of their service delivery attribute.

Gap 3: Service delivery specifications and Service delivery

In figure 5.5, the causes of gap 3 are presented along with ways to bridge this gap.

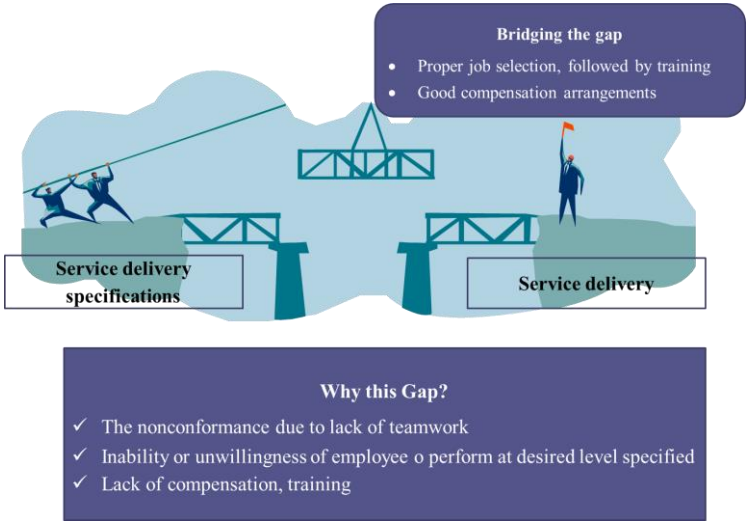


FIGURE 5.5: GAP BETWEEN SERVICE DELIVERY SPECIFICATIONS AND SERVICE DELIVERY

This gap resulted due to failure to conform to the set standards of service delivery. Mostly seen in the services where human being is the service provider and the deviations in the performance of human service provider leads to such gap. The deviations in the performance may be due to lack of motivation, morale and training.

Gap 4: Service delivery and customer perception

In figure 5.6, the causes of gap 4 are presented along with ways to bridge this gap.

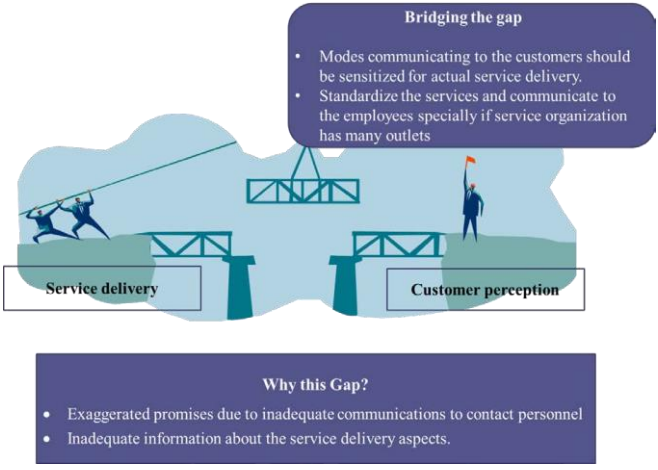


FIGURE 5.6: GAP BETWEEN SERVICE DELIVERY AND CUSTOMER PERCEPTION

The external communication modes like advertising and sales force which communicates with the customers to stimulate the demand sometimes convey more than the organization's deliverable capability. This gap also widens due to over-promising promotion techniques to induce competition. It is normal practice of hotels to show great pictures of rooms and ambience of hotel rooms on website or internet which may or may not match with actual service scape of hotels.

5.4 Measuring Service Quality

SERVQUAL

- Effective tool for surveying customer satisfaction based on exploratory and empirical research
- Service quality gap model was introduced and refined by Parasuraman et al. (1991)
- Tracking service quality trends through periodic customer surveys
- Helps organizations to compare customers' perceptions and expectations of service quality over time using 22 quality related items.

Calculation of SERVQUAL Scores

- SERVQUAL score is obtained with the help of statements or 22 quality related items covering five dimensions of service quality. Respondents are asked to give ratings on a scale (1=strongly disagree to 7=strongly agree) regarding their expectations with Expectation score (E) and perceptions with Perception score (P) of a particular service for all 22 items as shown in Table 5.1.
- Determine the gap between perception and expectation with gap score (P-E).
- Take average of Gap score for each dimension over number of items in each dimension and finally obtain average un-weighted SERVQUAL score over all dimensions.

Dimension	Statement	Expectation Score (E)	Perception Score (P)	Gap Score (P-E)	Average for Dimension
Tangibles	1				Sum (P-E)/4
	2				
	3				
	4				
Reliability	5				
	6				
	7				
	8				
	9				
Responsiveness	10				
	11				
	12				
	13				
Assurance	14				
	15				
	16				
	17				
Empathy	18				
	19				
	20				
	21				
	22				
Un-weighted Average SERVQUAL score:					

TABLE 5.1: UN-WEIGHTED AVERAGE SERVQUAL SCORE

SERVQUAL Importance Weights

Get the relative importance of all the dimensions from the respondents. Ask the respondents about the features representing each dimension of a particular service. The relative weight for all features should add to 100.

Calculation of Weighted SERVQUAL Scores

Multiply the importance weights of each dimension with the corresponding SERVQUAL score to determine the weighted SERVQUAL score for a particular service as shown in Table 5.2.

TABLE 5.2: WEIGHTED SERVQUAL SCORE FOR A SERVICE

SERVQUAL Dimension	Score from Table 5.1 (S_i)	Weight from Table 5.2 (w_i)	Weighted Score (S_i x w_i)
Tangibility			
Reliability			
Responsiveness			
Assurance			
Empathy			
Average Weighted score:			

SERVQUAL is a useful starting point for practitioners seeking to measure and monitor perceived service quality.

An alternative service quality measure is SERVPERF proposed by Cronin and Taylor (1992). SERVPERF considers only the performance component that is the customer's perceptions of SERVQUAL. Hence, SERVPERF has an advantage of one scale designed to measure the service quality performance by discarding the expectations portion in SERVQUAL. SERVPERF, being based on perception component alone, offers better predictive performance which explains more variance in an overall service quality measure. SERVPERF, unlike SERVQUAL, has described the perceived service quality to be based on attitude paradigm and not as a representative of customer satisfaction. Perceived service quality is considered as a long-run overall evaluation by the customer and customer satisfaction is an antecedent of service quality.

Scope of Service Quality

A comprehensive view of service system should be captured to measure service quality

- **Content**
  - Are standard procedures being followed?
  - Standardization and reviewing established procedures of a particular service to assure compliance.
- **Process**
  - Is the sequence of events in the services process appropriate?
  - Coordinated use of service resources-using check sheets

- **Structure**
  - Are the physical facilities, support equipment and organizational design adequate for the service?
  - Skill, knowledge level and experience of employees and profession should support organizational design
- **Outcome**
  - What change in status has the service effected in terms of measure of service quality outcome?
  - Devise mechanisms to measure quality outcome for customer satisfaction may be in the form of complaints and feedback.
- **Impact**
  - What is the long range effect of the service on the customer and on the society as a whole?

QUALITY SERVICE BY DESIGN

5.5 Designing Quality service

Customers buy those goods and services, which are more of their solution providers and give benefits and satisfaction. Customers rarely ask for developing new service or goods but they respond to the goods and services offered. Customers have very vague idea about the attributes required by them in any service and goods, which needs to be articulated and discovered by the

designers of goods and services. While designing goods a set of standards and procedures can be followed this later can be checked for conformance. Once design is approved similar goods can be manufactured with uniformity. In services there can be set procedures and standards, which may deviate to satisfy the special requirements of customers. The outcome of service design is a concept, an idea and a description of a process for performance of the concept. The outcome of service design may not be uniform for each service trial because service results in experience. Hence, unlike goods once the service is performed we may not get opportunity to inspect service due to simultaneity nature of service. So, the quality must be built into the design and delivery system of service. It has been widely accepted that inspecting products are service after the customer is served will not improve the quality. Quality improvement initiative must start at the stage of designing the service or product. We mostly hear that due to inadequate or poor design, every year how many people die due to medical errors? Frequently we hear the misfit or failure of software applications.

Incorporating quality in service design

- Simpler design having fewer components leads to less number of error points.
- Considering customer requirements and expectations.
- Reduces cost of repair or customer loss.

Tools for designing quality in Service

There can be many tools used for designing quality in services, which are widely applicable in manufacturing but can be used in services also. These tools are mentioned below.

- Quality Function Deployment (House of Quality)
- Poka-yoke (Fail-safing)
- Taguchi Methods (Robustness)

5.5.1 Quality Function Deployment

Quality Function Deployment (QFD) was developed by Professor Yoji Akao of Japan's Tamagawa University.

- QFD ensures that customer needs and requirements "Voice of Customer" are met throughout the design process.
- Customer values are considered as input into the early stage of service conception.
- To develop a service as per customer's requirements in less time and with less design cost.
- It is a planning, communication and documentation technique mostly represented as 'House of quality' as shown in Figure 5.7.

In House of Quality customer requirements are listed on left. What a service provider has to do to meet customers requirements is listed under Design requirements. Relationship matrix represents the relationship between customer requirements and design requirements. In the

roof each cell represents the relationship between two design requirements. The design requirements can relate to each other positively and negatively. The right hand side of house of quality indicates competitor evaluations with respect to customer requirements whereas bottom of the house represents competitor evaluation with respect to the design requirements.

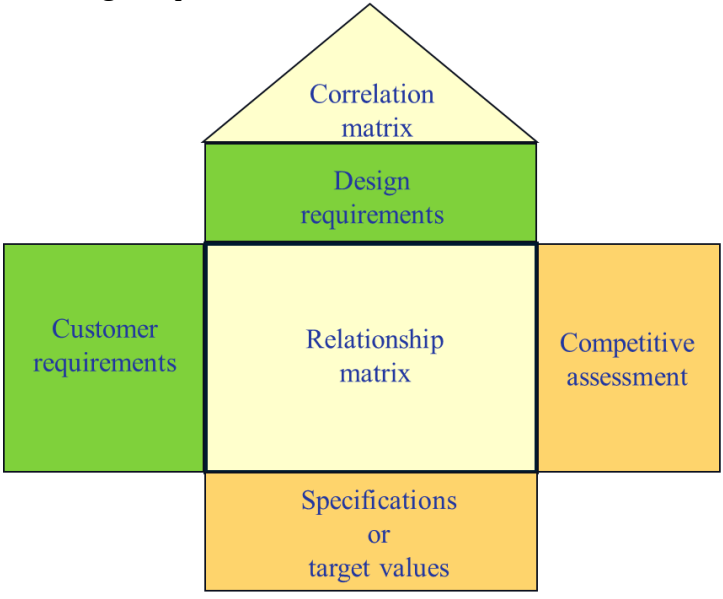


FIGURE 5.7 HOUSE OF QUALITY

QFD steps

1. Identify the customer and record customer requirements or attributes.
2. Identify the service design elements and relate them with customer attributes.
3. Determine the interrelationships between any pair of service design elements.

4. Weighing service element to assess improvement requirements
5. Assessment of competition

QFD Step 1: Identify customer requirements

- Identify who is the customer
- Record customer's requirements as 'Voice of customer' in their own language or words to avoid misinterpretation
- Customer requirements are represented as 'Whats' for example; What are the customer needs?
- Let's give the notations to the different attributes of customer requirements as A_1, A_2,…….A_m

QFD Step 2: Identify service design elements and relate them with customer attributes

- Determine the means by which customers attributes are met with service design elements or attributes
- Interpretations of 'Whats' in terms of design requirements 'Hows'
- Let's give the notations to the service design elements as S_1, S_2, … S_n

Outcome of Step 1 and Step 2: Relationship Matrix

- Relationship matrix represents the relation between customer attributes and the service design elements.
- Ensures whether the service design elements adequately address the customer requirements.
- Some scale can be used to determine the degree of relationship between customers attributes and service

design elements. Let's give the notation for each degree of relationship as a_{mn} for m customer attributes and n service elements.

- The relationship can be represented by symbol depicting degree of relationship, for example, following scheme of symbols for different degrees of relationship

- *Very strong relationship*
- *Strong relationship*
- *Weak relationship*
- *Very weak relationship*

QFD Step 3: Interrelationship between service design elements

- Represented on the roof of the house of quality as correlation matrix.
- Captures the effect of changing one design attribute over the other.
- Identify any trade-off between service design attributes.
- Same scale can be used to find relationship between service design elements as proposed for the relationship matrix.

QFD Step 4: Weighing service element to assess improvement requirements

- This step measures the importance of a customer's assessment of the service design

element.

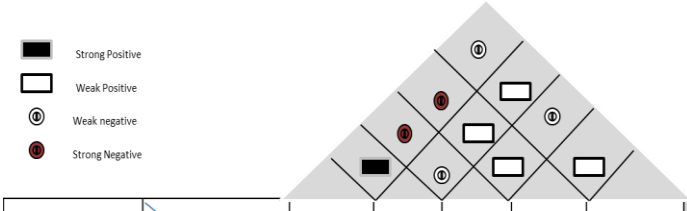
- The column next to the customer's attributes presents the relative importance of each customer attribute which is given on the scale of 1 to 9 using customer surveys.
- Let's give the notation for relative importance of each attribute to be w_1, w_2,…w_m as shown in Figure.
- The relative importance weight will be multiplied by the degree of relationship in the relationship matrix under each service element to arrive at weighted score for the element.
- The weighted score are presented in the basement of 'House of Quality'.
- The weighted score for each service element can be compared with that of competitor. It helps in analyzing for which element any service organization is doing better over competitor and which needs attention for improvement. It can also be inferred from this exercise that even though customer give high ranking to the service element for any service organization, the organization might be unable to deliver it to the extent the competitor can provide.

QFD step 5: Assessment of competition

One type of assessment of competition can be done using weighted score and comparing it that of competitor's for each service design element. The similar kind of

assessment can be done using some scale like 1 to 5 for each customer's requirement or attribute.

An example of QFD in tourism sector can be seen in Figure 5.8.



Customer Attributes	Technical Requirements / Sub attributes	Ticket System	Staff Level	Staff Skill	Staff Knowledge	Issue of Cards	Assessment of Competitor Importance 1 2 3 4 5
Ease of Access	Speed of Entry	■	■	ⓦ	ⓢ	■	+ -
	Clarity of Information	ⓢ	ⓦ	■	■	□	+ -
Use of Technology	Sophistication	■	□	■	□	■	+ -
	Reliability	□	ⓢ	□	ⓢ	■	+ -
Staff attitude	Understanding	ⓢ	ⓢ	□	■	□	- +
	Help full	ⓦ	□	ⓦ	□	□	- +
	Friendly	ⓢ	□	ⓢ	ⓢ	ⓢ	- +
Competitive Evaluation							**Comments**
	Animal world	4	6	7	6	6	Animal world has to adopt better technology to improve the quality of service at the ticket counter
	Competitor	7	5	5	6	8	
	Target	8	8	8	8	8	

Figure 5.8: Improving quality service at ticketing counter of zoological garden using Quality Function Deployment

Animal wonder has identified three customer attributes which will improve their quality of service at the ticketing counter. The customer attributes are,

1. Ease of Access: This attributes explains easiness at which the customer can get the entry card for entering through the gate

2. Use of Technology: This attributes explains the use of modern technology for assessing and navigating through the area (eg. Information technology).

3. Staff attitude : This attribute explains the comfort of approachability for the customers towards the on field staff

Service Process elements

1. Speed of Entry: The processing time at the entry point
2. Clarity of Information: When and where cards are issued and the instructions to be followed
3. Sophistication: Whether the technologies implemented at the entry gate is really helping the entry of customers and faster issuing of cards
4. Reliability: Whether the technology is performing consistently in routine circumstances for the customers.
5. Understanding: Whether the staffs are really able to understand the need of the customer.
6. Help full: Assisting the customers in their needs.
7. Friendly: Attitude of the staffs towards the customer.

Technical Requirements

1. Ticket system: No. of customers per min.
2. Staff level: No of staff per customer
3. Staff skill: Communication skill, Handling the inner requirement of the system
4. Staff Knowledge: General Knowledge about the technology and the

requirement.

5. Issue of cards: No. of cards per min.

In this example a zoological garden "Animal world" wants to improve the quality of service for customers at the ticketing counter. They would like to compare their quality of service at the ticketing counter with other zoological garden, their competitor. Animal wonder used QFD to gather customer attributes and service process elements and to improve the quality of service. Animal world has identified three customer attributes which will improve their quality of service at the ticketing counter. The customer attributes are,

- Ease of Access: This attribute explains ease at which the customer can get the entry card for entering through the gate
- Use of Technology: This attribute explains the use of modern technology (e.g. Information technology) for assessing and navigating through the area.
- Staff attitude: This attribute explains the comfort of approachability for the customers towards the on field staff

The sub factors for customer attributes are presented below.

- Speed of Entry: The processing time at the entry point
- Clarity of Information: When and where cards are issued and the instructions to be followed
- Sophistication: Whether the technologies implemented at the entry gate is really helping the

entry of customers and faster issuing of cards

- Reliability: Whether the technology is performing consistently in routine circumstances for the customers.
- Understanding: Whether the staff understands the need of the customer.
- Helpful: Whether the staff assists the customers in their needs.
- Friendly: Attitude of the staffs towards the customer.

The service process elements identified by Animal World are given below.

1) Ticket system: Number of customers per unit time entering
2) Staff level: Number of staff employees for a specified number of customers
3) Staff skill: Communication skill and empathy towards customers
4) Staff Knowledge: General Knowledge about the technology and the requirement.
5) Issue of cards: Number of cards issued per unit time

5.5.2 POKA-YOKE

A system or procedure which prevents defects from happening was developed by Late Shigeo Shingo, a Japanese manufacturing engineer who also developed Toyota Production System.

The ability to find mistakes at a glance is essential because, "The causes of defects lie in worker errors, and defects are the results of neglecting those errors. It follows that mistakes will not turn into defects if worker errors are discovered and eliminated beforehand."
"Defects arise because errors are made; the two have a cause-and-effect relationship. Yet errors will not turn into defects if feedback and action take place
at the error stage".

Poka-Yoke examples

- An airplane pilot may use a simple check list to make sure everything is ready before flying his airplane.
- In many hotels, lights are automatically switched on or off after inserting a magnetic card for a particular room.
- Anti-theft car alarm
- Spell-checker in MS-Word
- Tags attached to the garments in an apparel store, which ensures that they are not inadvertently taken out of store.

Poka-Yoke is also called fail-safing or mistake proofing devices or techniques. These devices are used either ***to prevent the special causes*** that result in defects, or to ***inexpensively inspect*** each item that is produced to determine whether it is acceptable or defective.

Fail-Safe techniques

- To ensure the safety of service providers and consumers

- Constructs procedures that block mistakes from becoming service defects
- Fail-Safe in NSD cycle
- Design phase: during this phase fail-safe procedures or devices can be created to signal potential mistakes
- Allow their correction immediately

Historical Evolution of Poke-Yoke

- **Late Shigeo Shingo**, an industrial engineer for Toyota, applied this term, also known as fail-safe, to the manufacturing industry.
- He reasoned that defects may occur as a result of **worker errors.** In order to prevent defects, mechanisms must be in place ***to prevent workers from making the error or alert the worker when an error occurs***. If the error can be recognized at the time of occurrence, defects can be prevented
- Often an easy, low cost method of ***improving repetitive***, mundane processes, which have a ***high prevalence of error***. Therefore, managers should challenge themselves to identify and implement poka yokes to avoid errors and, thus, prevent defects

Classification of Service Failures with Poka-Yoke Opportunities

Most of the errors caused while delivering services can be originated by service provider or servers and also by the customers. In services the customer is also part of service delivery system. A service is initiated by the customer. Various errors are classified as below in the table 5.3.

Origin of Error	**Cause of errors**	**Error type**
Server Errors	The way service is performed	Task
	Errors during service encounter	Treatment
	Physical elements of the service	Tangible
Customer errors	Customers do not provide right input to the service	Preparation
	Customer errors during an encounter	Encounter
	Customers errors at the resolution stage of service Encounter	Resolution

TABLE 5.3: DIFFERENT TYPES OF ERRORS CAUSED WHILE DELIVERING SERVICE

Server Errors

***Task*:** Doing work

- Incorrectly
- not required
- in wrong order
- too slowly

***Treatment*:** Failure to

- listen to customer
- acknowledge the customer
- react appropriately

Tangible: Failure to

- clean facilities
- wear clean uniform
- proof read documents

Customer Errors

***Preparation*:** Failure to

- bring necessary materials
- understand role in transaction
- engage the correct service

***Encounter*:** Failure to

- follow system flow
- remember steps in the process
- follow instructions

Resolution: Failure to

- signal service failure
- learn from experience
- adjust expectations
- execute post-encounter action

Examples

- French fry scoop at Mc Donald's- Consistent serving of potatoes (Task)
- Tellers in Bank- enter customer's eye colour (Treatment)
- Automatic spell check-Email service provider (Tangible)
- Comprehensive medical survey- Customer's information (Preparation)
- Airport check-in counters- size of carry-on luggage (Encounter)
- Trash-bin at the exits of facilities (Resolution)

SERVICE PROCESS CONTROL

5.6 Cost of Quality for Services

Service organizations incur cost ranging between 25% and 40% of the operating expenses due to poor quality. Whenever a process fails to satisfy a customer it results in loss of customer which in turn adds extra cost to an organization. Various costs of quality can be seen in Table 5.4. It is very important for service organizations to control quality so that various costs can be minimized.

TABLE 5.4: COSTS OF QUALITY

Cost Category	Definition	Bank Example
Prevention	Operations/activities that keep failure from happening and minimize detection costs	Quality planning, Recruitment and selection, training programs and Quality improvement projects
Detection or Appraisal	To ascertain the condition of a service to determine whether it conforms to safety standards	Periodic inspection, process control, checking, balancing, verifying collecting quality data
Internal failure	To correct nonconforming work prior to delivery to the customer	Scrapped forms and report, rework, machine downtime
External failure	To correct non-conforming work after delivery to the customer or to correct work that did not satisfy a customer's special needs	Payment of interest penalties, Investigation time, legal judgments, negative word of mouth and loss of future business

5.7 Service Process Control

Challenges in service quality control

- Due to intangible nature of services it is difficult to measure service performance with direct performance measures like weight and volume. Only surrogate measures can be used such as waiting time of customers and number of complaints.
- Due to simultaneity nature of service it is difficult to monitor the service performance. Customer feedback is collected "after the fact". Only final customer impression of overall service is gathered.
- For a proper control of any system, an output should be compared with standards. In services, feedback control system is used in which surrogate performance measures are identified and then actual output is compared with actual deviation. The comparison is done to identify reasons of non- conformance to customer requirements and to take corrective actions as shown in Figure 5.9.
- Make adjustments to keep the output within a tolerable range

Statistical process control, which is widely applied as a process control in manufacturing, can help in service control and to meet the challenges pertaining to service control system.

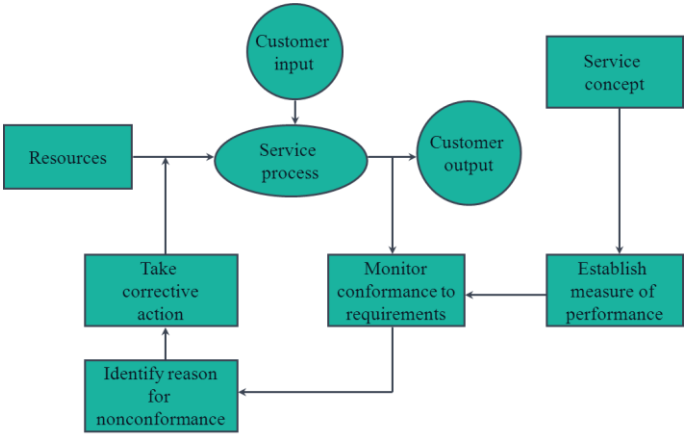


FIGURE 5.9: SERVICE PROCESS CONTROL

5.7.1 Performance measurement

There are two ways to evaluate performance that is to measure variables and to measure attributes. Measuring variables means service or product characteristics such as weight, length and time that can be measured. Variable measurement allows fractional values. For example, the waiting time of a customer who is put on hold before actually connected to the call center executive. Measuring attributes based on service or product characteristics that can be quickly counted for acceptable performance. Attributes are measured as discrete data. Attributes measure in terms of whether the service received is good or bad.

Variation and causes of variation in service process

Variation is inherent in the service output. The two main causes of variation are common causes and assignable

causes. Common causes of variation: Purely random, unidentifiable sources of variation that is unavoidable with the process. Random factors of variation due to machines, tools, operator, which are present as a natural part of process. Assignable causes or special causes: Special causes of variation arise from external sources that are not inherent in the process.

SERVICE RECOVERY AND SERVICE GUARANTEE

5.8 Service recovery

Complete avoidance of service failure in any organization is inevitable. Service failure can happen when service organization fails to deliver as per customer's expectations. Service failure can result in the loss of customer forever. Any service organization puts maximum effort in retaining old or regular customers to enhance customer loyalty. It is well known fact that attracting altogether new customer is costlier than retaining old customers. Service failure may invoke feelings of mistrust in customer's perception about service delivery.

Causes of service failure

Even after giving due consideration to the service quality, the world class organizations may also face service failure. There can be many reasons of service failures some of them are mentioned below.

- Inexperienced employee

- Indifferent or rude behavior of employee
- Delay in service delivery or slow service delivery
- Equipment breakdown
- Power system failure

From the above reasons of service failures we can see some of the causes are within the organization's control but some of them are not. Whether a service organization can control or cannot control service failure, they can always prevent the damage due to service failure by solving the problem in quick and timely manner.

Service recovery involves what a service provider does in response to service failures (Weun et al., 2004). The service failure can happen in core service or supplementary service. Any organization's failure to timely respond to the customer's problem may result in another service failure. Resolving the problem quickly and as soon as possible will help in avoiding second service failure and helps in retaining customers. Service recovery will also prevent losing customers to the competitors. Due to low entry barriers and high competition, it is very easy for the competitor to win over the dissatisfied customer or organization which fails to meet the customer's expectation.

Example of service failure

Service failure can happen in a hotel in various following forms

- Defect in goods: Hotel fails to provide fresh and hot food and unavailability of food items mentioned in menu

- Failure due to facility problems: Cleanliness of facility and absence of right and appropriate signs and directions
- Failure due to unfriendly behavior: Rude behavior of employee at reception, limited options of modes of payments, long waiting time at reception.

How service recovery is initiated?

Some of the service failures can be noticed specially if failure occurs due to service providers. But in most of the instances failures go unnoticed. Customer complains can be a good opportunity to recover from service failure. It is very important for service organizations to attend to customer complaints and encourage customers to complain. The situation becomes worst if customer does not complain at all. The unsatisfied customers will spread bad word of mouth which may result in loss of any potential customer also. It is very important to understand why customers may feel reluctant to complain.

Considerations for service recovery

It is very important to understand the customer's efforts, expectations or role in initiating service recovery. At the same time service organizations must realize the needs of service recovery.

 Cost considerations of customers: Customers incurs time and money in writing letters and calling to the organization. Ambiguity in service recovery rules or recovery system of an organization

adds to the frustration to the customer.

- Aims of service recovery: Satisfy the customers by listening to the customer's complain. Aim to retain the customers and consider the service failure instances as learning to incorporate as preventive action.
- Customer's expectations from recovery systems: Customers expect compensation equivalent to their dissatisfaction.

Service recovery strategies

Encourage customers to complain when they are not satisfied with service. The service organizations can have toll-free numbers for complaints and general queries and/or can offer rewards for suggestions. Effective complaint handling can help in improving customer loyalty. The service organizations can also conduct regular surveys or interviews to know the reasons of lost customers

Example: Most of the telecom operators call the customer after they request to terminate that particular service. They want to know the reasons for termination of service.

The service organizations can take preventive action by anticipating the needs of service recovery. While designing service delivery process in service blueprint, service organizations can anticipate the potential failure points. Devising proper procedures to handle such failure points and providing training to the employees regarding such procedures will help in effective service recovery. For example scripts can be made for the common service problems which can guide employees

for service recovery.

Training and empowering employees who are directly involve in handling the complaints. They must be trained regarding the potential problems they may face related to service failures. The employees need to be trained for good communication skills and decision making skills. At the same time empowering them by giving authority to take corrective actions on time. This can be practiced by encouraging simulated situations of possible service failures and role playing methods to explore the methods of resolving problems pertaining to service failures.

Close the loop from generation of complains to effective recovery of service failure. There can be three possibilities to respond to the complaints as given below.

- The service organization cannot solve the problem. In such case give full explanation to the customer to close the loop
- The service organization can solve the problem by bringing some change in the service delivery system. Close the loop by informing the customer about the changes in service delivery system.
- The service organization is ready to solve the problem but may not be aware of solution. In such case customers can be asked for the suggestions and any possible improvements in service delivery system. Close the loop by informing the customers about the incorporation of customer's suggestions.

Adopt proper recovery action following appropriate ways to handle failure situation. The service employees can apologize, assist the customer in rectifying the problem and compensate the unsatisfied customer. The

compensation can be in the form of discount, coupon, free of cost service.

5.9 Service Guarantee

Service guarantee is one of the mechanisms to win customer's trust and commitment about the quality service delivery that the customer's satisfaction is prime importance given by any service organization. A service guarantee is a commitment the service provider gives to the customer concerning all or part of the service process and may also include a compensation for the customer if the commitment is not honored (Kashyap, 2001).

Why service guarantee?

Focus on customer's requirements

It is very important to understand what exactly customer expects from a service organization while planning for service guarantee. It helps in aligning guarantee with service concept and customer's requirement.

Helps in setting clear standards of service

A guarantee should be clear and free from ambiguity then only it will focus on clear expectations of customers as well as employees of service organization.

Good source of feedback

As we have seen in service recovery section that many times customers do not feel comfortable to complain about service failures. Providing service guarantee

increases the chances of attending to the customer's problems when something goes wrong. Getting feedback from customers act as input to quality improvement process.

Helps in understanding failure points

The data obtain in the form of feedback can be utilized to understand the causes of service failure. Utilizing information on service failures instances will help in designing better service delivery systems and improving training and selection procedures.

Act as a marketing tool

Due to low entry barriers in services there is huge competition between service organizations. Companies can offer different guarantee schemes which will help in attracting new customers while retaining older customers as well.

Types of service guarantee

- Unconditional service guarantee: Guarantees 100% customer satisfaction without exceptions.
- Conditional service guarantee: Service provider intends to promote a certain element of the service offering.

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