



Advanced Tools for Quality and process approach - QFD, SIPOC and RACI Matrix.

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An Introduction to BPM

- Business Process Management - **designing, executing, and optimizing business** activities that Incorporate people, systems, and partners.
- To use BPM effectively in organizations – a **process-oriented approach** that makes no distinction between work done by a human and a computer.

Evolution of BPM

- Focus on **TQM** (total quality management) in the 1980s.
- **Six Sigma** was invented in 1986 and created awareness about “processes”.
- **Smith and Fingar published BPM: The Third Wave** describes how the third ‘wave’. It is the synthesis of process representation and collaboration technologies that removes the obstacles
- Hence, **BPM is the convergence** of Management Theory, total quality management, Six Sigma, Business engineering, and general systems with modern technologies.

- The BPM framework **applies** to all organizations. 10 phases.

Organisational strategy

Process architecture

Launch pad

Understand

Develop

people

Implement

Realize value

Sustainable performance

- Suits in all circumstances even when the **organizations are not the same**.

In a world where customer expectations are constantly evolving and efficiency is paramount, mastering these tools becomes indispensable for staying competitive.

- QFD: Innovation
- SIPOC: clarity
- RACI: Accountability

Quality Function Deployment

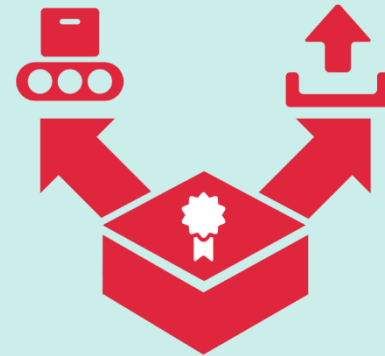
- DEF: It is a method utilized to translate **Customer needs** into engineering features for a product or service.
- Relationship between **What's** (customer needs) and **How's** (product features).

Example: For Smartphones, 'What' the customer wants: A high-quality camera.

'How' the customer wants may be the technical aspects: Battery capacity, Camera Resolution.

Quality Function Deployment In A Nutshell

Quality Function Deployment (QFD) is a total quality management tool that systematically develops the needs and expectations of customers. Quality Function Deployment was developed by the Mitsubishi Corporation for defining shipbuilding requirements in the late 1960s.



Characteristics

- Uses **Matrix** based approach.
- Continuous Improvement.
- Customer-Centric.
- Data-Driven
- Cross-Functional Collaboration
- Visual Tools: **Matrices** and **graphs**
i.e **House of Quality**

Implications

- Customer satisfaction
- Risk Mitigation
- Quality Control

House of Quality

- Primary planning tool for QFD
- Preferred by managers and engineers
- Originated in 1960s at Mitsubishi Kobe ship Yard, and currently used successfully by **Japanese manufacturers of consumer electronics, home appliances, clothing, integrated circuits, synthetic rubbers, construction equipment, and agricultural engines.**

Advantages

- Enhanced communication
- Data-driven decisions
- Used by all industries commonly now.

Step 1 - List customer requirements

Step 2 - List technical correlations

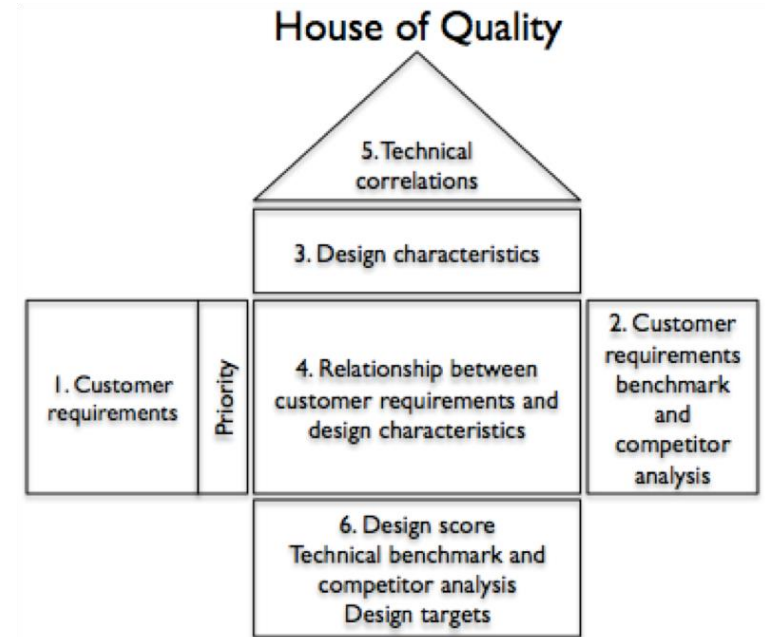
Step 3 - Compare the relationship between customer requirements and technical correlations

Step 4 – Develop an interrelationship between each of the technical descriptors

Step 5 – Implement competitive assessments or priorities

Step 6 – develop prioritized customer requirements

Step 7 – develop prioritized technical descriptors



SIPOC

A SIPOC diagram is a visual representation of business processes in table form. The acronym stands for Suppliers, Inputs, Process, Outputs, and Customers and it's perceived as a business process map. It is used to define the inputs and outputs of a process from its initiation to its completion.

Suppliers: Providers of inputs to the process directly impacting outputs, whether internal or external. In a production line upgrade

Inputs: Essential resources, materials, equipment, or data supplied by the suppliers for process completion and output generation.

Process: Sequential steps connecting inputs to outputs, typically outlined in a process map with 4-5 high-level steps.

Outputs: Essential products or services derived from the process, reflecting customer-required value

Customers: Beneficiaries of process outputs, internal or external to the organization

HOW SIPOC ARE CONSTRUCTED AND HOW THEY HELP IN UNDERSTANDING PROCESS

- SIPOC fosters **unified understanding among stakeholders**, including new employees.
- It enhances **transparency**.
- Aids in the identification of non-value-added areas.
- SIPOC lays the foundations for problem-solving actions within the organization.
While simplistic, it's best used alongside other techniques for comprehensive process mapping.

Real life example of SIPOC CHART

Suppliers	Inputs	Process	Outputs	Consumers
<ul style="list-style-type: none">• Dairy supply corporation• Vegetables farmers united• Prepared food corporation	<ul style="list-style-type: none">• Cheese• Olivers• Peppers• Dough• sauce	<ul style="list-style-type: none">• Prepare dough• Add sauce• Add cheese & toppings• Bake in oven• Remove from the oven and serve.	<ul style="list-style-type: none">• pizza	<ul style="list-style-type: none">• Dine-in customers• Take out customers• Delivery customers.



RACI Matrix

The RACI matrix (also responsibilities or competency matrix) records the relationships of team members to individual areas of work and with the designation of the type of responsibility

- **R**esponsible
- **A**ccountable
- **C**onsulted
- **I**nformed

TechSolution Inc. RACI Matrix Example Company

TechSolutions Inc. can use this RACI matrix to ensure clarity regarding roles and responsibilities within the development process of their new software product. This helps prevent misunderstandings, improving accountability, and ultimately leading to a smoother project execution.

- The Responsible person creates content.
- The Accountable person approves it.
- Consulted persons provide feedback.
- Informed persons receive updates, Use case studies to illustrate RACI's application in various scenarios, such as project management, product development, or organizational change initiatives.

Task	Responsible (R)	Accountable (A)	Consulted (C)	Informed (I)
Market research and analysis	Marketing Team	Product Manager	Sales Team	Development Team, Management
Conceptualization and requirements gathering	Product Manager	Product Manager	Development Team, UX/UI Team	Management
Designing user interface	UX/UI Team	Product Manager	Development Team, Testing Team	Management
Developing backend functionality	Development Team	Product Manager	UX/UI Team, Testing Team	Management
Quality assurance and testing	Testing Team	Product Manager	Development Team, UX/UI Team	Management
Beta testing and feedback collection	Product Manager	Product Manager	Development Team, UX/UI Team, Testing Team	Management
Product launch and marketing	Marketing Team	Product Manager	Sales Team, Development Team	Management

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Thank you for your Attention..!