

2.1. Theoretical Perspectives

2.1.1 Collection Period

Collection Period is a financial metric that measures the average number of days it takes for a company to collect payments from its customers after a sale has been made (Thomas et al, 2016). In simpler terms, it quantifies the average time it takes for a company to convert its sales into actual cash receipts.

Here is a detailed breakdown of how the collection period operates.

1. **Sales Made:** When a company sells goods or services to its customers on credit (meaning customers are allowed to pay later), an invoice is generated detailing the amount owed and the payment terms.
2. **Invoice Date:** The collection period starts from the date when the invoice is issued to the customer. This is the beginning point for measuring how long it takes for UT Site Tanjung Enim to receive payment.
3. **Payment Received:** The collection period ends when the payment is received from the customer. This is the point at which the sale is effectively converted into cash.
4. **Calculation:** As (Ardiyos : 2014) To calculate the collection period, you need to divide the total accounts receivable during a specific period by the average daily sales. The formula is as follows:

$$\text{Average Collection Period} = \frac{\text{Account Receivable} \times 365 \text{ Days}}{\text{Sales}} \quad (1-1)$$

Average Collection Period = Number of average days (In Days)

Account Receivable = is a current asset on the balance sheet representing the amounts owed to a company by its customers (Rp.)

Source: Atika Kurnia Asih (2018)

The "Total Accounts Receivable" is the total amount of money owed by customers at a specific point in time. The "Total Credit Sales" is the total value of sales made on credit during the same period (Asih, 2018).

The result of this calculation gives you the average number of days it takes for UT Site Tanjung Enim to collect payments from its customers.

Interpretation: A shorter collection period indicates that UT Site Tanjung Enim is collecting payments more quickly, which is generally favourable for cash flow management. It suggests efficient credit and collection processes. On the other hand, a longer collection period suggests that payments are taking longer to be collected, which could indicate potential issues with credit policies, customer payment behaviour, or internal processes.

The collection period is an important metric for assessing a company's ability to manage its accounts receivable effectively. Monitoring and reducing the collection period can help improve cash flow, reduce the need for borrowing, and contribute to overall financial health.

2.1.2 Invoice Monitoring

Invoice monitoring involves the systematic tracking and management of invoices issued by a company to its customers. It encompasses the entire lifecycle of an invoice, from creation to payment receipt. The goal of invoice monitoring is to ensure that invoices are accurately generated, promptly delivered, and payments are collected in a timely manner. Monitoring invoices also involves addressing any discrepancies, clarifying customer inquiries, and managing the overall process to reduce delays and improve cash flow (**Hagsten, 2020**).

2.1.3 Workflow Monitoring Invoice

Invoices that have been generated will be automatically recorded in the SAP system and can be periodically downloaded. In its application, ADM Parts will monitor the Delivery Note (SPB) after it is received by the customer until the documents required for the creation of the Document Pack can be fully received by ADM Parts. The step-by-step process of ADM Parts can be detailed as follows:

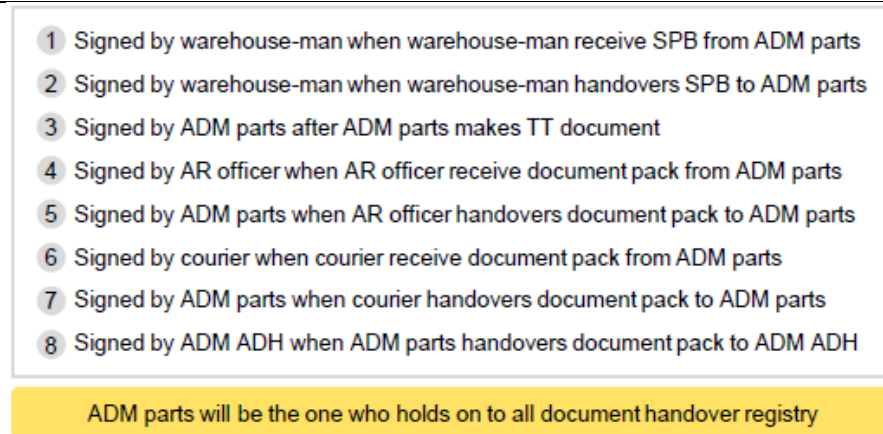


Figure 2.1 *Responsibility on Tracking Invoice Production*

2.1.4 Methods and Tool used in Process of Invoice Production Monitoring

The Invoice Production Monitoring Level process framework allows each of its processes to be accounted for in managing the entire invoice cycle, including Invoice Generation, Delivery, Receipt, and Tracking. Assessment of the current process 'as is' and the criteria specified for each level of maturity can be conveyed in several ways based on the organization's preferences as follows:

a) Forum Group Discussion (FGD)

This is based on a workshop approach where a group of personnel typically consists of Finance Senior, Process Owner, and Process Manager. The activities carried out involve reviewing the relevant supporting process documentation as the basis for determining the current process quality compared to the criteria set for the maturity level of each process. An agreement is reached regarding the assigned process maturity level.

b) Independent Assessment

The principle is the same as FGD, but the level of maturity of the process set for the process is provided by an independent reviewer. Feedback will be intended for Process Owners to assess processes that are not under their control. The level of challenge through the appropriate forum or Management committee may be healthy enough to ensure there is already consistency in the community across community approach of process owners before maturity levels are ratified.

This system is highly susceptible to errors if not monitored properly. With a benchmark value of 100% customer acceptance, the Admin Team will monitor the Invoice Documents sent starting from Week I of the current month, with a mandatory acceptance rate of 95%, and by Week II of the current month, it must be 100% accepted. However, each week should be monitored for the quantity of invoice generation and the number of invoices accepted by the customer. Once it is ensured that all documents have been accepted by the customer, the sales representative/PIC will reconcile these documents with the customer. As a result, the PIC in charge of the payment can proceed with billing as completed.

Cust	P/S	Monitor Invoice bulan : November 2023												PIC
		Qty Invoice	Invoice Received	W1 95%	Qty Invoice	Invoice Received	W2 100%	Qty Invoice	Invoice Received	W3 100%	Qty Invoice	Invoice Received	W4 100%	
AMU	PRT	15	14	93%	15	15	100%	15	15	100%	15	15	100%	REZA
	SVC	-	-	#DIV/0!	-	-	#DIV/0!	-	-	#DIV/0!	-	-	#DIV/0!	
	Total	15	15	100%	15	15	100%	15	15	100%	15	15	100%	
JLTM	PRT	5	5	100%	5	5	100%	5	5	100%	5	5	100%	REZA
	SVC	-	-	#DIV/0!	-	-	#DIV/0!	-	-	#DIV/0!	-	-	#DIV/0!	
	Total	5	5	100%	5	5	100%	5	5	100%	5	5	100%	
SBS	PRT	2	1	50%	2	1	50%	2	2	100%	2	2	100%	REZA
	SVC	2	-	0%	2	2	100%	2	2	100%	2	2	100%	
	Total	4	4	100%	4	4	100%	4	4	100%	4	4	100%	
PTBA	PRT	15	15	100%	15	15	100%	15	15	100%	15	15	100%	REZA
	SVC	3	3	100%	3	3	100%	3	3	100%	3	3	100%	
	Total	18	18	100%	18	18	100%	18	18	100%	18	18	100%	
PPA	PRT	528	445	84%	528	528	100%	528	528	100%	591	591	100%	REZA
	SVC	8	1	13%	8	8	100%	8	8	100%	12	12	100%	
	Total	536	536	100%	536	536	100%	536	536	100%	603	603	100%	
MAS	PRT	56	56	100%	56	56	100%	56	56	100%	56	56	100%	REZA
	SVC	20	20	100%	20	20	100%	20	20	100%	20	20	100%	
	Total	76	76	100%	76	76	100%	76	76	100%	76	76	100%	
MTN	PRT	102	85	83%	102	102	100%	102	102	100%	102	102	100%	REZA
	SVC	-	-	#DIV/0!	-	-	#DIV/0!	-	-	#DIV/0!	-	-	#DIV/0!	
	Total	102	102	100%	102	102	100%	102	102	100%	102	102	100%	
LDA	PRT	27	22	81%	27	27	100%	27	27	100%	30	30	100%	REZA
	SVC	3	-	0%	3	3	100%	3	3	100%	3	3	100%	
	Total	30	30	100%	30	30	100%	30	30	100%	33	33	100%	
KPP	PRT	7	7	100%	7	7	100%	7	7	100%	11	11	100%	REZA
	SVC	8	8	100%	8	8	100%	8	8	100%	8	8	100%	
	Total	15	15	100%	15	15	100%	15	15	100%	19	19	100%	
BSS	PRT	53	39	74%	53	53	100%	53	53	100%	53	53	100%	REZA
	SVC	-	-	#DIV/0!	-	-	#DIV/0!	-	-	#DIV/0!	-	-	#DIV/0!	
	Total	53	53	100%	53	53	100%	53	53	100%	53	53	100%	
OTH	PRT	329	263	80%	329	329	100%	329	329	100%	401	401	100%	REZA
	SVC	8	3	38%	8	8	100%	8	8	100%	16	16	100%	
	Total	337	337	100%	337	337	100%	337	337	100%	417	417	100%	

 Days not achieved

Figure 2.2 Achievement Document Received to customers per week.

This image above is a monitoring dashboard designed to oversee the Invoice Production data formed each week based on the Number of Invoices **generated**, the Number of **Pending** Invoices sent to customers, and the percentage of Invoice **achievement** already sent out each week. This serves to facilitate the monitoring of delays in document delivery and the quantity of documents already dispatched to customers by the respective personnel in charge.

LEADTIME MONTHLY REPORTS

REDUCE LEADTIME INVOICE FROM 11 DAYS TO 9 DAYS

Row Labels	2022	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23
AMU	9	13	10	10	9	7	10	12
JLTM	9	8	10	9	9	9	8	9
SBS	23	43	23	0	6	15	20	17
PTBA	6	18	4	2	5	4	2	1
PPA	6	7	6	6	7	4	5	5
MAS	31	10	8	6	5	7	5	5
MTN	8	8	8	9	11	9	9	8
LDA	6	9	9	10	10	9	11	10
KPP	11	4	4	4	4	4	4	3
BSS	11	11	12	11	12	10	11	10
OTH	10	10	9	10	11	10	11	10
General Total	12	13	9	7	8	8	9	8

 Days not Achieved

Figure 2.3 Leadtime Invoice at each Customer

This image above is a summary of monitoring dashboard of the Lead Time created from the Purchase Order received by UT until the ordered goods are received by the customer. This data is cumulative from all the invoices generated in the current month. It is averaged to be displayed on the dashboard. The indicator is that if the lead time exceeds 9 days, it will be highlighted in red.

Cust	PS	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
AMU	PRT	46	80	51	69	152	35	70					
	SVC	0	0	0	102	0	65	78					
JLTM	PRT	79	324	140	307	87	493	240					
	SVC	0	0	0	0	0	0	0					
SBS	PRT	117	346	0	37	39	209	4173					
	SVC	27	15	0	1	0	0	0					
PTBA	PRT	3109	0	0	14	59	0	98					
	SVC	172	31	61	77	122	122	98					
PPA	PRT	61	126	76	39	90	95	55					
	SVC	53	158	120	140	256	48	39					
MAS	PRT	66	32	40	41	45	35	36					
	SVC	98	57	65	144	22	106	40					
MTN	PRT	32	10	124	57	62	93	36					
	SVC	316	8	44	48	0	35	0					
LDA	PRT	60	62	44	183	109	33	63					
	SVC	1	0	0	169	83	0	84					
KPP	PRT	66	46	38	65	23	87	51					
	SVC	24	43	12	0	5	20	38					
BSS	PRT	46	39	34	51	69	38	54					
	SVC	0	0	0	141	43	0	46					
OTH	PRT	27	218	67	55	19	52	52					
	SVC	0	0	0	0	0	79	57					
Total Red	PRT	3	5	3	3	5	5	4					
Highlight	SVC	3	1	1	6	3	3	3					

 Days not Achieved

Figure 2.4 Days of Collection Period on UT Site Tanjung Enim

This picture illustrates how Invoice Production Monitoring can affect the Collection Period of a company. The Days of Collection Period will subsequently impact the cash in from customers, allowing UT to enforce penalties such as Blocking

the Account. This action could significantly inconvenience the customer as it disrupts the supply of spare parts for heavy equipment. Therefore, this monitoring process can prevent potential adverse events in the future.

2.1.5 Quality Function Deployment

Quality Function Deployment, also known as QFD, is a methodology that assists organizations in understanding, analyzing, and prioritizing customer needs, integrating them into the development process of products or services. Its aim is to ensure that the produced products or services align with customers' expectations and desires, thereby enhancing customer satisfaction and market competitiveness.

QFD isn't merely a quality tool but also a crucial planning tool. It enables the consideration of the "voice of the customer" throughout the service development path to market entry.

Three key factors significantly influence a company's competitiveness: quality, costs, and opportunities. Although lower process costs initially enhance price competitiveness and potential market share in the short term, maintaining profitability in the long run is a challenge:

- a. **Quality:** Clients highly value service quality and differentiation. Losing clients due to inadequate service quality can result in permanent loss, especially if negative experiences are shared with others.
- b. **Opportunities:** Additionally, seizing opportunities is closely linked to 'time to market.' Efficient processes for new service development can significantly reduce development timeframes, bolstering agility and enhancing UT Site Tanjung Enim's competitive edge.
- c. **Costs:** Ultimately, achieving a competitive firm necessitates services with swift 'time to market, exceptional quality, and cost efficiency.

2.1.6 The Benefits of Quality Function Deployment (QFD)

The benefits of QFD drive companies to be more customer-focused, enhance product or service quality, and ensure that the produced items truly meet market expectations. According to Shofi (2012:8), QFD can also improve its competitiveness through continuous quality and productivity improvements, as follows:

1. Time Efficiency.
2. Teamwork Oriented.
3. Document Oriented.
4. Customer Focus

From these four points, specific benefits of implementing QFD can be identified. It can enhance product quality, increase customer satisfaction, shorten customer lead times, boost productivity, and improve company profits.

2.1.7 The Concept of The Quality Lever

The concept of The Quality Lever serves as a visual aid to depict the impact of various development stages on the resulting quality of services. According to **Dornberger (2019)**, the idea is that improvements made in the production phase may result in a lower cost-benefit ratio compared to improvements in service quality. Conversely, enhancements achieved in early stages such as service design and process design have a greater influence due to the mechanics of a Lever. Improvements in service design can have an impact 100 times greater than improvements in the production process. This is due to the enhancements becoming an integral part of the service itself.

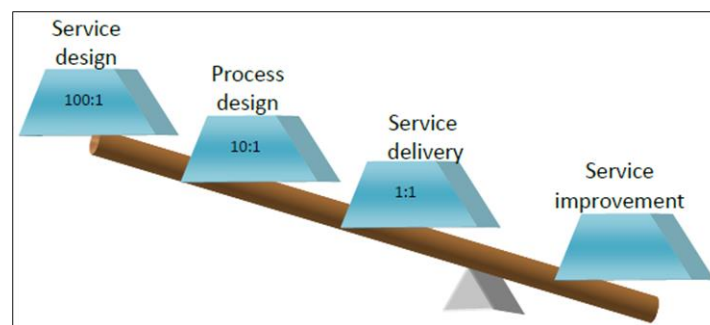


Figure 2.5 Quality Lever

QFD is a tool that enables the transformation of reactive service development processes into proactive ones. The QFD technique is based on the analysis of customer needs, which are typically expressed in qualitative terms such as: 'easy to use', 'safe', 'comfortable', or 'luxurious'.



Figure 2.6 QFD Technique

To develop a service, it requires the 'translation' of uncertain needs into quantitatively measurable service design requirements; QFD enables this translation. Services aren't developed as a whole; instead, they're developed through the integration of various components. It's the features of these components that provide functionality, ultimately meeting client needs. UT Site Tanjung Enim's organizational structure also influences service development. However, not all employees are aware of the importance of this service development process. Hence, establishing an appropriate communication system becomes crucial. This system must maintain the meaning of client needs throughout the development process.

2.1.8 House of Quality (HOQ)

2.1.8 This matrix is called the House of Quality due to its roof-like structure at the top. The house can be divided into 'rooms.' The path through the different 'rooms' is described below.

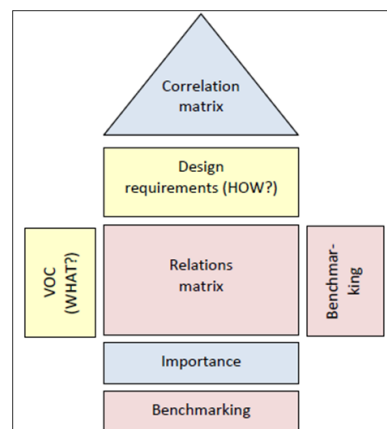


Figure 2.7 House of Quality

2.1.9 Voice of the Customer (VOC)

QFD starts with the establishment of objectives, which represent the answer to “What?”; what is desired to reach the new service’s development? These objectives derive from clients’ requirements and are called the “Voice of the Customer” (Dornberger, 2019).

Table 2. “What?” List

Client’s

Requirements (What?)

Sometimes, client needs are general, vague, and challenging to implement directly; a more detailed description is required. There are three types of service characteristics that should be distinguished. Needs explicitly mentioned by clients are termed 'performance requirements'; other desires are difficult for clients to articulate. These 'wants' are a vital part of the service and fulfill basic functions that users expect and consider given. These fundamental functions are known as 'basic requirements'. The third type of service feature is an 'emotional requirement', reflecting a need previously not consciously recognized by the client. Performance, basic, and emotional are three types of quality and are depicted in the 'Kano Model' (Schutta, 2005).

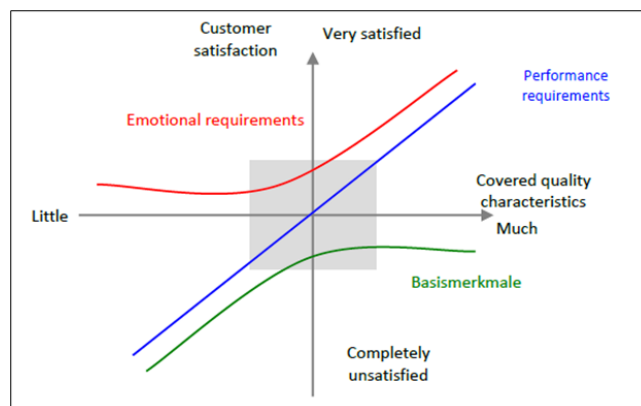


Figure 2.8 Kano Model

Table 3. "How?" List

Design Requirements (HOW?)							

2.1.10 Relation Matrix

The relationship between client needs and design is not always one-to-one; there are complex relationships with varying levels of strength. One design requirement can influence several client needs. Table 3 depicts a matrix showing the relationship between 'What' and 'How,' determined by three levels of strength: weak, medium, and strong relationships.

Table 4. Relation Matrix

Client's Requirements (WHAT?)	Design Requirement (HOW?)			
	○	Δ		
	●	○	○	○
	Δ	○	●	
		●	●	Δ

QFD	
Δ	Weak
○	Medium
●	Strong

An empty column indicates no relationship between client needs and design. This may reveal that the translation from 'What' to 'How' wasn't done effectively.

2.1.11 Benchmarking

The QFD technique enables competitor assessment through Benchmarking. Competitors' services are compared with UT Site Tanjung Enim's services. Benchmarking is conducted for 'What' and 'How'.

Both companies' services are compared based on customer needs ('What'). A characteristic measure is determined for each service feature. Subsequently, clients' satisfaction perceptions of needs are assessed and compared to the competitors.

In the technical competitor comparison ('How'), the fulfillment of design needs will be compared. It is recommended that the personnel responsible for service design conduct this evaluation.

Table 5. Benchmarking

		Design requirements (HOW?)					
Client's requirements (WHAT?)						Bad	Good
		○	⊙			▲	●
		⊙	○			●	▲
		△	○	△	⊙	▲	●
			○			▲	●
				⊙		●	▲
					△	▲	●
Good		▲	■	▲	●		
Bad		■	▲	●	▲		

2.1.12 DMAIC

The DMAIC (Define-Measure-Analyze-Improve-Control) method in Six Sigma is often described as an approach for problem solving. This paper compares critically the DMAIC method with insights from scientific theories in the field of problem solving as described by Jeroen De Mast (2012). Mark A Smith (2018) said meticulously details DMAIC's five sequential phases, providing a comprehensive and practical approach to implementing this structured problem-solving methodology:

1. **Define:** Smith elucidates the criticality of setting a precise project scope, defining clear objectives, and aligning them with customer needs. The chapter emphasizes the significance of assembling a dedicated team and establishing key performance metrics.
2. **Measure:** In this section, Smith elaborates on the importance of data collection, its accuracy, and relevance. The author outlines various

measurement techniques and tools to quantify the current state of processes, enabling readers to gauge the problem's magnitude objectively.

3. **Analyze:** Smith delves into the Analyze phase by highlighting diverse analytical methods, statistical tools, and root cause analysis techniques. He illustrates how to dissect collected data to identify the underlying causes contributing to process inefficiencies or defects.
4. **Improve:** Within this section, Smith provides a detailed roadmap for generating and implementing solutions. The book offers insights into devising and testing potential enhancements, ensuring they address root causes effectively and lead to measurable improvements.
5. **Control:** Smith concludes the DMAIC journey by emphasizing the importance of sustaining improvements. The Control phase is thoroughly explored, covering strategies for monitoring, documentation, and instituting controls to prevent regression and maintain enhanced processes.

2.1.13 5 Why Analysis

The 5 Whys method is a simple yet effective technique for analyzing the root cause of a problem. Its aim is to delve deeper to uncover the actual cause of an issue by repeatedly asking "why."

The 5 Whys method has historical roots in Toyota's production system and is closely associated with its development within the Toyota Motor Corporation. It was notably popularized within the Toyota Production System (TPS) and became a fundamental part of their problem-solving and continuous improvement philosophy.

Sakichi Toyoda, the founder of Toyota Industries, emphasized the importance of asking "why" multiple times to get to the core of any issue (Mind Tools Ltd., 2019). However, it was his son, Kiichiro Toyoda, who expanded on this concept and integrated it into the Toyota Production System. The method's primary objective was to encourage a deeper investigation into the root causes of problems instead of merely addressing surface-level symptoms. Taiichi Ohno, a Toyota executive and key figure in the development of TPS, advocated for the 5 Whys as a technique to identify the underlying reasons behind manufacturing issues.

While the exact origins and attributions within Toyota's history may vary, the 5 Whys gained recognition as a powerful problem-solving tool that goes beyond merely

treating the symptoms of a problem. It aims to uncover the fundamental causes, allowing for more effective and sustainable solutions. Over time, it has been adopted by numerous industries worldwide as a means of root cause analysis and continuous improvement.

The concept is straightforward: after identifying a problem, you ask "why" it occurred and continue asking "why" (usually around five times, but it could be more or fewer depending on the situation) to reach the fundamental root of the problem (Kurwardana et al : 2016).

2.2 Previous Studies

2.2.1 Abdurrozzaq Hasibuan et al “**Service Quality Improvement by Using the Quality Function Deployment (QFD) Method at the Government General Hospital**”.

The study outlines the systematic use of QFD, a methodology aiming to translate customer needs into specific service attributes, within the hospital context. It likely includes a comprehensive approach involving gathering patient feedback, analyzing their expectations, and aligning these insights with service improvement strategies. Through QFD implementation, the study aims to identify and prioritize areas for enhancing service quality within the hospital. By bridging patient requirements with healthcare services, the goal is to optimize both patient satisfaction and hospital operations.

The journal explores how this method supports strategic decision-making, likely offering insights into how the QFD framework assists in mapping patient expectations to service improvements, ultimately leading to a more patient-centric healthcare approach.

2.2.2 K.F. Pun, K.S. Chin, and Henry Lau “**A QFD/Hoshin Approach for Service Quality Deployment: A Case Study**”

The study likely outlines the application of QFD, a customer-driven approach, in the service industry context. It probably discusses the systematic process of capturing customer needs, converting them into service features, and aligning organizational strategies to meet these demands effectively.

The integration of Hoshin Kanri, a strategic planning method aimed at aligning organizational goals, might also be highlighted. The paper may demonstrate how Hoshin Kanri complements QFD by aligning the identified customer needs with the overall strategic objectives of the service organization. The case study likely illustrates how this combined QFD/Hoshin approach was implemented within a specific service-oriented setting. It may include practical examples of how customer requirements were translated into service improvements and how these improvements were aligned with the broader organizational goals. The focus of the paper is likely on demonstrating the effectiveness of this integrated approach in enhancing service quality deployment. It may discuss the positive impacts on customer satisfaction, operational efficiency, and the overall competitiveness of the service organization.

Overall, the journal likely serves as a practical guide, showcasing how the synergy between QFD and Hoshin Kanri can be leveraged to systematically deploy service quality improvements within service-oriented industries.

2.2.3 Md. Maruf Hossan Chowdhury and Mohammed A. Quaddus “**A Multi-Phased QFD-Based Optimization Approach to Sustainable Service Design**”

The study likely begins by addressing the growing importance of sustainability in service industries, emphasizing the need for integrating sustainability principles into service design processes. The paper probably introduces the multi-phased QFD approach, outlining its stages or steps involved in aligning customer requirements with sustainable service design. It may detail how this approach spans various phases, from gathering customer needs to the final design and implementation, emphasizing sustainability at each stage. The focus is likely on demonstrating how this multi-phased QFD approach optimizes service design for sustainability. It may include case studies or practical examples illustrating the application of this methodology in real-world service settings. The journal may also discuss how this approach aids in identifying and prioritizing sustainability aspects in service design, ensuring that environmental, social, and economic factors are integrated into the service development process.

Overall, the paper likely serves as a strategic guide for service industries, offering a structured and multi-phased QFD approach to embed sustainability principles into service design processes, contributing to the development of environmentally and socially responsible services.

2.2.4 Kuo and Tang “**A QFD/Service Quality Deployment Approach: A Case Study**”

The authors begin by discussing the importance of service quality in today's competitive market. They highlight how QFD can be adapted from manufacturing to services by identifying customer needs, translating them into service characteristics, and aligning them with business strategies. The case study delves into a real-world application of QFD in a service context. It outlines the step-by-step process of QFD implementation in a service company, emphasizing the involvement of cross-functional teams and the need for customer feedback at every stage. One key aspect highlighted is the use of matrices and diagrams to visualize the relationship between customer requirements and service characteristics. The study demonstrates how QFD aids in prioritizing these characteristics based on customer importance and the company's ability to deliver. Moreover, the authors discuss the challenges faced during the implementation process, including difficulties in defining customer requirements and integrating various departments' inputs.

2.2.5 Baladi “**Improving of The Mechanic Qualification Standard Related With Customer Satisfaction at Leading Heavy Equipment Distributor Company in Indonesia**”

The Authors utilizes the Quality Function Deployment (QFD) method to develop a competency development framework in the form of qualification standards aligned with customer satisfaction. The study employs regression analysis on a Structural Equation Model (SEM) to analyze the correlation between the proposed qualification standard and customer satisfaction. The research highlights the significance of comprehensive mechanic qualification standards encompassing Technical Operating Competency (TOC), Business Management Competency (BMC), and Behavior Competency (BC). Strong positive correlations exist between the proposed qualification standard and customer satisfaction. Improved technical

skills, business acumen, and professional conduct demonstrably lead to higher customer satisfaction. Implementation of the proposed qualification standard through effective training programs can enhance customer satisfaction and drive business growth for the heavy equipment distributor company. This journal work offers valuable insights for heavy equipment distributors and other service-oriented companies. By aligning mechanic qualification standards with customer satisfaction, organizations can strengthen service quality, foster customer loyalty, and achieve sustainable business success.

Overall, the case study serves as a practical guide for service companies aiming to enhance their service quality by utilizing QFD. It emphasizes the importance of customer-centricity, cross-functional collaboration, and continual improvement in delivering high-quality services that align with customer expectations.

Table 6. Comparison with Previous Studies

Journal Title	Authors	Year	Method	Research Findings
Service Quality Improvement by Using the Quality Function Deployment (QFD) Method at the Government General Hospital	Abdurrozzaq Hasibuan et al.	2019	QFD implementation to identify and prioritize areas for enhancing service quality within the hospital, bridging patient requirements with healthcare services.	Improved patient satisfaction, operational efficiency, and overall competitiveness of the service organization.
A QFD/Hoshin Approach for Service Quality Deployment: A Case Study	K.F. Pun, K.S. Chin, Henry Lau	2000	Integration of QFD and Hoshin Kanri to align customer needs with organizational goals, leading to service quality improvements.	Demonstrates the effectiveness of this integrated approach in enhancing service quality deployment.
A Multi-Phased QFD-Based Optimization Approach to Sustainable Service Design	Md. Maruf Hossan Chowdhury and Mohammed A. Quaddus	2016	Multi-phased QFD approach to optimize service design for sustainability, integrating environmental, social, and economic factors.	Structured and multi-phased QFD approach to embed sustainability principles into service design processes.
A QFD/Service Quality Deployment Approach: A Case	Kuo and Tang	2001	Using QFD in a manufacturing engineering lab to improve service quality	QFD effectively identified customer needs, prioritized improvements, and