

SERVICES SCIENCE AND SERVICE OPERATIONAL MANAGEMENT

UNIT 03

LECTURE 05

Unit-3 Service Quality Dimensions

3.1	Measuring Service Quality
3.2	SERVQUAL Gap Model
3.3	Walk Through Audit
3.4	Service Quality by Design
3.5	Achieving Service Quality

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21MGH402T SERVICES SCIENCE AND SERVICE OPERATIONS MANAGEMENT SYLLABUS

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Unit-1 - Service – Definition	9 Hour
<i>Characteristics, Stages of economic development, Role of services in economy, Experience economy, Service science, Service dominant logic, Service systems, Service operations, Open system view of service operations, Service package, Strategic service vision, Competitive service strategies, Strategic analysis, Sustainability in services, Competitive role of information in services</i>	
Unit-2 - New Service Development	9 Hour
<i>Innovation in services, Service blueprinting, Service process design, Service system design, Service facility design and layout, Strategic location considerations, Service process analysis, Service encounter triad - Service organization, Contact personnel and Customer, Service profit chain, Technology in service encounter</i>	
Unit-3 - Service Quality Dimensions	9 Hour
<i>Measuring service quality – SERVQUAL gap model, walk through audit, Service quality by design, achieving service quality, Quality and productivity improvement process, Quality tools, Benchmarking, Improvement programs</i>	
Unit-4 - Strategies	9 Hour
<i>Strategies for managing service demand and service capacity, Forecasting service demand, Forecasting models – Subjective models, Causal models and Time-series models, Yield management and its application, Queuing systems, Essential features of queuing systems</i>	
Unit-5 - Managing Service Projects	9 Hour
<i>Characteristics of project, Project management – Principles, Process, and Building team, Selecting the project manager, Roles and responsibilities of project manager, Techniques for project management – PERT, CPM and Gantt charts, Monitoring project performance, Globalization of services, Global service strategies, Domestic growth and expansion strategies, Franchising</i>	

SSSOM Syllabus

Unit-1 Service – Definition

1.1	Characteristics
1.2	Stages of Economic Development
1.3	Role of Services in Economy
1.4	Experience Economy
1.5	Service Science
1.6	Service Dominant Logic
1.7	Service Systems
1.8	Service Operations
	Open System View of Service
1.9	Operations
1.1	Service Package
1.11	Strategic Service Vision
1.12	Competitive Service Strategies
1.13	Strategic Analysis
1.14	Sustainability in Services
	Competitive Role of Information in
1.15	Services

Unit-2 New Service Development

2.1	Innovation in Services
2.2	Service Blueprinting
2.3	Service Process Design
2.4	Service System Design
2.5	Service Facility Design and Layout
2.6	Strategic Location Considerations
2.7	Service Process Analysis
	Service Encounter Triad – Service
2.8	Organization, Contact Personnel and
	Customer
2.9	Service Profit Chain
2.10	Technology in Service Encounter

Unit-3 Service Quality Dimensions

3.1	Measuring Service Quality
3.2	SERVQUAL Gap Model
3.3	Walk Through Audit
3.4	Service Quality by Design
3.5	Achieving Service Quality
	Quality and Productivity Improvement
3.6	Process
3.7	Quality Tools
3.8	Benchmarking
3.9	Improvement Programs

Unit-4 Strategies

4.1	Strategies for Managing Service Demand and Service Capacity
4.2	Forecasting Service Demand
4.3	Forecasting Models – Subjective Models
4.4	Forecasting Models – Causal Models
4.5	Forecasting Models – Time-Series Models
4.6	Yield Management and its Application
4.7	Queuing Systems
4.8	Essential Features of Queuing Systems

Unit-5 Managing Service Projects

5.1	Characteristics of Project
5.2	Project Management – Principles, Process and Building Team
5.3	Selecting the Project Manager
5.4	Roles and Responsibilities of Project Manager
5.5	Techniques for Project Management – PERT
5.6	Techniques for Project Management – CPM
5.7	Techniques for Project Management – Gantt Charts
5.8	Monitoring Project Performance
5.9	Globalization of Services
5.1	Global Service Strategies
5.11	Domestic Growth and Expansion Strategies
5.12	Franchising

Lecture 05 Topics

Unit-1 Service – Definition

1.1	Characteristics
1.2	Stages of Economic Development
1.3	Role of Services in Economy
1.4	Experience Economy
1.5	Service Science
1.6	Service Dominant Logic
1.7	Service Systems
1.8	Service Operations
1.9	Open System View of Service Operations
1.1	Service Package
1.11	Strategic Service Vision
1.12	Competitive Service Strategies
1.13	Strategic Analysis
1.14	Sustainability in Services
1.15	Competitive Role of Information in Services

Unit-2 New Service Development

2.1	Innovation in Services
2.2	Service Blueprinting
2.3	Service Process Design
2.4	Service System Design
2.5	Service Facility Design and Layout
2.6	Strategic Location Considerations
2.7	Service Process Analysis
2.8	Service Encounter Triad – Service Organization, Contact Personnel and Customer
2.9	Service Profit Chain
2.10	Technology in Service Encounter

Unit-3 Service Quality Dimensions

3.1	Measuring Service Quality
3.2	SERVQUAL Gap Model
3.3	Walk Through Audit
3.4	Service Quality by Design
3.5	Achieving Service Quality
3.6	Quality and Productivity Improvement Process
3.7	Quality Tools
3.8	Benchmarking
3.9	Improvement Programs

Unit-4 Strategies

4.1	Strategies for Managing Service Demand and Service Capacity
4.2	Forecasting Service Demand
4.3	Forecasting Models – Subjective Models
4.4	Forecasting Models – Causal Models
3.1	Measuring Service Quality
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5.5	Techniques for Project Management – PERT
5.6	Techniques for Project Management – CPM
5.7	Techniques for Project Management – Gantt Charts
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5.9	Globalization of Services
5.1	Global Service Strategies
5.11	Domestic Growth and Expansion Strategies
5.12	Franchising

3.Q1 Measuring Service Quality

14. _____ refers to the degree to which a service meets or exceeds customer expectations

- ☐ System Design
- ☐ Service Design
- ☐ Service Quality

3.1.1 MEASURING SERVICE QUALITY

Service Quality refers to the degree to which a service meets or exceeds customer expectations.



3.Q2 Measuring Service Quality

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15. Word of mouth inputs, Personal needs and Past experience are the basis to form _____

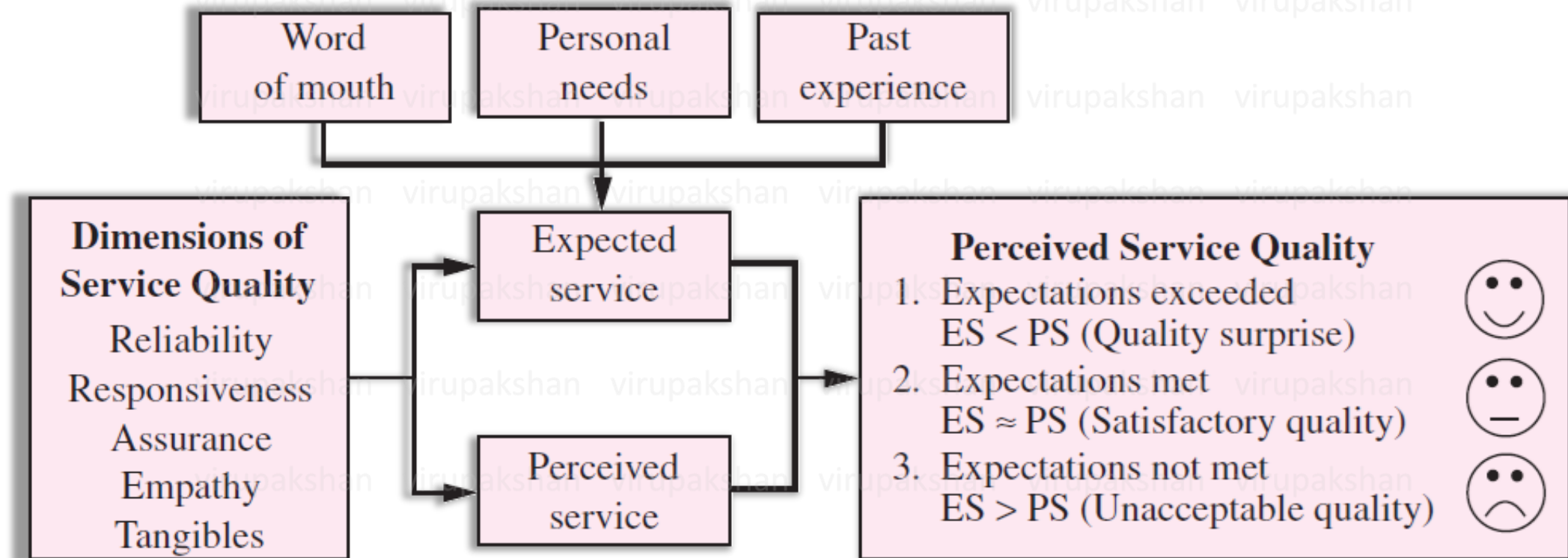
☐ Expected Service

☐ Perceived Service

3.1.2 SERVICE QUALITY - FORMULA

$$SQ = P - E$$

Service Quality = Perceived Service Quality – Expected Service Quality



3.Q3 Measuring Service Quality

17. If E is the Expected Service and P is the Perceived Service, then the formula for Service Quality (SQ) is given by _____

☐ $SQ = E + P$

☐ $SQ = E - P$

☐ $SQ = P - E$

3.1.3 SERVICE QUALITY - FORMULA - EXAMPLE

**Expected
(10)**



RENTAL CAR SERVICE

$$SQ = P - E$$

**Perceived
(3)**



Service Quality = Perceived Service Quality – Expected Service Quality

$$\text{Service Quality} = [P - E] = [3 - 10] = [-7] \quad (\text{LOW QUALITY})$$

3.1.4 SERVICE QUALITY - FORMULA - EXAMPLE

MOVIE EXPERIENCE

$$SQ = P - E$$



Expected
(4)



Perceived
(9)

Do you know how good the movie was? I really didn't expect it to be so good.



Service Quality = Perceived Service Quality – Expected Service Quality

$$\text{Service Quality} = [P - E] = [9 - 4] = [5] \quad (\text{HIGH QUALITY})$$

PHILOSOPHICAL STATEMENT (OUT OF SYLLABUS)



HAPPINESS IN LIFE = “ZERO EXPECTATIONS”

$$H = P - 0 = P$$

$$\therefore H = P$$

[Whatever you PERCEIVE (i.e. EXPERIENCE) will make you HAPPY – if you have no expectations]

3.1.5 SERVICE QUALITY – 5 DIMENSIONS



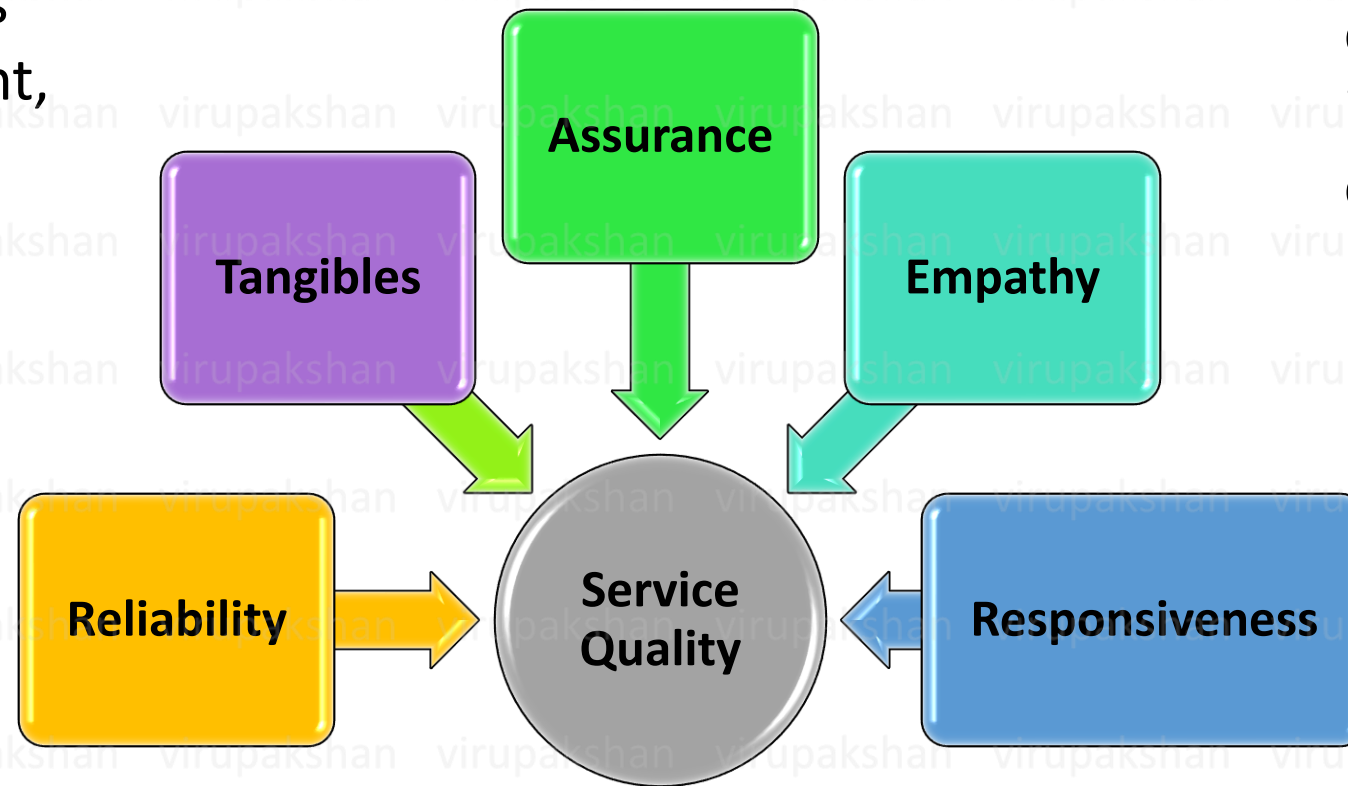
Tangibles: The physical evidence of the service, such as facilities, equipment, and appearance

Reliability: Consistency in delivering the promised service without errors or delays

Assurance: The competence, courtesy, and credibility of service providers.

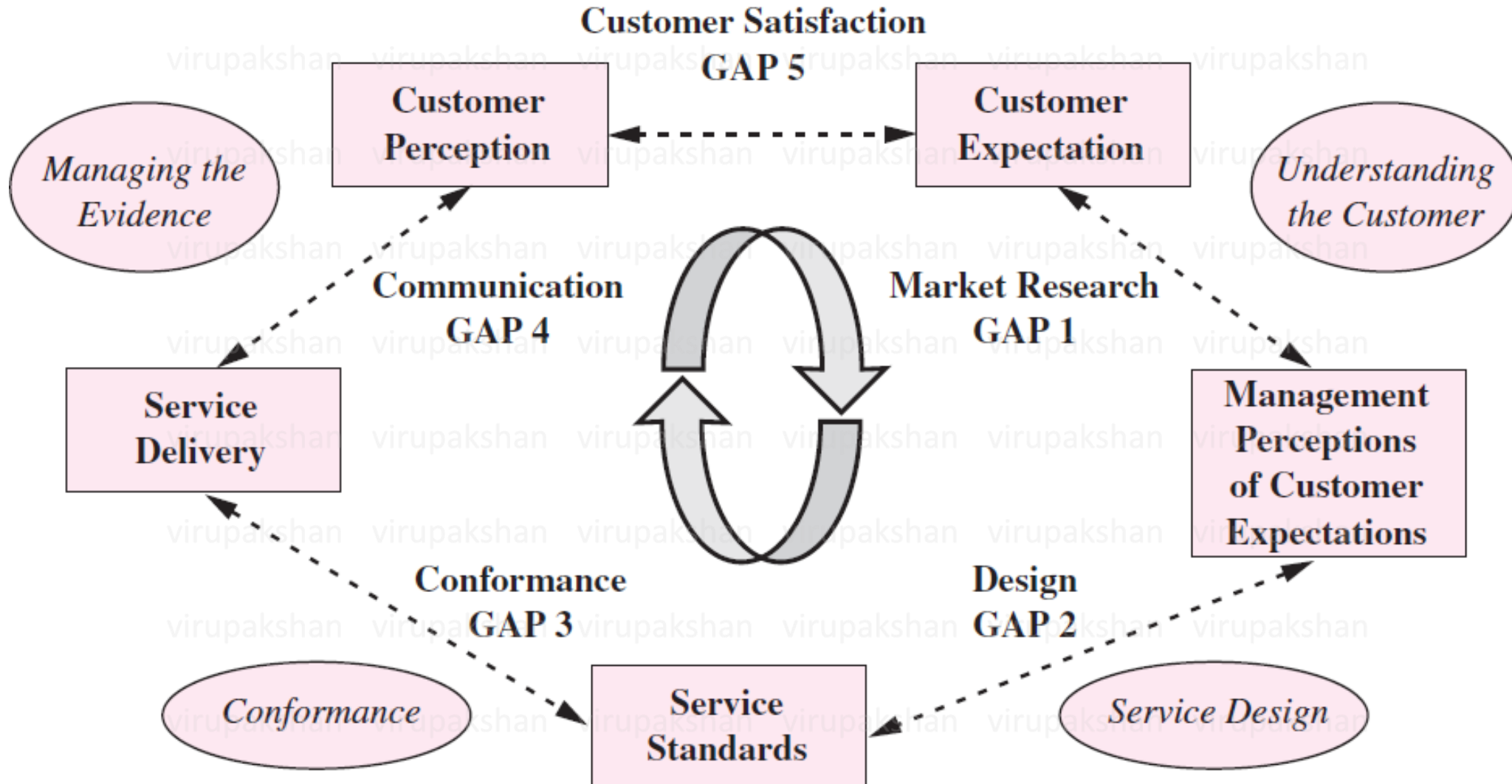
Empathy: Understanding and caring for customers' individual needs and concerns.

Responsiveness: Promptness in addressing customer inquiries, requests, and issues.



R A T E R

3.2.1a SERVQUAL Gap Model



3.2.1b SERVQUAL Gap Model

The **Service Quality Gap Model** is a framework used to diagnose quality problems by identifying discrepancies between what customers expect and what they perceive is delivered,. Customer satisfaction is dependent on minimizing four internal provider gaps that collectively contribute to the primary gap, **GAP 5**.

Gap 5: The Customer Satisfaction Gap

This is the discrepancy between a **customer's expectations** of a service and their **perceptions** of the actual service delivered,. It is a measure of overall service quality; satisfaction is considered positive when perceptions meet or exceed expectations,.

To close this ultimate gap, a firm must address the four underlying gaps:

3.2.1c SERVQUAL Gap Model

1. Gap 1: Market Research Gap

- **Definition:** The discrepancy between **customer expectations** and **management's perceptions** of those expectations,. This arises when management lacks a full understanding of how customers formulate their expectations based on word-of-mouth, personal needs, and past experience,.
- **How to Close:**
 - Improve market research efforts.
 - Foster better communication between management and contact employees.
 - Reduce the number of levels of management to decrease the distance between decision-makers and customers

3.2.1d SERVQUAL Gap Model

2. Gap 2: Service Design Gap

•**Definition:** The gap between management's perception of customer expectations and the **service quality specifications** set for the firm. This occurs when management cannot translate customer needs into workable, technical specifications.

•**How to Close:**

- Increase management commitment to service quality.
- Set clear, explicit service goals.
- Standardize service delivery tasks to ensure consistency

3.2.1e SERVQUAL Gap Model

3. Gap 3: Conformance Gap

- **Definition:** The discrepancy between **service quality specifications** and the **actual service delivery**. Even if specifications are well-designed, the actual delivery may fail to meet those standards.
- **How to Close:**
 - Enhance teamwork and improve employee selection.
 - Provide adequate training and ensure appropriate job design.
 - Utilize tools like **poka-yoke** (failsafing) to prevent errors during the delivery process

3.2.1f SERVQUAL Gap Model

4. Gap 4: Communication Gap

- **Definition:** The discrepancy between **service delivery** and **external communications** to customers (such as advertising or media),.
- **How to Close:**
 - Avoid exaggerated promises in advertising that cannot be met during delivery.
 - Ensure contact personnel are fully informed of the promises made by the firm's external communications.
 - Use **Walk-Through Audits (WtA)** to ensure that the cues provided to customers signal a consistent level of service.

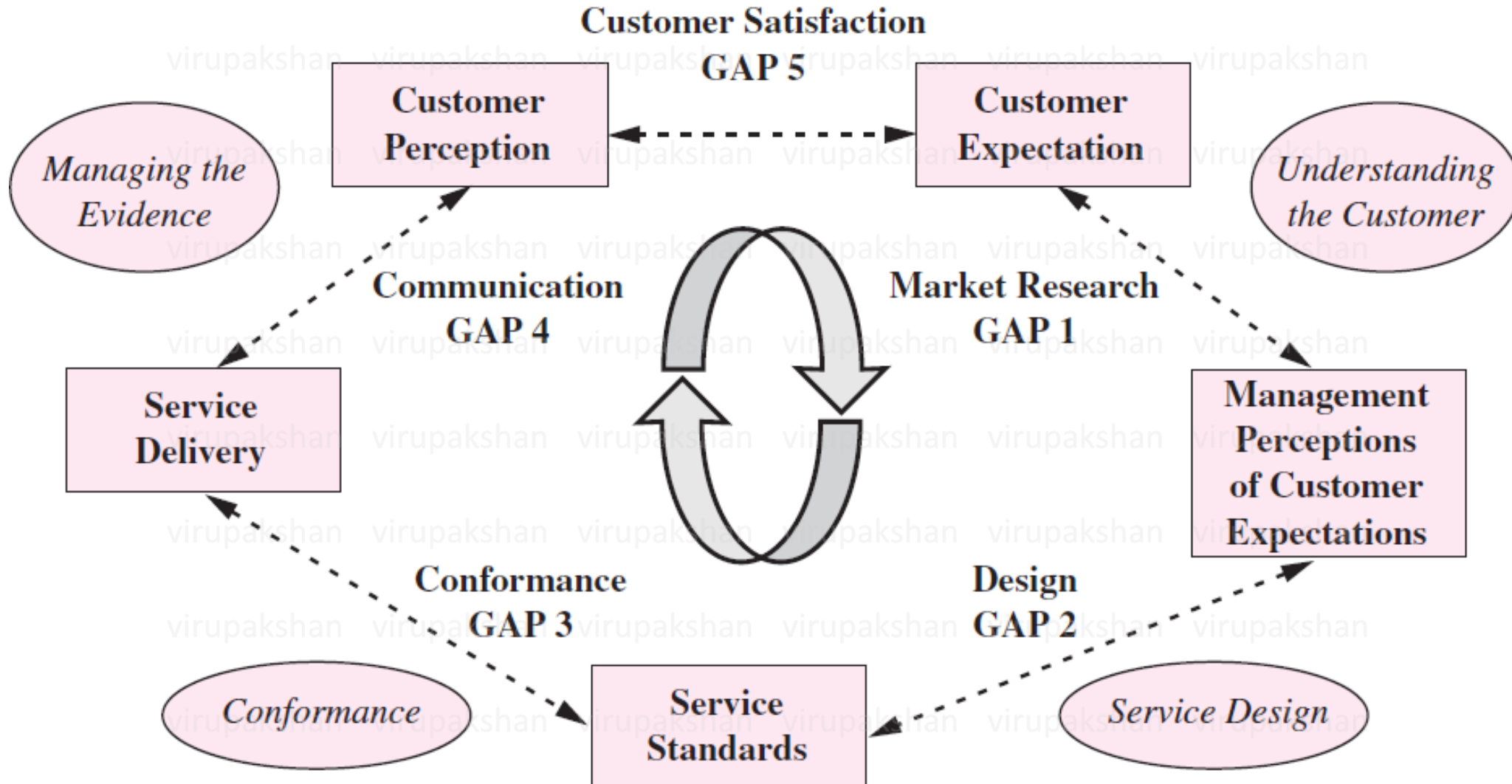
By systematically closing Gaps 1 through 4, a firm reduces the likelihood of a service quality failure in Gap 5, leading to higher customer satisfaction and loyalty

3.2.1g SERVQUAL Gap Model

Gap 5: The Customer Satisfaction Gap

This is the discrepancy between a **customer's expectations** of a service and their **perceptions** of the actual service delivered,. It is a measure of overall service quality; satisfaction is considered positive when perceptions meet or exceed expectations

3.2.1h SERVQUAL Gap Model



3.2.2A SERVQUAL

SERVQUAL is a multi-dimensional **research instrument (questionnaire)** designed to capture consumer **expectations** and **perceptions** of a service along five dimensions that are believed to represent service quality.



The questionnaire consists of matched pairs of items - 22 expectation items and 22 perceptions items - organised into five dimensions which are believed to align with the consumer's mental map of service quality dimensions.

3.Q4 SERVQUAL Gap Model

21. A SERVQUAL Questionnaire consists of ____ expectation items and ____ perceptions items - organised into ____ dimensions

☐ 5, 5, 22

☐ 22, 22, 22

☐ 22, 22, 5

3.2.2B SERVQUAL

SIMPLE

SERVQUAL is a multi-dimensional **research instrument**.

SERVQUAL is a questionnaire with 22 questions in 5 dimensions



The questionnaire consists of matched pairs of items - 22 expectation items and 22 perceptions items - organised into five dimensions which are believed to align with the consumer's mental map of service quality dimensions.

3.2.3 SERVQUAL – 5 DIMENSIONS & # (# = number of Items in Questionnaire)

Dimension	#	Definition
Reliability	5	The ability to perform the promised service dependably and accurately
Assurance	4	The knowledge and courtesy of employees and their ability to convey trust and confidence
Tangibles	4	The appearance of physical facilities, equipment, personnel and communication materials
Empathy	5	The provision of caring, individualized attention to customer
Responsiveness	4	The willingness to help customers and to provide prompt service

3.Q5 SERVQUAL Gap Model

23. The question in a questionnaire "**Are services provided at the times promised?**" belongs to ____.

- ☐ Reliability Dimension
- ☐ Assurance Dimension
- ☐ Tangibles Dimension
- ☐ Empathy Dimension
- ☐ Responsiveness Dimension

3.Q6 SERVQUAL Gap Model

26. The question in a questionnaire " **Is it unreasonable to expect employees to have the best interests of the customer at heart?** " belongs to ____ .

- ☐ Reliability Dimension
- ☐ Assurance Dimension
- ☐ Tangibles Dimension
- ☐ Empathy Dimension
- ☐ Responsiveness Dimension

3.2.4 SERVQUAL questionnaire - 22 questions

1. ****Tangibles****:

- Up-to-date equipment.
- Physical facilities are visually appealing.
- Employees are well-dressed/neat.
- Appearance of the physical facilities is consistent with the type of service industry.

2. ****Reliability****:

- The firm meets promised time-frames for response.
- The firm is sympathetic and reassuring when customers have problems.
- They are dependable.
- Services are provided at the times promised.
- Accurate records are kept.

3. ****Responsiveness****:

- Customers shouldn't expect exact service performance timing (negative).
- It's not reasonable to expect prompt service from employees (negative).
- Employees don't always have to be willing to help customers (negative).
- It's okay to be too busy to respond promptly to customer requests (negative).

4. ****Assurance****:

- Employees should be trustworthy.
- Customers should feel safe when transacting with employees.
- Employees should be polite.
- Employees should receive adequate support from the firm to do their job well.

5. ****Empathy****:

- Firms shouldn't be expected to give each customer individualized attention (negative).
- Employees shouldn't be expected to give each customer individualized attention (negative).
- It's unrealistic to expect employees to fully understand customer needs (negative).
- It's unreasonable to expect employees to have the best interests of the customer at heart (negative).
- Firms shouldn't necessarily operate at hours convenient to all customers (negative)¹.

For Reference Only

3.2.5 Sample questionnaire for “Fast Food Shop”

Tangibles:

1. Is the equipment up-to-date?
2. Are the physical facilities visually appealing?
3. Are employees well-dressed and neat?
4. Does the appearance of the physical facilities align with the fast food industry?

Reliability:

1. Does the restaurant meet promised time-frames for service?
2. Are employees sympathetic and reassuring when customers have problems?
3. Is the restaurant dependable?
4. Are services provided at the times promised?
5. Is accurate record-keeping maintained?

Responsiveness:

1. Should customers expect exact service performance timing? (Negative)
2. Is it reasonable to expect prompt service from employees? (Negative)
3. Do employees always have to be willing to help customers? (Negative)
4. Is it acceptable to be too busy to respond promptly to customer requests? (Negative)

Assurance:

1. Are employees trustworthy?
2. Do customers feel safe when transacting with employees?
3. Are employees polite?
4. Do employees receive adequate support from the restaurant to perform their job well?

Empathy:

1. Should the restaurant necessarily give each customer individualized attention? (Negative)
2. Should employees necessarily give each customer individualized attention? (Negative)
3. Is it unrealistic to expect employees to fully understand customer needs? (Negative)
4. Is it unreasonable to expect employees to have the best interests of the customer at heart? (Negative)
5. Should the restaurant necessarily operate at hours convenient to all customers?

For Reference Only

3.Q7

27. The purpose of _____ is to conduct a systematic assessment of the entire customer service experience from beginning to end.

- ☐ SERVQUAL
- ☐ Walk-through Audit

3.3.1 WALK THROUGH AUDIT - INTRO

A Walk-through Audit (WtA) is a customer focused survey to uncover areas for improvement.

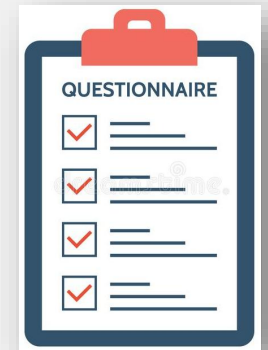
- Purpose** Conduct a systematic assessment of the entire customer service experience from beginning to end.
- Focus** Measure customer perceptions of the effectiveness of each stage of the service delivery process.
- Process**
1. Flowchart the service delivery process from the customer's perspective.
 2. Design, test, and administer questionnaire to a sample of customers, management personnel, and/or customers at benchmark organizations.
 3. Summarize and analyze survey results with emphasis on low rating relative to benchmark firms and gaps between management and customers.
 4. Determine deficiencies and implement improvements.
 5. Repeat for ongoing improvement.

3.3.2 WALK THROUGH AUDIT - INTRO

A Walk-through Audit (WtA) is a customer focus
to uncover areas for improvement

SIMPLE

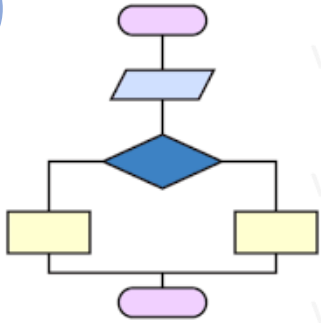
**“Walk through Audit” is an
advanced questionnaire
with many more questions.**



2. Design, test, and administer questionnaire to a sample of customers, management personnel, and/or customers at benchmark organizations.
3. Summarize and analyze survey results with emphasis on low rating relative to benchmark firms and gaps between management and customers.
4. Determine deficiencies and implement improvements.
5. Repeat for ongoing improvement.

3.3.3.v WALK THROUGH AUDIT - PROCESS

1



Flowchart the service delivery process from the customer's perspective.

2



Design, test, and administer questionnaire to all stakeholders.

3



Summarize and analyze survey results.

4



Determine deficiencies and implement improvements.

5

Repeat for ongoing improvement.



3.3.4 WALK THROUGH AUDIT - COMPARE

	Customer Satisfaction Survey	Walk-through Audit
Purpose	Determine overall satisfaction associated with the current level of service quality.	Conduct a systematic assessment of the entire customer service experience from beginning to end.
Focus	Measure customer attitudes toward, opinions about, and perceptions of service quality.	Measure customer perceptions of the effectiveness of each stage of the service delivery process.
Process	1. Identify important customer service requirements or quality dimensions. 2. Design, test, and administer questionnaire to a sample of customers. 3. Summarize and analyze questionnaire results with emphasis on low ratings and changes relative to prior survey administrations. 4. Determine areas needing improvements and implement change designed to correct deficiencies. 5. Repeat for continuous quality improvement.	1. Flowchart the service delivery process from the customer's perspective. 2. Design, test, and administer questionnaire to a sample of customers, management personnel, and/or customers at benchmark organizations. 3. Summarize and analyze survey results with emphasis on low rating relative to benchmark firms and gaps between management and customers. 4. Determine deficiencies and implement improvements. 5. Repeat for ongoing improvement.
Features	1. Survey may be completed by customers at any time after receiving service. 2. Management, with some customer input, designs/structures the survey around common service dimensions (e.g., <i>availability, timeliness, responsiveness, convenience</i>). 3. Often performed by marketing personnel. 4. Primary emphasis is placed on assessing the determinants of the customer's overall impression of the service.	1. Questionnaire is completed by customers during or immediately after receiving service. 2. A comprehensive audit of the customer's total service experience of all five dimensions of the service package (i.e., <i>supporting facility, facilitating goods, information, explicit service, implicit service</i>). 3. Usually conducted by operations personnel. 4. Emphasis is placed on the customer's evaluation of each stage of the service delivery process and his/her overall impression of the organization's performance.

Customer Satisfaction Survey Vs Walk-through audit (WtA)

For Reference Only

3.3.5 WALK THROUGH AUDITS - CSS SAMPLE

Sample Customer Satisfaction Survey

As Your Guest, I Would Like to Tell You . . .

	Great	Good	Fair	Poor
Food quality				
Service speed				
Service attentiveness				
Cleanliness				
Atmosphere				

Name _____
Address _____
City _____ State _____ Zip _____
Phone _____ Date _____

3.3.6 WALK THROUGH AUDITS- SAMPLE (1 OF 4)

Walk-Through Audit for Helsinki Museum of Art and Design

1. Was it easy getting to the Museum? ☐ Yes ☐ No
2. Are the Museum's opening hours acceptable? ☐ Yes ☐ No
3. Did you arrive alone or with others? ☐ Alone ☐ Others Number in Party: _____
4. Where did you hear about this event: [Check all that apply]
- | | |
|---|---|
| ☐ Newspaper | ☐ Internet |
| ☐ Magazine | ☐ Friends or relatives |
| ☐ Tourist/City guide | ☐ Passing by |
| ☐ Radio | ☐ Other: (Specify) _____ |
5. Did you come here to see
- | |
|---|
| ☐ Brooching It Diplomacy |
| ☐ Wine—Nectar of Gods |
| ☐ The Holy Cross |
| ☐ The permanent exhibition |
| ☐ All exhibitions |
6. Which of the following facilities did you visit? ☐ Cafeteria ☐ Gift shop ☐ Restrooms
7. How many hours did you spend in the museum? _____ hours

For Reference Only

1

2

3

4

3.3.6B WALK THROUGH AUDITS- SAMPLE (2 OF 4)

8. Ticketing

- a. It is easy to find information about ticket prices.
- b. The ticket price is a good value for the money.
- c. You did not spend too much time by waiting in the ticket line.
- d. You would like to purchase tickets ahead of time, via phone or Internet.

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5

9. Information

- a. Signs gave clear information about exhibits' locations.
- b. After arriving at the exhibition, you found adequate information about the exhibition(s).
- c. The information provided was in your language.
- d. Guide services were available.
- e. There was enough information about the objects.
- f. The explanations provided on the objects were clear.
- g. You would like to see a variety of media (video, etc.) providing explanations.
- h. You would like to have access to self-guided material such as a cassette player.
- i. You would like to have more information about the process for creating the objects.
- j. You would like to learn more when visiting exhibits.
- k. It was easy to get additional information from the staff.
- l. The staff helping you was friendly.

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5

1

2

3

4

3.3.6C WALK THROUGH AUDITS- SAMPLE (3 OF 4)

10. The experience

	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
a. There was a clear path in which you were guided through the exhibition.	1	2	3	4	5
b. There was enough room to move around the exhibits.	1	2	3	4	5
c. Lighting was adequate.	1	2	3	4	5
d. There was pleasant background music.	1	2	3	4	5
e. The background sounds were pleasant.	1	2	3	4	5
f. The objects on display were adequately spaced apart.	1	2	3	4	5
g. There is enough opportunity for interaction with the displayed objects.	1	2	3	4	5
h. Touching, smelling, and hearing make the experience memorable.	1	2	3	4	5
i. You would also like to touch the material.	1	2	3	4	5

11. Facilities

	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
a. There were clear signs giving information about the facilities.	1	2	3	4	5
b. The toilettes were easily accessible.	1	2	3	4	5
c. The toilettes were clean.	1	2	3	4	5
d. The food was of good quality.	1	2	3	4	5
e. There was enough variety of food and beverages.	1	2	3	4	5
f. The food was of good value for the money.	1	2	3	4	5
g. Smoking should be allowed in the restaurant.	1	2	3	4	5
h. The selection of gifts (including books) met your needs.	1	2	3	4	5
i. The gifts were of good value for the money.	1	2	3	4	5

1

2

3

4

3.3.6D WALK THROUGH AUDITS- SAMPLE (4 OF 4)

12. Satisfaction

- a. The services met my needs.
- b. I found the overall service outstanding.
- c. I am likely to use this service again.
- d. I would recommend this museum to my friend.
- e. Could we improve the service to better meet your expectations?

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5

13. Comments

3.4.1 QUALITY BY DESIGN (QbD)

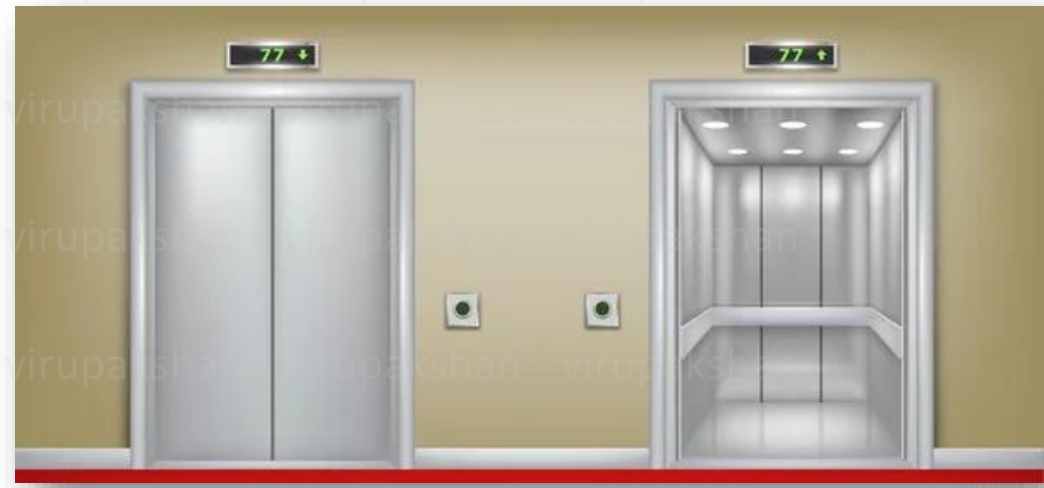
Joseph M. Juran (the expert who first outlined QbD) believed that **quality could be planned**, and that most quality crises & problems relate to the way in which quality was planned.

Simple examples:

Tiles on kitchen walls



Stainless steel elevators



3.4.2 QUALITY BY DESIGN (QbD) - PRINCIPLES

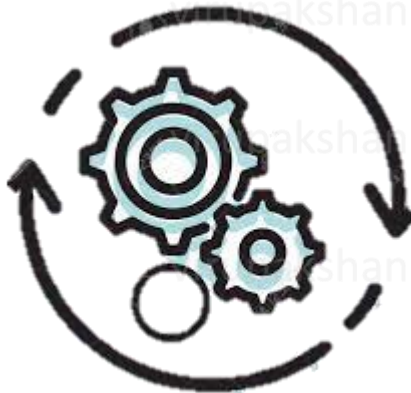
Customer-Centric Approach



Risk Assessment and Mitigation



Process Optimization



Employee Training and Engagement



3.4.3 QbD PRINCIPLES - CUSTOMER-CENTRIC APPROACH

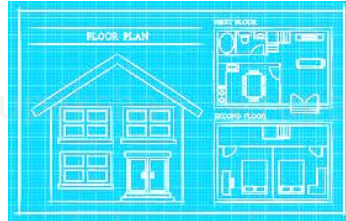


QbD emphasizes understanding customer needs and designing services that meet or exceed those expectations.

It involves:



Voice of the Customer (VoC):
Gathering feedback directly from customers to inform service design.



Service Blueprinting:
Mapping out the entire service process, including touchpoints, interactions, and potential failure points.



Service Metrics:
Defining quality metrics (e.g., response time, accuracy) and aligning them with customer satisfaction.

3.4.4 QbD PRINCIPLES - RISK ASSESSMENT AND MITIGATION



Just as in manufacturing, QbD identifies risks early and develops strategies to mitigate them.

For services, this includes anticipating potential failures, bottlenecks, and service disruptions.

Examples:

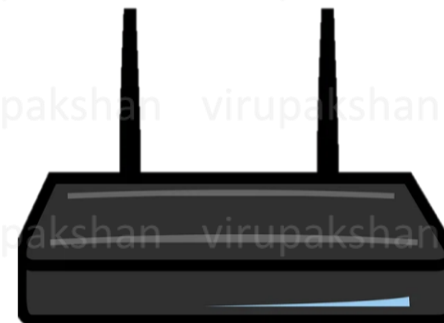
RISK



MITIGATION



RISK



MITIGATION



3.4.5 QbD PRINCIPLES – PROCESS OPTIMIZATION



QbD aims to optimize service processes for efficiency, consistency, and reliability. **It involves:**



Standard Operating Procedures (SOPs)

Documenting best practices and ensuring consistent service delivery.

Example: How McDonalds prepares Burgers and Fries – remember?



Continuous Improvement

Regularly evaluating and enhancing service quality based on data and feedback.

Example: My Feedback form

3.4.6 QbD PRINCIPLES - EMPLOYEE TRAINING AND ENGAGEMENT

Well-trained, motivated employees are crucial for delivering high-quality services.

QbD focuses on training, empowerment, and employee involvement.



3.4.7A QUALITY SERVICE BY DESIGN: FITZSIMMONS

Quality service by design is the philosophy that quality cannot simply be inspected into a service after it is delivered; instead, it must be proactively built into the service delivery system from the very beginning.

This involves designing the process to be

- "robust" (able to function under pressure) and
- "failsafe" (preventing errors before they happen)

3.4.7B QUALITY SERVICE BY DESIGN: FITZSIMMONS

A simple, comprehensive example of this approach is a **budget hotel** that competes on cost while maintaining high quality:

- **Robust Facility Design:** Instead of using expensive materials that require constant upkeep, the hotel is built with maintenance-free materials like concrete blocks. This is a "robust design" because the building remains in good condition even with heavy use.
- **Failsafing with Information:** The hotel uses a computer system to track guest stays, which prevents billing errors and automatically notifies the cleaning staff when a room has been vacated. This prevents the "error" of a guest checking into an uncleaned room.
- **Facilitating Goods:** The room furnishings are designed to be durable and easy to clean (e.g., bedside tables are attached to the wall so cleaners can easily vacuum under them). This ensures consistency and efficiency in the cleaning process

3.4.7C QUALITY SERVICE BY DESIGN: FITZSIMMONS

- **Poka-Yoke (Failsafing):** These are low-cost, "foolproof" mechanisms to prevent mistakes by either the employee or the customer.

- *Server Example:* A specially designed scoop at McDonald's ensures every customer receives the exact same portion of fries, preventing human error in measurement.

- *Customer Example:* Height bars at amusement parks act as a physical check to ensure riders meet safety requirements before they even get in line

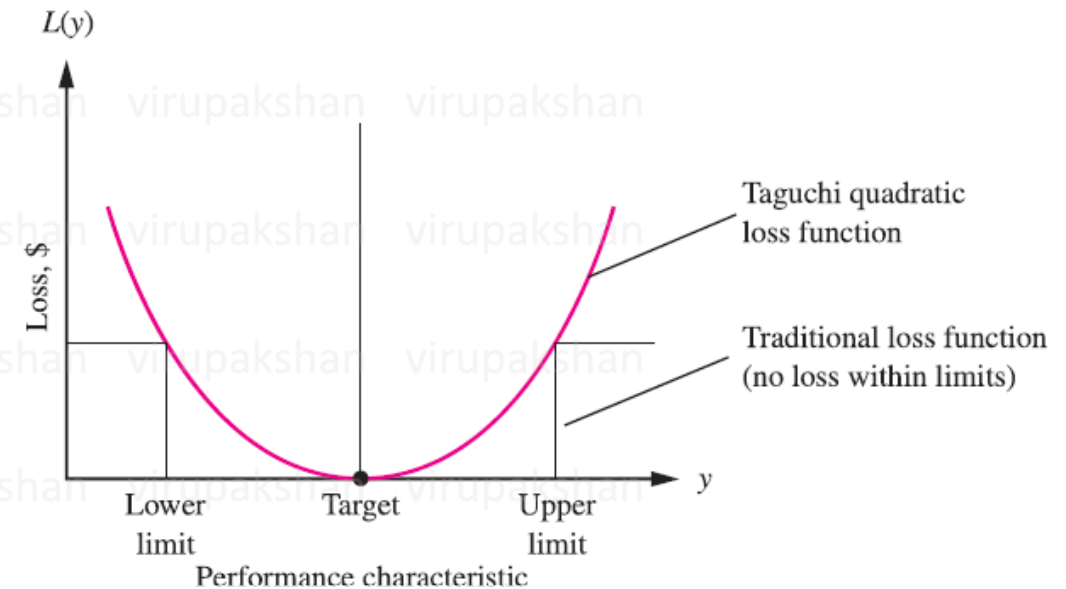


Airlines use this poka-yoke device to alert passengers to the size limits of carry-on luggage. Myrleen Ferguson Cate/PhotoEdit

3.4.7D QUALITY SERVICE BY DESIGN: FITZSIMMONS

Taguchi Methods: This involves designing a service to be "robust" so it can still perform well even under adverse conditions.

For instance, our budget hotel uses **individual air-conditioning units** for each room rather than one central system; if one unit fails, only one room is affected, rather than the entire hotel losing service



3.4.7E QUALITY SERVICE BY DESIGN: FITZSIMMONS

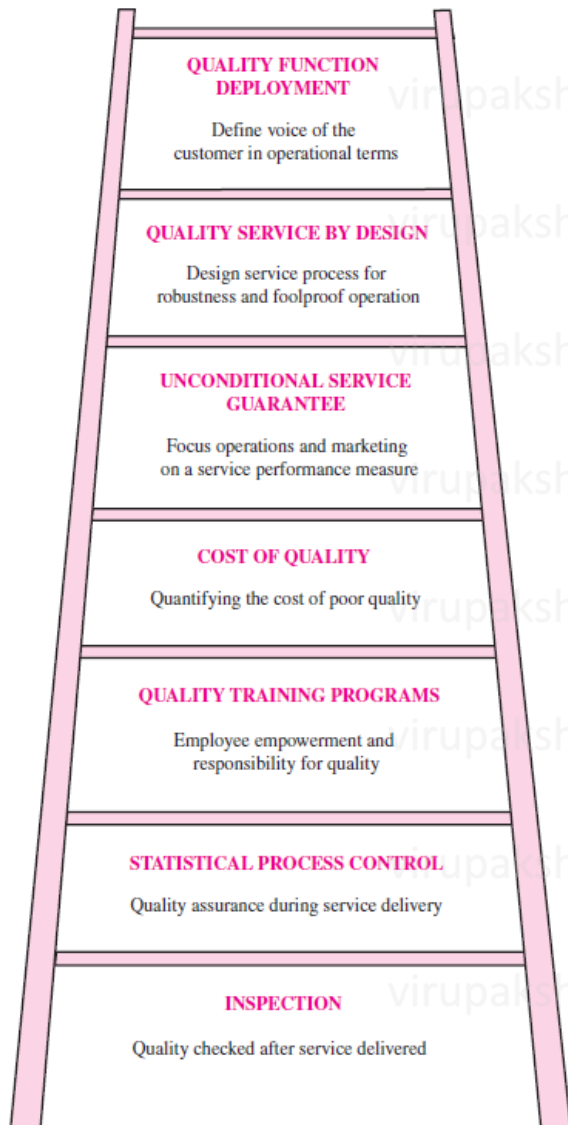
Quality Function Deployment (QFD): This is a formal process (often using a "house of quality" matrix) to translate specific customer desires—like "accuracy in repairs"—into technical service requirements, such as specific employee training or specialized equipment

3.4.7F QUALITY SERVICE BY DESIGN: FITZSIMMONS

Conducting a **Quality Function Deployment (QFD)** project involves constructing a "house of quality" through the following [nine steps](#):

- 1. Establish the aim of the project:** Define the specific objective, such as assessing an existing delivery system or designing a new one.
- 2. Determine customer expectations:** Identify the target customer group and use surveys or focus groups to understand their desires. These expectations are often broken down into primary, secondary, and tertiary levels of detail.
- 3. Describe the elements of the service:** Identify the specific service elements that management can manipulate to meet customer expectations (e.g., training, equipment, or capacity).
- 4. Note the strength of the relationship between service elements:** Use the "roof" of the house of quality to identify how pairs of service elements relate to one another, which helps identify points of leverage to improve quality.
- 5. Note the association between customer expectations and service elements:** In the "body" of the matrix, indicate the strength of the link between each service element and corresponding customer expectations, typically using a scale (e.g., 0 to 9).
- 6. Weighting the service elements:** Calculate the relative importance of each service element by multiplying its relationship strength by the importance weight customers assigned to each expectation.
- 7. Service element improvement difficulty rank:** Rank the difficulty of improving each element (where 1 is the most difficult), often based on factors like capital requirements.
- 8. Assessment of competition:** Compare customer perceptions of your service against competitors using a five-point scale to identify relative strengths and weaknesses.
- 9. Strategic assessment and goal setting:** Use the completed matrix to identify first-priority goals for investment and improvement based on high weighted scores and competitive gaps

3.5.1 Achieving Service Quality



To maintain quality, firms must track performance and understand the financial implications of failures:

- **Statistical Process Control (SPC):** Using tools like **control charts** (X-bar, R-charts, and p-charts) to monitor service metrics over time and identify when a process is "out of control" and requires intervention.
- **Cost of Quality:** Categorizing costs into **Prevention** (e.g., training), **Detection** (e.g., inspections), and **Failure** (e.g., refunds or lost business). The sources emphasize that \$1 spent on prevention is often worth much more in avoided failure costs.

3.5.2 Achieving Service Quality: Costs of Quality

Cost Category	Definition	Bank Example
Prevention	Costs associated with operations or activities that keep failure from happening and minimize detection costs	Quality planning Recruitment and selection Training programs Quality improvement projects
Detection	Costs incurred 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	Costs incurred to correct nonconforming work prior to delivery to the customer	Scrapped forms and reports Rework Machine downtime
External failure	Costs incurred to correct nonconforming 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 Loss of future business

3.5.3a Achieving Service Quality

1. Understanding and Measuring Quality

Service quality is ultimately judged by the customer during "moments of truth"—every instance of contact with the provider. To achieve quality, firms must focus on **five principal dimensions**:

- **Reliability:** Performing the promised service dependably and accurately.
- **Responsiveness:** The willingness to help customers and provide prompt service.
- **Assurance:** The knowledge and courtesy of employees and their ability to convey trust.
- **Empathy:** Providing caring, individualized attention.
- **Tangibles:** The appearance of physical facilities, equipment, and personnel.

Measurement tools like **SERVQUAL** (a survey based on the dimensions above) and **Walk-Through Audits (WtA)** help managers identify "gaps" between customer expectations and perceptions of the service delivered

3.5.3b Achieving Service Quality

2. Designing Quality into the Service

Quality cannot simply be inspected into a service; it must be designed from the start. Key strategies include:

- **Incorporating Quality in the Service Package:** Ensuring that supporting facilities, facilitating goods, information, and both explicit and implicit services meet high standards.
- **Taguchi Methods:** Designing "robust" services that can function reliably even under adverse conditions.
- **Poka-Yoke (Failsafing):** Implementing low-cost "foolproof" mechanisms to prevent errors by both servers (e.g., checklists) and customers (e.g., height bars at amusement parks).
- **Quality Function Deployment (QFD):** Using a "house of quality" matrix to translate customer requirements into specific technical service elements

3.5.3c Achieving Service Quality

3. Monitoring and Managing Performance

To maintain quality, firms must track performance and understand the financial implications of failures:

- **Statistical Process Control (SPC):** Using tools like **control charts** (X-bar, R-charts, and p-charts) to monitor service metrics over time and identify when a process is "out of control" and requires intervention.
- **Cost of Quality:** Categorizing costs into **Prevention** (e.g., training), **Detection** (e.g., inspections), and **Failure** (e.g., refunds or lost business). The sources emphasize that \$1 spent on prevention is often worth much more in avoided failure costs

3.5.3d Achieving Service Quality

4. Service Guarantees and Recovery

Because service failures are sometimes inevitable, achieving quality also involves effective response strategies:

- **Unconditional Service Guarantees:** Offering a clear, easy-to-invoke promise (like Hampton Inn's "100% Satisfaction Guarantee") forces a firm to identify failure points and builds customer loyalty.
- **Service Recovery:** Training employees to turn a service failure into "service delight" through immediate intervention, fair restitution, and follow-up. Effective recovery can prevent "poor word-of-mouth" and actually increase long-term customer satisfaction

Lecture 05 Topics

Unit-1 Service – Definition

1.1	Characteristics
1.2	Stages of Economic Development
1.3	Role of Services in Economy
1.4	Experience Economy
1.5	Service Science
1.6	Service Dominant Logic
1.7	Service Systems
1.8	Service Operations
1.9	Open System View of Service Operations
1.1	Service Package
1.11	Strategic Service Vision
1.12	Competitive Service Strategies
1.13	Strategic Analysis
1.14	Sustainability in Services
1.15	Competitive Role of Information in Services

Unit-2 New Service Development

2.1	Innovation in Services
2.2	Service Blueprinting
2.3	Service Process Design
2.4	Service System Design
2.5	Service Facility Design and Layout
2.6	Strategic Location Considerations
2.7	Service Process Analysis
2.8	Service Encounter Triad – Service Organization, Contact Personnel and Customer
2.9	Service Profit Chain
2.10	Technology in Service Encounter

Unit-3 Service Quality Dimensions

3.1	Measuring Service Quality
3.2	SERVQUAL Gap Model
3.3	Walk Through Audit
3.4	Service Quality by Design
3.5	Achieving Service Quality
3.6	Quality and Productivity Improvement Process
3.7	Quality Tools
3.8	Benchmarking
3.9	Improvement Programs

Unit-4 Strategies

4.1	Strategies for Managing Service Demand and Service Capacity
4.2	Forecasting Service Demand
4.3	Forecasting Models – Subjective Models
4.4	Forecasting Models – Causal Models
3.1	Measuring Service Quality
3.2	SERVQUAL Gap Model
3.3	Walk Through Audit
3.4	Service Quality by Design
3.5	Achieving Service Quality
5.3	Selecting the Project Manager
5.4	Roles and Responsibilities of Project Manager
5.5	Techniques for Project Management – PERT
5.6	Techniques for Project Management – CPM
5.7	Techniques for Project Management – Gantt Charts
5.8	Monitoring Project Performance
5.9	Globalization of Services
5.1	Global Service Strategies
5.11	Domestic Growth and Expansion Strategies
5.12	Franchising

SERVICES SCIENCE AND
SERVICE OPERATIONAL MANAGEMENT

UNIT 03

LECTURE 05

Doubts?

THANK YOU!

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