

# Service Analytics and Management

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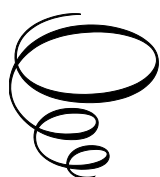
# Service Analytics and Management:

## *Strategy and Operations*

By

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**Dedicated to**

*my guru*

*Prof. S.G. Deshmukh*



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## PREFACE

Services are an integral part of the modern human world. It has a significant influence to exercise on our day-to-day and professional life both. The service has a vital role to play in boosting the economy of the country. Typically, it has a significant contribution in GDP for the country like India. For India, Gross Value Added (GVA) at current prices for Services sector is estimated at 70.25 lakh crore INR. Services sector accounts for 54.40% of total India's GVA of 158.74 lakh crore Indian rupees. The services sector's contribution to India's gross value added (GVA) in 2023 was 53%. While, the share of primary (comprising agriculture, forestry, fishing and mining & quarrying), secondary (comprising manufacturing, electricity, gas, water supply & other utility services, and construction) and tertiary (services) sectors have been estimated as 18.57%, 27.03% and 54.40% respectively.

This book on “Service Analytics and Management” intends to cover key issues on service strategy, planning, design, and delivery. The book is divided into six parts. The first part provides introduction to the context of services and discusses the issues and complexities involved in managing services. The second part deals with design of services. This includes issues specific to service capacity management, service project management and service supply chain management. The third part will help the readers to understand various issues in service resource planning. Typically, this includes Demand Forecasting, Aggregate Planning, Service Scheduling, Service Inventory Management. Subsequently, part four covers the issues specific to service improvement. This will include service quality and six Sigma, service productivity and performance and managing people in service organizations. Part five deals with IT and Analytics in service management. This section deliberates upon IT and service management and various analytical models useful in managing services. Finally, part six includes five cases in detail for extensive and critical class discussion.

The book will attract the larger audience in both business schools and engineering. To meet the diverse requirements of the students, the book will focus both on quantitative and qualitative insights. Each chapter will include discussion on various service management issues with suitable examples. Authors will provide small cases in each chapter to help the students appreciate the concept with its practical utility. The book will include numerical example for the relevant topics and exercises for practice. Each chapter will provide questions for discussion, web based exercise and project for detailed understanding of the topic. The book will also include six detailed cases at the end on the select issues of service management. This will help instructor and students to initiative critical and directional discussion in the class.

The book can be used as Text Book for business school and engineering students. The book includes examples from developing country, specifically India to help students realize and relate the subject with real life situations. The key features of the books are as follows:

- ✓ Addresses both strategic and Operational Issues
- ✓ Useful for both engineering and management students
- ✓ Includes service analytics and OR applications in service industry
- ✓ Managerial insights into the service management with the topics such as service strategy, service design, service quality management, managing people in service organizations
- ✓ Small and Detailed cases to develop an integrated understanding on the topic

## ACKNOWLEDGEMENT

It gives us an immense pleasure to deliver the book on “Service Operations Management: Analytical approach to strategic and operational planning”. The book will benefit the students/ researchers in engineering, and management fields.

The service industry has immensely contributed in the growth of economy of a nation like India. The services are complex in nature and needs the attention of many key issues to meet the expectations of the market and customer.

I express my deep gratitude to my guru Prof. S G Deshmukh for his inputs and motivation in the design and execution of this project. I have always received inspiration and energy for executing academic projects from my teacher and Guru Professor S G Deshmukh. I express my deep gratitude for his valuable inputs in improving the quality of this book. This book could not have attained its present form, both in content and presentation without his active interest, direction and help. I feel proud by mentioning that whatever I am today, it is because of his inspiration, affection and personal care. Professor Deshmukh has always inspired me for academic excellence and contributions.

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# **PART I**

## **INTRODUCTION**

# CHAPTER 1

## ROLE OF SERVICES IN COMPETITIVE WORLD

### Critical Questions:

1. What is your understanding about services?
2. Why service management is important and critical?
3. What is the importance of service industry for a developing country like India?
4. What are the key characteristics of services?
5. To what extent the principles of manufacturing are related to service industry?

*A Customer is the most important visitor on our premises.  
He is not dependent on us.  
We are dependent on him.  
He is not an interruption on our work.  
He is the purpose of it.  
He is not an outsider on our business.  
He is a part of it.  
We are not doing him a favour by serving him.  
He is doing us a favour by giving us an opportunity to do so.*

**Mahatma Gandhi**

### Case 1: Hospital services

Help Hospital is a private hospital located in Vijayawada which serves on average 150 patients and has higher demand during the monsoon season. The hospital which has 70 inpatient beds, 4 emergency units, 4 operating theaters, 2 ICU's, 2 intensive coronary care units, a pharmacy department, and lab and imaging units employs on average 80 people working at the hospital. The hospital was facing the problem of high waiting times. It was decided to improve operations through a concept called Lean that aims to reduce wastage in any process.

Through detailed analysis using Value Stream Mapping (VSM) of the current operations, it was identified that lack of scheduling of patients was the major issue as it resulted in longer queues. Receptionists had wasted a lot of time to enter admission's paperwork into the system, update information, and schedule appointment before as some patients were illiterate. Also, many patients arrived at the opening time, which created a bottleneck which also resulted in errors in filling application forms. Another problem was billing system as power for the hospital would be lost for hours and patients that were finished would not be able to pay their bill and had to wait. Another issue identified was Chief Doctors were conducting initial consultations as opposed to the junior doctors and during this identification sometimes it was found that patients required additional information such as lab work or an X-ray to complete the diagnosis which resulted in additional waiting time for patients and caused the need for patients to come back following day.

Based on the issues identified various solutions were implemented. Scheduling of patients was done to allow the receptionist to better collect patient's personal and billing information through a more standardized process. A broader marketing and advertising campaigns were undertaken to increase awareness among the patients regarding prior appointments. Patients were given specific appointment time and were asked to show up 15 minutes before to update records and fill out any new forms. Junior doctors were assigned for initial consultation. Based on the reason for appointment and a brief interview, patients who required additional tests were identified. Prioritization of patients was made to enable those patients with the longer time requirements to be processed first. Coaching was given to nurses to take ownership of their jobs such as carrying common supplies with them at all times.

After the changes in the first stage of implementation, the average outpatients seen per day increased from 40 to 60 and the chief doctors were able to spend 25%, or about 2 hours performing additional surgeries or consultations based on their specialty and also the overall efficiency of the hospital increased. A 114% improvement in the number of patients seen with respect to the wages spent and during the monsoon season, the average wait time was maintained at 15 minutes instead of those exceeding 1 hour that was experienced in previous years. This study shows how small changes in operations can improve the efficiency of an organization while improving customer satisfaction.

**Questions for discussion:**

1. What were the issues faced by the organization? What were the causes identified?
2. What are the changes in operations that were done to solve the issues?
3. Among above problems, what similar problems can you identify with other services like banking?
4. How would the solutions differ in such services?
5. Based on the above study what do you think is a role of operations manager in a service environment?

*Source:* Richard Miller; Nirisha Chalapati, (2015), "Utilizing Lean Tools to Improve Value and Reduce Outpatient Wait Times in an Indian Hospital", *Leadership in Health Services*, Vol. 28 Iss 1 pp.

## 1.1 Introduction

The service sector is the lifeblood of the modern world, intricately woven into the fabric of our daily lives and professional pursuits. From the retail stores we frequent to the healthcare professionals who ensure our well-being, services play a crucial role in keeping our society functioning smoothly. This sector's influence extends beyond individual experiences, acting as a powerhouse for a nation's economic growth.

Take India for instance: While the COVID-19 pandemic impacted various sectors, the service sector has shown remarkable resilience. During the first half of 2021-22, it registered a steady recovery, growing by 10.8% year-on-year (YoY) [Economic Survey 2022]. The services sector's Gross Value Added (GVA) at current prices is estimated to be around ₹92.26 lakh crore in 2018-19, accounting for a significant 54.40% of India's total GVA [Economic Survey 2022]. This dwarfs the contributions of the industrial sector (29.02%) and the primary sector (agriculture, forestry, etc.) (18.57%). This dominance of services highlights India's shift towards a knowledge-based economy, where information, expertise, and innovation drive growth.

In this chapter, we try to understand the role of service and importance of service operations management. Services are an integral part of the modern human world. Consider the scenario when a person is hungry; one might decide to go to a restaurant for a meal or book a meal through any of the internet-based home meal delivery provider. Both the restaurant and the meal delivery provider are examples of services. Other examples where we encounter services include visits to salons, banks, hospitals, airports, schools, universities, courthouses, post offices etc. While these are services where we visit a certain premise to receive a service, there are services which we enjoy sitting at our home such as telephone services, electricity services, Television cable services and the internet services. Thus we are surrounded by services and service providers throughout our day to day lives. Table 1.1 summarizes the examples of select unique services.

**Table 1-1** Examples of unique services in India

S. No.	Organization	Key characteristics
1	Indian postal services	<ul style="list-style-type: none"> <li>❖ The services includes delivering mails, accepting deposits under Small Savings Schemes, providing life insurance cover under Postal Life Insurance (PLI) and Rural Postal Life Insurance (RPLI) and providing retail services like bill collection, sale of forms, etc.</li> <li>❖ It acts as an agent for Government of India in discharging other services for citizens such as Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) wage disbursement and old age pension payments.</li> <li>❖ Indian postal services with 155,015 post offices has the most widely distributed postal network in the world.</li> </ul>
2	Indian Railways	<ul style="list-style-type: none"> <li>❖ It is the fourth largest railway network in the world by size, with 121,407 kilometres (75,439 mi) of total track over a 67,368-kilometre (41,861 mi) route.</li> <li>❖ It runs more than 13,000 passenger trains daily, on both long-distance and suburban routes, from 7,349 stations across India.</li> </ul>
3	Life Insurance Corporation of India	<ul style="list-style-type: none"> <li>❖ It is the largest insurance company in India with an estimated asset value of ₹1,560,482 crores (US\$230 billion).</li> <li>❖ The organizations are fully computerized 2048 branch offices, 8 zonal offices, around 113 divisional offices, 2,048 branches and 1381 satellite offices and corporate offices.</li> <li>❖ It handles a huge network of 1,337,064 individual agents, 242 Corporate Agents, 89 Referral Agents, 98 Brokers and 42 Banks for extending its services to the public.</li> </ul>
4	State Bank of India	<ul style="list-style-type: none"> <li>❖ It is ranked 217th on the Fortune Global 500 list of the world's biggest corporations.</li> <li>❖ It is the largest bank in India with a 23% market share in assets, besides a share of one-fourth of the total loan and deposits market.</li> <li>❖ SBI provides a range of banking products through its network of 18,354 branches in India and 191 overseas offices.</li> </ul>

5	Mumbai Dabbawala	<ul style="list-style-type: none"> <li>❖ Handles lunchbox delivery and return that delivers hot lunches from homes and restaurants to people at work in Mumbai.</li> <li>❖ The lunchboxes are picked up in the late morning, delivered predominantly using bicycles and railway trains, and returned empty in the afternoon.</li> <li>❖ It handles around 2,00,000 lunch boxes each day with the help of 4,500 to 5,000 dabbawalas.</li> </ul>
6	Sulabh Shauchalaya	<ul style="list-style-type: none"> <li>❖ Dedicated to Gandhian ideology of emancipation of scavengers, sulabh has been working for the removal of untouchability and social discrimination against such people, and the organization is noted for achieving success in that.</li> <li>❖ Providing jobs directly to over 35,000 people, creating 1 crore man days, and making 640 towns scavenging free.</li> </ul>
7	Akshardham Temple	<ul style="list-style-type: none"> <li>❖ Place of devotion, purity and peace.</li> <li>❖ Hindu house of worship, and a spiritual and cultural campus dedicated to devotion, learning and harmony.</li> <li>❖ Caters the spiritual need of the devotees.</li> <li>❖ Trust, discipline in following rituals, treatment offered to devotees, and ambience of the temple decides the service quality and experience.</li> </ul>
8	Insurance Company	<ul style="list-style-type: none"> <li>❖ Design of product such as term plans, health insurance, life insurance etc. which can maximize the value for customer and insurance company both.</li> <li>❖ Claim ratio, market image, past experiences, convenience, and flexibility decide the value of offerings.</li> </ul>

Table 1.2 shows some examples of the services that we encounter in daily lives. The phenomenon of globalization, characterized by interconnected markets and intensified competition, has converged with rapid advancements in communication technologies. This confluence has resulted in a **proliferation** of service offerings within the global marketplace. Furthermore, these advancements have opened **avenues** for the **conceptualization** of entirely novel service paradigms. In this dynamic and competitive environment, service providers are engaged in a relentless pursuit of **differentiation**. This strategic focus necessitates continuous innovation and the addition of value to their service portfolios. Such efforts aim not only to achieve competitive advantage but also to secure a larger market share and cultivate enduring customer loyalty.

**Table 1-2** Examples of *Services* encountered in daily lives

<b>Professional Services</b> <ul style="list-style-type: none"> <li>• Healthcare</li> <li>• Education</li> <li>• Engineering (Civil, Mechanical, Electrical, etc.)</li> <li>• Information Technology (IT)</li> <li>• Human Resources (HR)</li> <li>• Marketing</li> <li>• Management Consulting</li> <li>• Legal Services</li> </ul>	<b>Financial Services</b> <ul style="list-style-type: none"> <li>• Investment Banking</li> <li>• Wealth Management</li> <li>• Stock Broking</li> <li>• Real Estate</li> </ul>	<b>Social Services</b> <ul style="list-style-type: none"> <li>• Childcare</li> <li>• Eldercare</li> <li>• Social Work</li> <li>• Religious Organizations</li> <li>• Non-Profit Organizations</li> </ul>
<b>Logistics and Transportation</b> <ul style="list-style-type: none"> <li>• Delivery Services</li> <li>• Shipping</li> <li>• Warehousing</li> </ul>	<b>PORTFOLIO OF SERVICES</b>	<b>Utilities</b> <ul style="list-style-type: none"> <li>• Electricity</li> <li>• Water</li> <li>• Gas</li> <li>• Waste Disposal</li> </ul>
<b>Tourism and Hospitality</b> <ul style="list-style-type: none"> <li>• Travel Agencies</li> <li>• Event Planning</li> <li>• Hotels/ Accommodation Services</li> </ul>	<b>Communication</b> <ul style="list-style-type: none"> <li>• Telecommunication Services</li> <li>• Postal Services</li> </ul>	<b>Other Services</b> <ul style="list-style-type: none"> <li>• Hairdressing</li> <li>• Beauty Services</li> <li>• Landscaping</li> <li>• Pet Services</li> <li>• Security Services</li> <li>• Entertainment Platforms/ Multiplexes</li> </ul>

## 1.2 The concept of service

### 1.2.1 Definition of a service

Service has been defined in various ways by different authors. Table 1.2 shows some of the ways in which various authors have attempted to define service.

**Table 1-2** Various definitions of service

- ✓ A service is a change in the condition of a person, or a good belonging to some economic unit, which is brought about as the result of the activity of some other economic unit, with the prior agreement of the former person or economic unit.
- ✓ A service is an act or performance offered by one party to another. Although the process may be tied to a physical product, the performance is essentially intangible and does not normally result in ownership of any of the factors of production.
- ✓ Services are economic activities that create value and provide benefits for customers at specific times and places, as a result of bringing about a desired change in—or on behalf of—the recipient of the service.
- ✓ Services are deeds, processes, and performances.
- ✓ Service is a combination of outcomes and experiences delivered to and received by a customer.

From the above definitions it can be observed that service usually is an activity or a task or a process performed that provides value to customers through fulfilment of customer needs and providing a customer experience. The end result is that the customer leaves with an experience and a level of satisfaction based on the service encounter. The service sector includes a wide range of economic activities that possess diverse product and process characteristics. Services usually involve activities whose products are intangible, cannot be stored or result in ownership of a good and consumed at the point of sale. A service system constitutes the facilities, their layout and process employed to fulfill the customer needs while maintaining requisite quality and delivery specifications. The service concept does not merely represent the actual service delivered to the consumer but also includes how various stakeholders perceive and what they expect from the service. A service operation is an open transformation process of converting inputs (consumers) to desired outputs (satisfied consumers) through the appropriate application of resources (family, material, labor, information, and the consumer as well).

### 1.2.2 Characteristics of services

In order to be able to appreciate the need for service operations management we need to understand the key characteristics that differentiate goods from services. The major characteristics of services are: Intangibility, Perishability, Simultaneity, Customer involvement in the production process and Variability.

#### **Intangibility:**

Unlike products, services are intangible. This means they cannot be seen, touched, or directly perceived by our senses. In fact, the service sector now makes up over 70% of global economic output according to the World Bank, highlighting the increasing importance of intangible offerings.

For example, consider a doctor's consultation. While there may not be a physical product exchanged, the knowledge and expertise provided by the doctor in diagnosing and treating an illness is the core of the service.

Even when a physical product is involved, the overall focus can be on the service experience. Take a restaurant, for instance. The meal itself is a tangible product, but the ambiance, staff behaviour, and waiting time all contribute to the customer's overall dining experience. Studies by McKinsey & Company show that 70% of customer satisfaction is based on how customers feel they are treated during the service interaction. Service, therefore, is all about creating experiences, making it more challenging to measure its value compared to a tangible product. The customer experience is significantly enhanced because of intangibility involved in the service offerings. For example,

- Financial Services: When you use online banking, the service you're paying for is the secure and convenient access to your finances, not the physical computer screen you interact with.
- Education: In online education platforms, the service is the access to learning materials and interaction with instructors, not the physical textbook.
- Entertainment: Streaming services offer access to a vast library of movies and shows, but the service itself is the curated experience and convenience of watching them on-demand.

### **Intangibility: Most critical dimension in services – How do we help children with special needs?**

**Social and Emotional Support:** Children with special needs may require emotional support, encouragement, and a sense of security. These are intangible aspects that cannot be physically delivered but are crucial for their well-being. A therapist might use positive reinforcement techniques or create a calming environment, but the actual feeling of security or encouragement cannot be seen or touched.

**Skill Development:** Many interventions for children with special needs focus on developing skills like communication, problem-solving, or motor skills. The progress in these areas might not always be readily apparent. For example, a therapist might work with a child on improving their social interaction skills, but the *actual improvement in social confidence might be intangible until observed in a social setting.*

**Sensory Processing:** Children with sensory processing disorders may experience the world differently. A therapist might provide sensory integration activities or create a calming sensory environment. The benefit of these interventions lies in how the child perceives and processes sensory information, which is an intangible process.

### **Perishability:**

Perishability, a fundamental characteristic of services, distinguishes them from tangible goods due to their inability to be inventoried. While the resources required for service delivery, such as equipment, personnel, and facilities, can be maintained, the service itself is intangible and exists solely at the moment of its performance. Consider a beauty salon, for instance. The salon can stock up on hair dyes, styling tools, and employ skilled hairstylists, but the actual service of a haircut or hair color treatment can only be consumed as it is being performed. Once the stylist finishes the service, it ceases to exist and cannot be saved for another customer. Similarly, other cosmetic treatments like facials or manicures are also perishable, as they are rendered and experienced in real-time.

The perishability of services presents a significant challenge for service providers. Unlike manufacturers who can produce goods ahead of demand and hold them in inventory, service providers must meticulously align their capacity with fluctuating customer needs. This entails optimizing resource allocation to prevent unused service capacity, which equates to lost revenue due to the inability to store or resell unsold services.

The service perishability underscores the importance of demand forecasting, capacity management, and yield management strategies in the service sector. It highlights the need for dynamic pricing, promotions, and queue management techniques to match supply with demand in real-time. Additionally, it necessitates a focus on customer relationship management to cultivate loyalty and encourage repeat business, mitigating the impact of lost revenue from unsold services due to their inherent perishability.

### **Inseparability:**

This is a defining characteristic of services that underscores the fundamental interconnectedness between service production and consumption. Unlike tangible goods that are produced, sold, and then consumed independently, services necessitate the active participation and presence of the customer throughout the entire service delivery process. This simultaneous nature of production and consumption makes the customer an integral part of the service experience, blurring the lines between producer and consumer.

This inherent part of this characteristic of service is particularly evident in sectors like healthcare, hospitality, and transportation. Consider a hospital visit where the patient's presence is indispensable for diagnosis, treatment, and recovery. Each interaction with medical staff contributes to the overall healthcare service, making the patient an active participant in their own well-being. Similarly, in hotels, the guest's experience is shaped by their interactions with staff, utilization of amenities, and overall ambiance. The quality of these interactions and the guest's active engagement in the hotel's offerings determine their level of satisfaction. In the realm of transportation, the passenger's journey is inseparable from the service provided by airlines, trains, or buses. Their comfort, safety, and overall travel experience are intrinsically linked to the service delivery process, making them an inseparable part of the service itself.

### **Involvement**

One of the most important characteristics of services is the participation of the customer in the service delivery process. A customer has the opportunity to get the services modified according to specific requirement. A pivotal feature of services is customer co-creation during service delivery, enabling customization. Effective service marketing must bridge the intangibility gap through evocative imagery, creating a mental picture of the service experience. However, service intangibility and heterogeneity make pre-purchase evaluation difficult. Unlike tangible goods, services lack concrete attributes for assessment, leading to a complex and subjective pre-purchase process. This highlights the importance of reputation, recommendations, and service guarantees in influencing consumer decisions. Additionally, clear



communication, transparent pricing, and robust service quality management are crucial to build trust and mitigate pre-purchase uncertainty.

### Variability:

Services are inherently variable due to the coproduction between customers and providers. (A taxi ride to the multiplex differs from the return trip due to time, traffic, route, and driver. Service delivery also utilizes diverse channels, is time-sensitive, and presents challenges in satisfaction evaluation. These characteristics necessitate adaptability, personalization, and effective communication from service providers.

This is also clearly evidential in the food service industry. Consider two customers ordering the same dish at a restaurant. Even with standardized recipes and ingredients, their experiences can differ significantly. This is due to variations in chef preparation, serving staff interactions, ambiance, and even the customers' individual moods and expectations. Also the quality of ingredients, cooking techniques, presentation, and overall dining atmosphere contribute to this variability. Furthermore, the food service industry utilizes diverse distribution channels, including dine-in, takeout, delivery, and online ordering platforms. Each channel offers a unique experience, impacting factors such as convenience, speed, and interaction with staff. Time sensitivity is also crucial in the food service industry. Customers expect prompt service, especially during peak hours. Delays can significantly affect satisfaction, emphasizing the importance of efficient kitchen operations and staff coordination.

Evaluating customer satisfaction in the food service industry is also complex. Taste preferences are subjective, and individual perceptions of value and service quality vary. Therefore, restaurants rely on various feedback mechanisms, including surveys, online reviews, and direct customer interactions, to gauge satisfaction and identify areas for improvement.

#### Difference between the unique service offerings between Taj Hotel and Ginger Hotel: Unique Service Offerings: Taj Hotel vs. Ginger Hotel

Feature	Taj Hotel	Ginger Hotel
<b>Service Philosophy</b>	Personalized, luxurious, bespoke experiences	Streamlined, efficient, value-driven, focusing on essential amenities and services to deliver the best possible experience for budget-conscious travellers.
<b>Unique Offerings</b>	Butler service, Jiva Spa, curated dining (Michelin-starred chefs, diverse options), luxury concierge (personalized recommendations, travel arrangements), bespoke experiences (private tours, cultural immersion)	Lean Luxe approach (prioritizes affordability without sacrificing comfort), smart basics (free Wi-Fi, 24-hour cafe, self-service laundry, fitness centre), digital check-in/out (mobile app for convenience), secure stay (24-hour security, CCTV), value-added services (special packages, breakfast-inclusive rates)
<b>Target Market</b>	Luxury travellers seeking personalized service and experiences that go beyond the ordinary	Budget-conscious travellers seeking a comfortable and convenient stay that prioritizes value for money without compromising on essentials. Ginger Hotels are ideal for millennials, young professionals, and business travellers.
<b>Target Market</b>	Luxury travellers, discerning executives, celebrities	Budget-conscious travellers, business travellers, millennials
<b>Pricing</b>	Significantly higher prices	Affordable prices
<b>Services &amp; Amenities</b>	Lavish rooms, fine dining, spa, rooftop pool, butler, concierge, bespoke experiences	Functional rooms, cafe, fitness centre, self-service laundry, free Wi-Fi
<b>Room Features</b>	Spacious, opulent rooms with luxurious amenities and stunning views	Compact, modern rooms with essential amenities
<b>Location</b>	Iconic location overlooking the Gateway of India and Arabian Sea	Convenient location near the airport and commercial hubs
<b>Brand Experience</b>	Exquisite luxury, personalized service, historical significance, iconic status	Smart basics, lean luxe approach, efficiency, convenience

#### Real-World Case Study: Comparing Taj Hotels and Ginger Hotels in Mumbai

##### Taj Mahal Palace, Mumbai (Luxury):

- **Location:** An iconic landmark situated in Colaba, offering breathtaking views of the Gateway of India and the Arabian Sea. Steeped in history, the hotel itself is a tourist destination, having been featured in numerous films and documentaries.

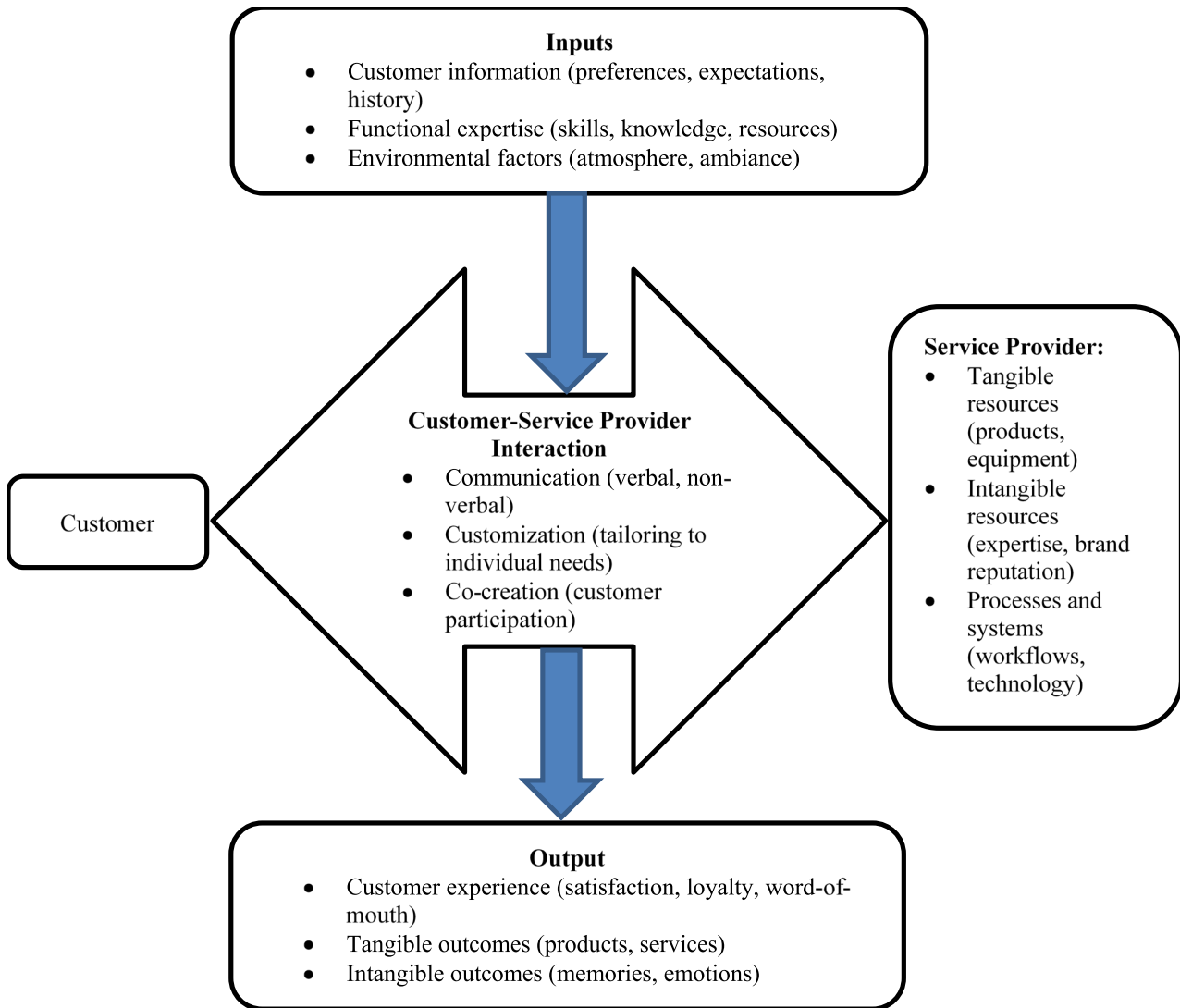
- **Target Market:** This grand hotel caters to luxury travellers seeking an unforgettable experience. Discerning business executives and celebrities are also drawn to the Taj Mahal Palace's opulent setting and impeccable service.
- **Services and Amenities:** Guests are welcomed into lavish rooms and suites, each designed with the utmost comfort and elegance in mind. The hotel boasts multiple fine-dining restaurants, including the renowned Golden Dragon, which serves delectable Cantonese cuisine. For relaxation and rejuvenation, the world-class Taj Spa offers a variety of rejuvenating treatments. After a pampering session, guests can unwind by the rooftop pool, taking in the stunning views of the Mumbai skyline. Personalized service is a hallmark of the Taj experience, with butlers catering to guests' every need and a dedicated concierge available to assist with anything from booking tours to arranging private car services. To create truly bespoke experiences, the Taj Mahal Palace can curate special itineraries tailored to guests' interests, such as private museum tours or heritage walks through Mumbai's historical landmarks.

#### **Ginger Mumbai, Andheri (Budget):**

- **Location:** Situated in Andheri East, Ginger Mumbai offers a convenient location for both business and leisure travellers. The hotel is close to the Chhatrapati Shivaji Maharaj International Airport, making it a good choice for those with early morning flights or late arrivals. It also enjoys proximity to key commercial hubs in Andheri, ideal for business travellers seeking a comfortable stay near their meetings.
- **Target Market:** Ginger Hotels target budget-conscious travellers, including millennials and young professionals, who prioritize affordability and convenience. The hotel chain is also a popular choice for business travellers seeking a comfortable and functional stay without unnecessary frills.
- **Services and Amenities:** Ginger Mumbai provides modern and functional rooms equipped with all the essentials for a comfortable stay. Guests can enjoy a variety of snacks and meals at the 24-hour cafe, which is a convenient option for those on the go. For those who prioritize staying active, the hotel features a fitness centre with basic exercise equipment. Free Wi-Fi is available throughout the hotel, allowing guests to stay connected with family, friends, or colleagues. Additionally, Ginger Mumbai offers self-service laundry facilities, a welcome convenience for travellers who need to freshen up their clothes during their stay.

### **1.2.3 The Service Process**

Figure 1.2 provides schematic representation of the basic service process. The customer arrives at a service location with a certain want. The service provider has a set of resources that possess the capability to fulfil the required service. The information from the customer is acquired and is converted into a specification for the service delivery. The service delivery usually takes place at the junction of customer- service provider interaction. Once the delivery process is completed the customer may leave with a physical product and degree of satisfaction based on the level to which the customer expectations were met.



**Fig. 1-2** The Service Process

Table 1.3 illustrates the fundamental service process, showcasing the dynamic interplay between customer and service provider. The process commences as the customer, seeking to fulfill a specific need or desire, engages with the service provider. This interaction is facilitated by the customer's information, which encompasses their preferences, expectations, and relevant details, along with the provider's functional expertise.

This input information is crucial as it is transformed into actionable insights that guide the service delivery process. This delivery often occurs at the intersection of customer and provider interaction, where the provider's capabilities and resources are leveraged to meet the customer's needs. Upon completion of the service, the customer departs, carrying not only tangible products or results but also a subjective experience—the customer experience—shaped by the degree to which their expectations were met and the overall quality of the interaction.

Let's consider the example of a restaurant, a quintessential service industry. Patrons enter seeking a satisfying meal. The restaurant's staff (chefs, waiters), bussers (possess, diverse skills and roles, each contributing to the overall service). Customers convey their preferences through orders, considering factors like taste, budget, and dietary restrictions. The final “product” encompasses not only the meal itself but the entire dining experience, influenced by factors like staff behaviour, ambiance, and waiting times.

### 1.2.4 Service Process Matrix

The matrix illustrated in Table 1.3 represents the relationship between labor intensity, interaction/customization as four different types of services i.e. Service Factory, Service Shop, Mass Service and Professional Service.

**Service factory (Low Interaction/Customization, Low Labor Intensity):** Service factories are services that low level of customer contact or customization and also less labour intensive. These services are similar to assembly lines in manufacturing and major costs in these sectors are due to the facilities and equipment. Much of the transportation industry (airlines, trucking companies), hotels and fast-food establishments can be classified as Service Factories.

**Service shop (High Interaction/Customization, Low Labor Intensity):** Services with low labour intensity but high customer contact/customization are classified as service shops. Examples include auto repair shops and other repair services, where diagnosis and solutions are tailored to specific customer needs.

**Table 1-3** Service process matrix

		Level of Interaction and Customization	
		Low	High
Level of Labour Intensity	Low	<b>Service Factories</b> Airlines Trucking Restaurants Resorts and recreation	<b>Service Shops</b> Hospitals Auto repairs Other repair services
	High	<b>Mass Services</b> Retailing Wholesaling Schools Commercial banking	<b>Professional services</b> Doctors Legal advisors Chartered Accountants Architects

**Mass service (Low Interaction/Customization, High Labor Intensity):** Mass services are characterized by high labour intensity in combination with low customer contact/customization. Retailing, wholesaling, and schools are examples, where services are delivered to a large number of customers with limited individualization.

**Professional service (High Interaction/Customization, High Labor Intensity):** These services are highly customized and require a significant amount of skilled labor. Doctors, lawyers, chartered accountants, and architects

exemplify this category, where expertise and personalized solutions are paramount.

Overall, this matrix offers a framework for understanding how the interplay between labor intensity and interaction/customization defines different types of services. It can be a valuable tool for businesses to assess their service offerings, identify areas for improvement, and strategize for growth.

### 1.3 Role of services in India

In developing countries like India, services can play a major role in inclusive growth by providing equitable access to basic services at affordable prices, by providing opportunities for employment, and through developing human capital. Economic development in any country depends on the growth of the three major sectors of the economy: manufacturing, agriculture and services.

Table 1.4 shows the growth of some major services in India from the period 2009-17. Major reasons for this growth has been outsourcing of services by developed countries and significant government spending in public services. From the table we notice that all the service sectors presented have achieved significantly high growth.

**Table 1-4** Performance of India's Services Sector (2019-2023)

Sector	Indicators	Unit	2019-20	2020-21	2021-22	2022-23
<b>IT &amp; BPM</b>	Revenues	US \$ billion	191	194	227	254
<b>Aviation</b>	Airline passengers	Million	144.1	53	83.7	123.2
<b>Telecom</b>	No. of connections	Billion	1.17	1.18	1.2	1.21
<b>Tourism</b>	Foreign tourist arrivals	Million	10.9	2.7	6.2	10.4
<b>Shipping</b>	Gross tonnage	Million GT	12.8	12.5	12.8	13.2
<b>Ports</b>	Port traffic	Million	1345.2	1212.8	1304.9	1418.5

(Sources: Economic surveys, Source: Central Statistics Office (CSO), Ministry of Statistics and Programme Implementation, Reserve Bank of India (RBI))

The statistical data presented in Table 1.4 for India's service sector growth in the post-COVID era (2019-2023) is an approximation based on available information and trends from various sources. While the figures aim to reflect the general direction and magnitude of growth, they may not be entirely accurate due to the dynamic nature of the economy and limitations in data collection during the pandemic.

**IT & BPM:** National Association of Software and Service Companies (NASSCOM) and Reserve Bank of India (RBI) data indicates continued growth, accelerated by remote work and digital transformation trends.

**Aviation:** Ministry of Civil Aviation data reveals a sharp decline in 2020-21 due to travel restrictions, followed by a gradual recovery in subsequent years.

**Telecom:** Telecom Regulatory Authority of India (TRAI) reports show steady growth, driven by increased data usage and the shift towards digital services.

**Tourism:** The Ministry of Tourism reports a significant drop in foreign tourist arrivals in 2020-21, followed by a gradual recovery as travel restrictions eased.

**Shipping & Ports:** Ministry of Shipping data indicates a slight decline in 2020-21 due to supply chain disruptions, followed by a rebound in subsequent years.

The table demonstrates the impact of the COVID-19 pandemic on India's service sector, with a sharp decline in 2020-21 followed by a gradual recovery. The IT & BPM sector showed resilience and even accelerated growth during the pandemic, while sectors like aviation and tourism were severely impacted.

**Table 1-5** Comparison of services growth in select countries (2022)

Country	Rank in Overall GDP	Services Growth Rate (2022)	Share of Services in GDP (2022)	Share of Services in Employment (2022)	Services Export Growth Rate (2022)
India	5	8.50%	55.10%	30.20%	15.40%
USA	1	4.10%	79.80%	80.50%	2.80%
China	2	4.40%	53.30%	47.50%	3.90%
UK	6	4.60%	80.00%	81.10%	-2.30%
Brazil	12	4.20%	73.00%	70.30%	-0.80%
S Korea	10	4.80%	59.30%	71.20%	7.10%
Mexico	15	4.00%	61.80%	62.70%	6.50%
World	-	4.30%	68.60%	52.40%	3.20%

(Sources: World Bank data, national statistical agencies, and OECD reports)

Table 1.5 presents the comparison of service sector growth in some major economies around the world. India ranks 5 in overall GDP in the world ranking with a growth rate of 8.5% in services. The share of services in GDP and employment in India are 55.10% and 30.20% respectively. India exhibits a huge potential in the service export with a growth rate of 15.40%. This shows that there is a large scope for development in terms of employment in service sector in India. With increasing population and growth of services can be expected to play a major role in the economic development in India.

The data reflects the post-COVID period (2020-2022), showing recovery and growth trends. The services growth rate is the percentage change in the value of services produced compared to the previous year. The share of services in GDP is the percentage of a country's total economic output that comes from the services sector. The share of services in employment is the percentage of a country's workforce employed in the services sector. The services export growth rate is the percentage change in the value of services exported compared to the previous year. Sources include World Bank data, national statistical agencies, and OECD reports.

India experienced the highest services growth rate among the listed countries, driven by a rebound in domestic demand and strong performance in IT and business services. The USA, despite being the largest economy, had a relatively slower services growth rate due to lingering pandemic effects and labor shortages. China's services sector rebounded steadily, aided by government stimulus measures and strong domestic consumption. The UK and other advanced economies faced challenges due to Brexit, supply chain disruptions, and the war in Ukraine. Brazil, Mexico, and South Korea showed mixed results, with growth in some sectors offset by contractions in others. The global economy is still recovering from the pandemic, and growth rates may fluctuate in the coming years. The data highlights the increasing importance of the services sector in driving economic growth worldwide. The major contributions that highlight the impact of services in India are presented in Table 1.6.

**Table 1-6** Impact of Services in India's Economy

Contribution	Details	Impact
Economic Growth	Significant contributor to Gross Value Added (GVA) growth.	Increase in GVA
Employment	Major employer, absorbing a significant portion of the workforce. Trend of increasing employment share is expected.	Growth in total employment
Exports	India is a leading exporter of services, boosting foreign exchange earnings. Software services are a dominant export.	Growth of total services exports
Capital Formation	Facilitates savings and investment through financial services, contributing to capital accumulation.	Data not provided, but significant due to financial sector contribution.
Government Revenue	A significant source of government revenue through service tax.	Increased total gross tax revenue
Regional Development	Provision of essential services (transport, banking, communication) fosters regional development.	Uneven development, with states like Maharashtra, Gujarat, Tamil Nadu leading initially.
Standard of Living	Access to education, healthcare, and leisure improves the quality of life. Employment generation boosts income and purchasing power.	Increased consumption and overall improvement in living standards.
Social Development	Contributes to social progress through education, healthcare, and media.	Increased literacy, life expectancy, and social awareness.

#### The Role of Services in India's Economy: Post-COVID Era Enhancements (2020-2023)

##### Economic Growth:

- **Contribution to GDP:** The services sector continues to be a dominant force in India's economy, contributing approximately 54% of the Gross Value Added (GVA) in 2022-23.
- **Recovery and Growth:** The sector experienced a sharp contraction in 2020-21 due to the pandemic but rebounded strongly in 2021-22, with a growth rate of 8.2%. This recovery was driven by sectors like IT, telecommunications, and e-commerce.

##### Employment:

- **Employment Share:** The services sector remains the largest employer in India, accounting for 31.4% of total employment in 2022-23.
- **Impact of Pandemic:** The sector witnessed job losses in 2020-21, especially in contact-intensive sectors like hospitality and tourism. However, employment has gradually recovered, with a focus on digital and tech-enabled services.

##### Contribution to Exports:

- **Export Share:** Services continue to be a major contributor to India's exports, accounting for around 40% of total exports in 2022-23.
- **Leading Sectors:** Software services remain the largest export item, followed by business services, travel, and transportation.
- **Digital Boom:** The pandemic accelerated the growth of digital services exports, with increasing demand for IT, consulting, and digital marketing services.

##### Capital Formation:

- **Investment:** The services sector attracts significant investments, particularly in technology, infrastructure, and financial services.
- **FDI Inflows:** India's services sector is a major recipient of Foreign Direct Investment (FDI), contributing to capital formation and economic growth.

**Government Revenue:**

- **GST Collection:** The Goods and Services Tax (GST) has become a major source of revenue for the government, with the services sector contributing significantly to its collection.

**Regional Development:**

- **Tier-2 and Tier-3 Cities:** The growth of services sector is increasingly contributing to the development of smaller cities and towns, reducing regional disparities.
- **Digital Infrastructure:** The expansion of digital infrastructure, including high-speed internet and mobile networks, is enabling the growth of services in remote and underserved areas.

**Standard of Living:**

- **Accessibility and Affordability:** The growth of the services sector is making various services more accessible and affordable for a larger population, contributing to an improved standard of living.
- **Digital Services:** The rise of digital services like e-commerce, telemedicine, and online education is enhancing convenience and access to essential services.

**Social Development:**

- **Education and Healthcare:** The services sector plays a crucial role in social development by providing access to education, healthcare, and other essential services.
- **Financial Inclusion:** The growth of digital financial services is improving financial inclusion and providing access to banking and insurance services to a wider population.

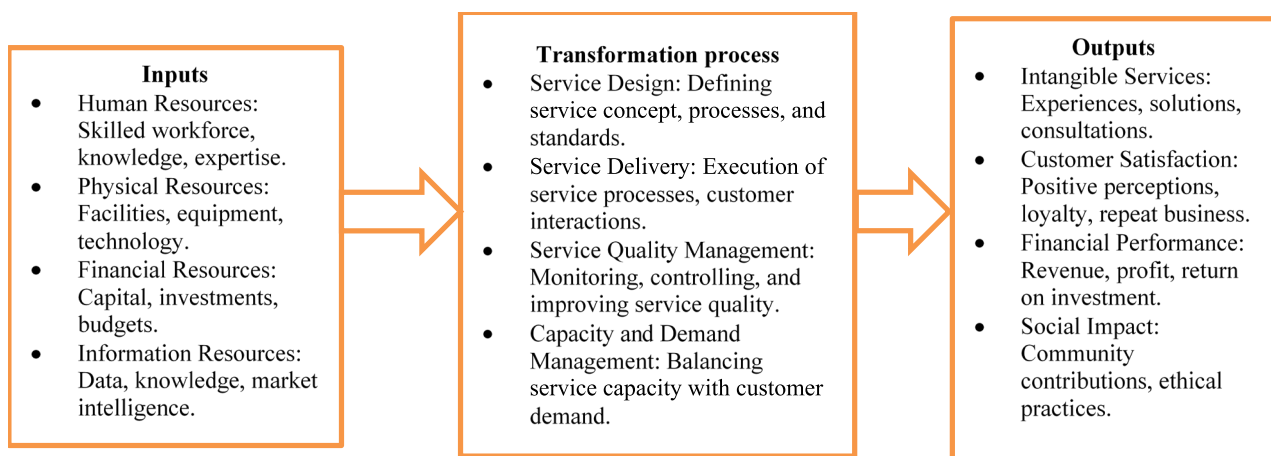
## 1.4 Service operations management

An operations system facilitates the transformation of inputs into desired outputs through a series of coordinated activities. As depicted in Figure 1.1, this system encompasses the input-output relationship in service delivery. Operations management (OM) is the systematic approach to optimizing this transformation process, ensuring the efficient conversion of resources into revenue-generating goods or services.

The OM function is central to organizational (manufacturing or service) success, encompassing the planning, organization, coordination, and control of resources essential for production. This includes managing personnel, equipment, technology, information, and other assets involved in the creation of products/ services. Without effective operations, there would be no tangible offerings for customers, underscoring the critical nature of this function.

Operations management plays a pivotal role in establishing and maintaining a competitive advantage for organizations. By streamlining processes, improving quality, and reducing costs, OM enhances operational efficiency and effectiveness. This, in turn, contributes to increased customer satisfaction, market share, and profitability.

Figure 1.3 provides a comprehensive view of the service input-output system, emphasizing the various types of inputs, the key processes involved in service operations management, and the multifaceted nature of service outputs. It also highlights the importance of considering both tangible and intangible outcomes when assessing the effectiveness of service operations.



**Figure 1-1** The operations function

The significance of services in the global economy has grown exponentially since the 1970s. Consequently, the application of operations management principles to the service sector has become increasingly important. Service operations management (SOM) focuses on optimizing service delivery performance, with a particular emphasis on quality, timeliness, efficiency, flexibility, and innovation. SOM aims to enhance customer satisfaction and loyalty, thereby ensuring the long-term viability and success of service-oriented businesses. Table 1.7 highlights the history of major developments in services.

**Table 1-7** History of major developments in Services

Time period	Major developments: theory and practice
1900–1950s	Application of scientific management to services Walt Disney: industrialized fantasy Holiday Inns: consistency in multi-site services
1960s	McDonald's: production-line approach to services Service economy and operations in health care
1970s	Industrialization of services Match supply and demand in services The customer contact model Data envelopment analysis
1980s	Classify services to gain marketing and operational insights Gap model of service quality and SERVQUAL Strategic service vision Unconditional service guarantee Psychology of queues Yield management
1990s	Service profit chain Using poka-yoke, or fail-safe, methods to prevent human errors in service systems Globalization of information-intensive services Emergence of experience economy
2000s	Using behavioral science in service operations Managing operations in information-intensive services Information technology in services and e-services Global business process outsourcing Service design

## 1.5 Challenges in service operations management

As discussed in the previous section, service possess some unique characteristics. These characteristics also cause various challenges in the operations management activities in services. Table 1.8 presents various challenges in service operations management due to individual service characteristics.

**Table 1-8** Service characteristics impact on SOM activities

Service Characteristics	Impact on SOM activities
Customer is a participant in the service process	<ul style="list-style-type: none"> <li>• Customer is an input/resource.</li> <li>• Customer has immediate interactions with operations.</li> </ul>
Production and consumption occur simultaneously	<ul style="list-style-type: none"> <li>• Services are not inventoried.</li> <li>• Capacity to provide service must be available when demanded.</li> </ul>
Service capacity is time perishable	<ul style="list-style-type: none"> <li>• Service capacity and demand must be synchronized.</li> <li>• Forecasting demand, smoothing demand, and adjusting capacity have important implications for operations.</li> </ul>
Site selection is dictated by customer location	<ul style="list-style-type: none"> <li>• Multiple sites may be needed, each with a small scale of operations.</li> <li>• Vehicle routing may be affected by site selection.</li> </ul>
Operations are labor intensive	<ul style="list-style-type: none"> <li>• New technologies are difficult to implement while maintaining a personalized atmosphere.</li> <li>• Employee characteristics influence the value of the service package.</li> </ul>
Services are intangible	<ul style="list-style-type: none"> <li>• Unit of output is difficult to define and measure.</li> <li>• Quality control systems are difficult to establish.</li> </ul>



Operations management (OM) traditionally focused on tangible resources, but the service sector's inherent people-centricity necessitates a shift towards human resource management. Understanding customer behavior is crucial, especially in labor-intensive services with high customer-provider interaction. This is exemplified by the rise of customer journey mapping and sentiment analysis tools. Customer journey mapping helps service providers visualize the entire customer experience, from initial awareness to post-service interaction, identifying potential pain points and opportunities for improvement. Sentiment analysis tools analyze customer reviews, social media comments, and other forms of feedback to gauge customer sentiment and identify areas where service quality can be enhanced. By leveraging these tools, service providers can personalize experiences, address customer concerns proactively, and build stronger customer relationships.

Service heterogeneity, the presence of diverse customer segments, poses a challenge. However, recent trends like hyper-personalization leverage big data and AI to tailor services to individual needs, enhancing customer satisfaction. For instance, healthcare providers are using predictive analytics to identify patients at risk of chronic diseases and develop personalized care plans to improve health outcomes. In the retail sector, e-commerce platforms recommend products based on a customer's browsing history and past purchases, creating a more convenient and personalized shopping experience. Both the process of production and consumption are simultaneous, which results in inability of the services to be inventoried. Hence managing the resources effectively is a critical SOM challenge. The role of the service operations is thus to maintain the right amount of resources and people at the right place and right time.

Customer presence during service delivery further complicates the environment. The rise of omnichannel customer service allows customers to interact with service providers through various channels (e.g., chatbots, social media, in-person), necessitating seamless integration and consistent service quality across all platforms. Emotion AI is also being utilized to analyze customer emotions in real time, enabling service providers to respond empathetically and resolve issues proactively. For example, airlines are using emotion AI to detect passenger frustration during flight delays and proactively offer rebooking options or vouchers to mitigate negative experiences.

The simultaneity of service production and consumption demands effective resource management. The advent of real-time data analytics and dynamic pricing enables service providers to optimize capacity utilization and pricing strategies in response to fluctuating demand. For instance, ride-sharing platforms like Uber use real-time data to predict surges in demand in specific locations and adjust pricing accordingly. This ensures efficient allocation of resources (drivers) and helps manage customer wait times. The "gig economy" model, facilitated by platforms like Uber and Airbnb, is also transforming resource allocation in the service sector. This model allows companies to access a flexible workforce and scale their operations up or down as needed, meeting customer demand without incurring fixed costs associated with full-time employees.

Beyond operational issues, SOM addresses strategic challenges. The rise of servitization—the bundling of products and services—requires a holistic approach to managing the entire customer lifecycle. For example, manufacturers are increasingly offering after-sales services such as maintenance and repair contracts, along with their products. This creates a recurring revenue stream and fosters stronger customer relationships. Additionally, the increasing importance of sustainability is driving service providers to adopt eco-friendly practices and consider the social impact of their operations. Banks are offering green loans and sustainable investment products, while hospitality companies are implementing energy-saving measures and reducing waste generation.

Continuous improvement of service operations is crucial for maintaining a competitive edge. Fostering innovation and managing the risks involved is also vital for service operations management. Emerging technologies like robotic process automation (RPA) and artificial intelligence (AI) are being leveraged to automate repetitive tasks, improve efficiency, and enhance customer service. For instance, chatbots powered by AI can answer customer queries, schedule appointments, and resolve simple issues, freeing up human agents to handle more complex inquiries. Moreover, the growing focus on employee experience as a driver of customer satisfaction has led to investments in training, development, and empowering employees to deliver exceptional service. By creating a positive work environment, fostering a sense of ownership, and providing opportunities for growth, service organizations can motivate and retain top talent, ultimately leading to a more satisfied and loyal customer base.

The recent trends in the service sector are reshaping operations management. Technology, data analytics, and a focus on customer and employee experience are driving innovation and creating new opportunities for service providers to differentiate themselves in a competitive market. By embracing these trends and continuously adapting their operations, service organizations can ensure long-term success and deliver superior value to their customers.

## 1.6 Major Services Operations Management Issues

Service Operations Management (SOM) aims to optimize service delivery by aligning system capabilities with customer demands. This involves various critical decision areas, each with distinct challenges and considerations as indicated in Table 1.9.

**Table 1-9** Key issues and challenges in service operations management

Topic	Key Issues	Example
Service Facility Location	Strategic placement of service facilities for optimal accessibility, cost efficiency, and customer reach.	Determining the optimal placement of primary health centres (PHCs).
Facility Design and Layout	Physical design and arrangement of the service environment, including customer flow management.	Designing a hospital to minimize patient wait times and optimize staff movement.
Forecasting	Predicting future events, customer demand patterns, and resource needs.	Estimating the number of patients expected at a hospital in the coming week.
Capacity Planning	Determining long-term and short-term resource requirements.	Ensuring enough hospital beds and staff are available during peak flu season.
Transportation/Logistics in Services	Efficient movement of materials, customers, and workforce within the service delivery process.	Routing ambulances, scheduling nurses for home care, transporting biological samples.
Managing Queues	Minimizing customer wait times and dissatisfaction through effective queue management.	Implementing a ticketing system in a hospital waiting room.
Process Planning	Designing and optimizing service delivery processes for cost efficiency and customer satisfaction.	Streamlining patient check-in procedures at a clinic.
Workforce Planning	Determining staffing levels, task allocation, shift assignments, and customer scheduling.	Assigning subjects to teachers, creating class schedules, and allocating tasks to staff in a school.
Inventory Management and Purchasing	Determining order quantities, monitoring stock levels, and optimizing storage for tangible goods.	Managing medical supplies and pharmaceutical inventory in a hospital.
Quality Management	Monitoring and ensuring service quality for customer satisfaction and loyalty.	Implementing protocols to prevent medical errors in a hospital.
Service Design/Innovation	Developing new services and refining existing ones to meet evolving customer demands.	Introducing telemedicine services in a healthcare setting.

By effectively addressing these key decision areas, service operations management can optimize service delivery, enhance customer satisfaction, and drive organizational success in today's dynamic business landscape.

### Case 2: McDonald at Delhi

McDonalds opened their first store in Delhi and second store in Mumbai in 1996. With a very humble start the company currently operates more than 400 restaurants in India. How did McDonalds achieve this?

**Service design:** Based on 'Think Global Act Local' strategy (or Glocalization) they made their products according to local customers' preference in India. For example a menu for India that did not have beef and pork items was developed and various vegetarian items were introduced. It was ensured that vegetarian and the non-vegetarian products starting from food processing to customer service were completely segregated. The company introduced the concept of Family Dining restaurant especially for India. Thus McDonald's re-engineered its operations in India to address the local taste and also the special requirements of vegetarians.

**Pricing strategy:** Apart from Glocalization they also launched a campaign for Branded Affordability (BA) for positioning its products. The campaign communicated and positioned McDonald's as a provider of great value by offering a quality production a clean environment at an affordable price. McDonald's had further reinforced the BA mantra by introducing the Happy Price Menu which starts at Rs. 25.

**Supply chain management:** McDonald's had conducted four years of research prior to starting operations in India to explore supply chain to develop its cold chain infrastructure. As quality is of prime importance, it sets quality standards for all its suppliers. They maintained close relationship with suppliers and encouraged local companies to supply to them. This mutually benefitted the farmers and the customers as farmers were able to get the best price for the produce without the intermediaries and customers were able to get the products fresh at a great value due to the quickness in supply chain. The process of supply chain involved transfer of state-of-the-art food processing technology, improving the quality standards and creating world class manufacturing facilities in India. This was the first step towards creating the unique 'cold chain'. The company pioneered the cold chain across India which helps to maintain freshness and nutrition in every product.

**Lean Operations:** Lean, an Operations Management concept of eliminating wastes, was implemented. It is about meeting the demand instantaneously with perfect quality and no waste. The raw material stock of patties, salad, ingredients and other side dishes are prepared beforehand and kept ready and the assembly of burgers is done when order is placed. This Just in Time (JIT) assembly reduces the risk of over production and decreases Waiting Time. The company trains workforce to acquire multiple skills which makes them gain the expertise to assemble the order in time. McDonald's designed a speedy system based on car assembly line which brings the entire operations under one roof and each worker is allotted a specific task. The assembly happens next to the customer order counter which reduces wastage due to transfer and material handling, eliminates unnecessary processes, minimizes raw material inventory and totally eliminates finished goods inventory. Lean Management brings in a zero defective system as the staffs are trained to maintain the highest quality standards. It is always First In First Out (FIFO) technique which is followed for inventory utilization so that the customer always gets fresh food.

#### Questions for discussion:

1. What role do you think customization of menu according to local preferences play in McDonalds success?
2. How did McDonalds build a brand based on pricing strategy? How do some organisations succeed even with a higher pricing strategy?
3. Find out what is Supply Chain Management (SCM) and its role in managing operations.
4. What are the possible challenges in implementing JIT in an organization?
5. What are the other OM concepts similar to Lean?

*Source:* McDonald's Success Story in India, Dr. A. Satya Nandini (2014), Journal of Contemporary Research in Management, Vol. 9; No. 3, July - Sep, 2014

#### Summary of the chapter:

- ❖ Services are economic activities that create value and provide benefits for customers at specific times and places, as a result of bringing about a desired change in—or on behalf of—the recipient of the service.
- ❖ Services exhibit certain special characteristics of such as: Intangibility, Persishability, Simultaneity, Customer involvement in the production process and Variability.
- ❖ Services can be classified into four different types of: Service Factory, Service Shop, Mass Service and Professional Service.
- ❖ Services play an important role in the overall development of developing countries like India.
- ❖ Operations management is defined as 'the systemic approach to addressing issues in the transformation process that converts inputs into useful, revenue generating outputs'.
- ❖ Service operations management is the application of concepts of operations management to services.
- ❖ Service operations management poses more challenges due to individual service characteristics.
- ❖ Some important issues in service operations management include: Service Facility Location, Facility design and layout, Forecasting, Capacity Planning, Transportation/ Logistics in services, Managing queues, Process planning, Workforce planning, Inventory management and purchasing, Quality Management, Service design.

#### Questions for Discussion

1. What is a service? What are the complexities and opportunities for developing country like India?
2. What are the major characteristics of service?
3. Give five examples of service.
4. Consider any service and determine the key stake holders, the processes and the provider-customer interactions involved in the service delivery.
5. Discuss the service process with an example.

6. Explain classification of services. How do you think classification of services will help the operations manager?
7. Discuss the importance of services in an economy.
8. Explain how services play a major role in a developing country like India.
9. What is Operations management? Discuss the need for OM in services.
10. What are the key challenges that services operations manager face?
11. Explain why SOM is more challenging than OM in manufacturing with examples.
12. Describe any service and explain the outcomes from both a customer and organisation perspective.
13. Consider an example of any service industry and identify all the major service management issues related to the industry.

### Web-based Exercise

Visit the web-site of Axis Bank (<https://www.axisbank.com/>). List down the various services offered. Classify the services depending upon their severity for customer-bank relationship into three categories: High, Moderate and Low.

### Group Project

Form a group of three to five students. Using your high end camera in mobile, record a unique service operation at restaurant, bank, hospital etc. for 30 minutes. Analyze your recording and identify the customer-service provider interaction points. Comments on the overall service experience of the customer with specific reasons.

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## CHAPTER 2

### SERVICE STRATEGY AND CORE COMPETITIVENESS

#### Critical Questions:

1. What is your understanding about services?
2. Why service management is important and critical?
3. What is the importance of service industry for a developing country like India?
4. What are the key characteristics of services?
5. To what extent the principles of manufacturing are related to service industry?

VP of service for a large cable operator said “Today’s customers are unbelievably impatient. As soon as we ask how we can help them, they jump down our throats. They’re frustrated because of the amount of time they’ve had to invest on their own, frustrated by the amount of conflicting information they find on the internet, and frustrated by the thought of having to deal with a service rep. They’re not calling us because they want to; they’re calling us because they have no other choice.”

*Mathew et al. (2017), Harvard Business Review*

#### Case 1: Issues in BPO services

ICICI OneSource (IOS) set up in December 2001, turned into India's driving outsider BPO organizations, offering administrations to buyer enterprises in money related services, retail, telecom, media and utilities. Its worldwide conveyance models brought about numerous long-standing customer associations with FTSE 100 and Fortune 500 organizations and have made it an unmistakable pioneer among Indian BPO organizations taking into account the UK show-case.

IOS with a promise to quality was the world's first organization to accomplish COPC (Customer Operations Performance Center) - 2000 CSP affirmation for back office handling and the principal Indian BPO organization to achieve BS 7799 accreditation. The organization had around 4000 workers in 2004, crosswise over five seaward conveyance focuses in Bangalore and Mumbai, and in-advertise groups in the US and UK. The key issues faced by the sector include:

- The security Issues in BPO organizations
- Setting service standards in call centers
- Working for motivating and the growth of the workers of the organization.

### 2.1 Introduction to service strategy

Service strategy, a fundamental aspect of service management, encompasses the formulation, implementation, and execution of hierarchical capabilities and essential resources to achieve sustained competitive advantage. This strategic framework empowers organizations to maintain a superior position in the market, irrespective of industry fluctuations, competitive pressures, or changes in leadership.

For example, Indigo Airlines, a prominent Indian carrier, articulates its service strategy as "The IndiGo way of doing things is about touching lives and creating value for every stakeholder." This strategy underscores the importance of delivering exceptional customer service, fostering employee engagement, and generating value for all parties involved.

A market-driven approach is pivotal for service industries aiming to achieve sustainable growth and development. A core principle of this approach involves understanding and effectively addressing competitive forces within the market. Michael Porter, a renowned Harvard Business School professor, emphasizes the significance of strategy in articulating and communicating an organization's unique position. He underscores the necessity of strategically aligning resources, capabilities, and competencies to establish a competitive advantage.

Organizational strategy encompasses a long-term vision and direction, guiding resource allocation decisions to fulfill market and stakeholder needs. For instance, if an organization's strategic focus is customer retention, service offerings should be tailored to support this objective. This may involve enhancing customer relationship management practices, implementing loyalty programs, and providing personalized services to foster customer loyalty.

Table 2.1 outlines the success strategies of select organizations in India.

**Table 2-1** Service organizations and success strategy

Organization	Success Strategy
Flipkart	<ul style="list-style-type: none"> <li>❖ Leading E-commerce giant of India, Flipkart have 75 million registered users who had helped the company to achieve 5 billion dollar GMV (Gross merchandise value) of sales in FY15.</li> <li>❖ Behavioural &amp; Psychographic are the segmentation strategies used by Flipkart to segment the market to cater to the customers changing needs &amp; wants. With the rise in per capita income and change in buying patterns, customers are getting more acquainted and are comfortable in buying online.</li> </ul>
Mumbai Dabbawala	To focus on i) Discipline; ii) Organization; iii) Work management; iv) Time management; v) Simple, flexible and accurate process; vi) Strong culture of belonging
Sulabh Shauchalaya	To promote human rights, environmental sanitation, non-conventional sources of energy, waste management and social reforms through education.
OLX	To offer free local classified advertisements in India. OLX is the next generation of free online classifieds.
Murugan Idli	To offer authentic test of South Indian dishes.
Safexpress	To be the top Supply Chain and Logistics Company in India offering logistics services & cargo services.

However, numerous organizations tend to prioritize brand building and product development while neglecting investments in services. This oversight overlooks the untapped potential of service development in achieving business growth and customer satisfaction. The increasing prevalence of outsourcing business functions and operations further underscores the importance of a well-defined service strategy.

In today's rapidly changing business landscape, shifts in market conditions or evolving customer preferences can expose organizations to new competitive threats. Even government and non-profit entities are not immune to these forces. Consequently, it is imperative for organizations, including those in the IT sector, to continuously assess their market position and clearly articulate their unique value proposition to customers.

By understanding the dynamics of competition, aligning service offerings with strategic goals, and investing in service development, organizations can enhance customer satisfaction, drive revenue growth, and establish a sustainable competitive advantage in the ever-evolving service landscape.

### Case Study: Grab Financial Group (GFG) (Singapore)

#### Introduction:

Grab Financial Group (GFG) is a leading fintech firm based in Singapore, operating as the financial services arm of Grab, Southeast Asia's superapp. GFG offers a wide range of financial products and services, including mobile payments, lending, insurance, and wealth management, to millions of users and businesses across the region.

#### Background:

Grab started as a ride-hailing app in 2012 and quickly expanded into other services like food delivery and package delivery. Recognizing the untapped potential of the unbanked and underbanked population in Southeast Asia, Grab launched GFG in 2018 to democratize financial services and empower individuals and businesses.

#### Unique Offerings:

GFG differentiates itself through several key offerings:

1. **Mobile Wallet (GrabPay):** GrabPay is a widely adopted mobile wallet that allows users to pay for rides, food, and other services within the Grab app. It also enables peer-to-peer transfers, bill payments, and online shopping.
2. **Lending (GrabFinance):** GrabFinance offers micro-loans and other credit products to consumers and small