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The Influence of Service Quality Dimensions on Customer Satisfaction Index (CSI) in CFM56 Engine Shop Visits: Case Study at PT. Burung Maintenance Facility

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Abstract
This study analyzes the influence of service quality dimensions on the Customer Satisfaction Index (CSI) for CFM56 Engine Shop Visits at PT. Burung Maintenance Facility (BMF). In the competitive aviation MRO industry, maintaining high service quality is crucial for customer retention. This research aimed to identify which service areas most significantly impact CSI and to formulate targeted improvement strategies. Using a qualitative descriptive methodology, data was collected through in-depth interviews with five key customers and triangulated with historical CSI data from 2020-2025. The findings reveal that Turnaround Time (TAT) and Pricing are the most critical drivers of customer dissatisfaction, with the lowest CSI scores. While Service Quality and Alignment were perceived positively, Communication and Documentation required refinement. The study concludes that customer loyalty is strongly tied to improvements in TAT reliability and pricing transparency. It is recommended that BMF's management prioritizes a corporate-wide TAT improvement initiative, invests in expanding in-house repair capabilities to control costs and delays, and implements a structured communication protocol with tiered SLAs and regular customer reporting to enhance service delivery and secure long-term competitiveness.

Kata Kunci: *Aviation MRO, Customer Satisfaction Index, Engine Shop Visit, Service Quality*

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INTRODUCTION

Air transport service quality has become a critical research area over the last decade, as airlines rely on it to ensure operational reliability and maintain customer trust. Contemporary studies frequently utilize digital surveys and adapted models like SERVQUAL or AIRQUAL to measure service attributes. The scope of research has expanded to include emerging issues such as technology-enabled services, cybersecurity, corporate social responsibility, and heightened hygiene standards post-pandemic. Furthermore, studies call for deeper investigation into specific areas like services for passengers with special needs, indicating that the concept of service quality is becoming increasingly broad and complex. This focus is justified as service quality is a proven driver of customer satisfaction and loyalty. Research by Naini et al. (2022) and Wilfred et al. (2024) confirms that attributes such as clear communication,

reliability, empathy, pricing fairness, and tangible service elements directly influence customer loyalty and their choice of airline provider.

The aviation maintenance (MRO) sector adds another layer of complexity, where safety oversight is governed by strict international regulations. Studies, such as those by Nam et al. (2023), emphasize that maintaining airworthiness requires strong governance, trained personnel, and consistent standards, as any weakness in documentation or inspection can critically impact operations. This is particularly relevant for complex engine shop visits. Simultaneously, the global aviation environment is under significant external pressure from volatile fuel prices and labor shortages, pushing airlines to focus on operational efficiency. The MRO market is growing, exceeding USD 114 billion in 2024, with engine MRO being the largest segment. However, since 2023, intense capacity constraints have caused turnaround times (TAT) for many engines to increase by 30-40%, creating global bottlenecks that directly impact MRO planning, airline fleet availability, and ultimately, customer satisfaction.

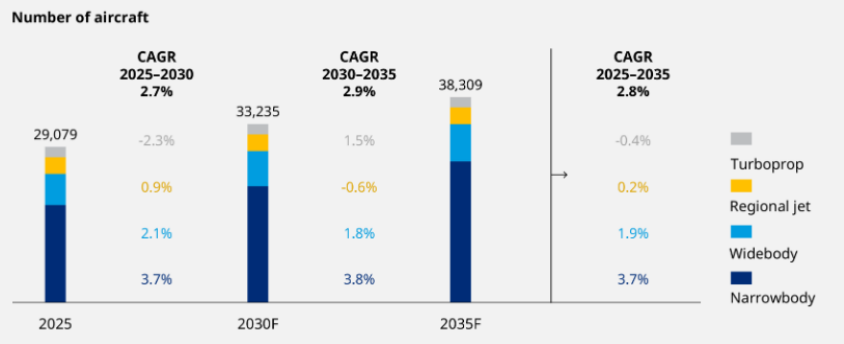

Figure 1. Global fleet forecast by aircraft class, 2025–2035 (Source: Oliver Wyman Analysis)

Service quality during Engine Shop Visits (ESVs) is a critical competitive differentiator in the aviation industry. An ESV is the most expensive and sensitive maintenance event, involving an engine's complete removal, inspection, repair, and overhaul (FAA, 2023). Mismanagement can lead to grounded aircraft, higher costs, and damaged airline profitability. Consequently, customers demand more than just technical compliance; they value transparent cost management, reliable turnaround times (TAT), and open communication (Jiang & Zhang, 2021). The Customer Satisfaction Index (CSI) is used to measure how well Maintenance, Repair, and Overhaul (MRO) providers meet these expectations, where high scores foster repeat business and loyalty, while low scores can drive customers to competitors.

The strategic importance of ESVs is magnified for specific engine models like the CFM56, which powers a massive global fleet of Airbus A320ceo and Boeing 737 NG aircraft. Despite the industry's shift to newer engines, the extensive installed base of CFM56s ensures a significant MRO demand for the next 10-15 years. For MRO providers, excelling in CFM56 servicing is a core strategic imperative to capture a large share of the narrow-body market. However, competition in the Asia-Pacific region is intense, with leaders like ST Engineering Singapore and GE Engine Shop Malaysia competing on speed, integrated packages, and price (CAPA, 2024). For Indonesia's PT. Burung Maintenance Facility, strengthening ESV service quality is crucial to compete, as it currently faces customer complaints about delivery delays, poor communication, and cost escalations that harm its CSI performance.

This research is vital as service quality and customer satisfaction are key drivers of customer loyalty in the globally crucial aviation sector. The study addresses a critical problem at BMF: a spare parts shortage during maintenance, which forces the company to develop other competitive advantages to protect its image (Porter, 1998). The research is unique and novel because it employs a comprehensive set of independent variables—including effective communication, service alignment with expectations, overall service quality, competitive pricing, useful technical documentation, and TAT program satisfaction—to understand their effect on customer loyalty, with customer satisfaction acting as an intervening variable.

PT. Burung Maintenance Facility faces a twofold business challenge. Externally, it contends with uncontrollable global pressures such as prolonged turnaround times (TAT), supply chain disruptions, and labor shortages, which are difficult to resolve in the short term. Internally, there are controllable service dimensions—including communication, pricing, technical documentation, and aligning the maintenance workscope with customer expectations—that customers have explicitly highlighted as critical through Customer Satisfaction Index (CSI) surveys. Consequently, BMF's strategic priority must be to concentrate on improving these customer-facing service elements, leveraging them as key differentiators to sustain competitiveness and protect its reputation amidst ongoing industry-wide turbulence.

The urgency of this strategic focus is amplified by intense competition. Leading global MRO providers like Lufthansa Technik, GE Aerospace, and ST Engineering successfully market themselves based on faster turnaround times, transparent cost structures, and advanced customer-centric digital communication platforms (Rahman et al., 2022) IATA, 2023). This competitive landscape places significant pressure on BMF to not only uphold its high technical standards but also to align with these evolving global service benchmarks to remain a viable choice for airlines.

Furthermore, customer expectations have fundamentally shifted in the post-pandemic era. Airlines now routinely demand digital updates, online tracking for shop visit progress, and predictive cost forecasting. A failure to meet these new service norms risks customer attrition and reputational damage, especially in a globalized industry where operators widely share their service experiences. Therefore, this study is designed to identify the specific service quality dimensions that most strongly influence the CSI, thereby enabling BMF to implement targeted improvements that enhance competitiveness, retain customer loyalty, and attract new clients in the global MRO market.

To address this, the study establishes clear research questions and objectives derived from CSI results and aligned with the SERVQUAL framework. The research aims to first identify which of the six key service areas—Communication, Service Alignment, Service Quality, Pricing/Competitiveness, Technical Documentation, and Turnaround Time—most significantly influence customer satisfaction. Second, it seeks to propose improvement strategies for the top three problem areas based on customer perspectives. Finally, the research will analyze the relationship between the Customer Satisfaction Index (CSI) and the crucial outcome of customer loyalty, providing a complete picture for strategic decision-making.

LITERATURE REVIEW

Service Quality (SERVQUAL) and Extensions

The foundational theory for measuring service quality is the SERVQUAL model developed by Parasuraman et al. (1988), which defines quality as the gap between customer expectations and their perceptions across five key dimensions: Reliability (performing the promised service accurately), Responsiveness (providing prompt service), Assurance (inspiring trust through employee knowledge and standards), Empathy (offering individualized attention), and Tangibles (the appearance of physical facilities and materials). In the context of an aviation Maintenance, Repair, and Overhaul (MRO) provider, these dimensions translate into consistently delivering airworthy engines, timely communication, adherence to regulatory standards, understanding specific airline operational needs, and maintaining modern facilities and professional documentation.

While SERVQUAL is foundational, the SERVPERF model by Cronin & Taylor (1992) offers a significant refinement by arguing that customer satisfaction is more reliably predicted by measuring actual service performance alone, rather than the gap between expectations and perceptions. This performance-only approach is highly relevant in the technical MRO ecosystem, where outcomes like turnaround time, documentation completeness, and cost transparency directly dictate airline fleet availability and profitability. Furthermore, SERVPERF is particularly practical because customer expectations are already standardized by strict regulatory bodies (FAA, EASA), and the model aligns seamlessly with the Key Performance Indicator (KPI) based management systems that MROs already employ.

Consequently, the Customer Satisfaction Index (CSI) used by BMF can be viewed as an applied and modified version of the SERVPERF model, specifically tailored for the aviation industry. Instead of directly measuring the more generic SERVQUAL dimensions like empathy or tangibles, BMF's CSI emphasizes concrete performance outcomes that are critical in a business-to-business (B2B) aviation context, such as pricing competitiveness, the quality of technical documentation, and adherence to Turnaround Time (TAT). This shift in focus ensures that the measurement of service quality is directly tied to the practical, performance-based indicators that truly drive customer satisfaction and loyalty in the MRO sector.

Customer Satisfaction Index (CSI)

The Customer Satisfaction Index (CSI) is a established methodology for quantifying customer satisfaction into a single, composite score. Its theoretical foundation is based on the principle that satisfaction is multi-dimensional; instead of relying on one indicator, CSI aggregates perceptions across several key service quality areas to provide a holistic picture (Fornell et al., 1996). This approach, which often uses weighted averages to reflect the relative importance of different dimensions, has been successfully adapted for B2B and service-intensive industries like aviation Maintenance, Repair, and Overhaul (MRO). In this context, salient dimensions include turnaround time, pricing fairness, documentation completeness, communication quality, and technical service outcomes, which are all scored and combined to create the overall CSI.

For BMF, the CSI is a central performance monitoring and strategic tool. The company sets a specific target score, recognizing that falling below this threshold signals dissatisfaction that risks lost contracts and reputational damage. By structuring its CSI around key performance dimensions relevant to engine shop visits, BMF aligns with the SERVPERF model's performance-only focus, tailoring the index to the unique

realities of its business. Consequently, the CSI serves a dual purpose: it acts as a diagnostic tool to pinpoint specific weaknesses like delivery delays or poor communication, and it functions as a strategic Key Performance Indicator (KPI) that guides continuous improvement and competitive positioning, making it more than just a survey score but a vital benchmark for managerial decision-making.

Reliability, Responsiveness, and TAT

Empirical and optimization research shows that closer airline–MRO collaboration improves operational performance under outsourcing, mitigating delays when slot scarcity and parts lead times arise (Qin & Ng, 2023). A recent bilevel optimization study further demonstrates that collaborative planning of flexible schedules and service charges can enhance service accessibility and stabilize maintenance routing, with clear implications for perceived TAT and satisfaction (Qin et al., 2024).

Documentation Quality and Airworthiness Acceptance

Digitalization of technical records (e.g., electronic logbooks, digital task cards, SB/AD evidence) improves traceability, speeds lease transitions, and reduces administrative rework—factors that customers perceive as higher service quality (Karakilic, 2023). In ESV contexts, documentation quality functions as a risk reduction signal, reinforcing assurance and reducing disputes over return to service packages.

Price Fairness and Cost Transparency

Airline buyers evaluate fairness via clarity of quotations, change control for additional findings, and visibility into repair/replace trade offs. Studies on airline service quality link perceived fairness and transparency to repurchase intentions, indicating that cost communication is a relevant extension to SERVQUAL in aviation (Bakır, 2024 : Nam, 2023).

Digital Service Quality

Digital coordination (customer portals, real time ESV trackers, automated alerts) shapes perceived responsiveness and control. While much work examines passenger services, findings generalize to B2B interfaces: digital reliability and accuracy affect satisfaction even when physical work is off site (Bakır, 2024). In maintenance operations, digital scheduling and collaboration tools also underpin airline–MRO planning efficiency (Qin & Ng, 2023 : Qin et al., 2024).

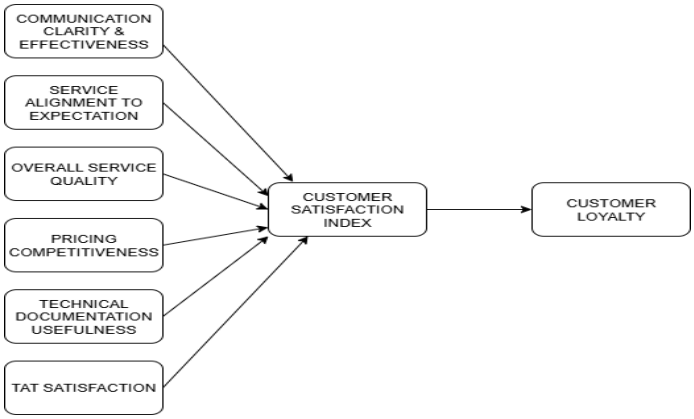

Figure 2. Framework Diagram

RESEARCH METHODOLOGY

Research methodology constitutes the overall plan and systematic tools for conducting a study, serving as its backbone to ensure the approach is appropriate for answering the research problem and yielding valid, trustworthy results (McCombes & George, 2022). For this thesis, which aims to understand the factors influencing customer satisfaction at PT. BMF Engine Services, a qualitative research approach was selected as the most suitable method. This approach is chosen because the research focuses on exploring customer perceptions, expectations, and real-life experiences in depth, allowing the researcher to capture the nuanced reasons behind their satisfaction or dissatisfaction.

The primary data source consists of in-depth, semi-structured interviews with key stakeholders, including airline operators, lessors, and technical representatives who have direct experience with BMF's engine shop visit processes. Their feedback provides rich, context-specific insights into the critical service areas. To support and validate these qualitative findings, the research also incorporates secondary data, such as internal CSI reports and operational records from 2020–2025. Consequently, this study does not employ a mixed-method design but rather a qualitative descriptive methodology, strengthened by secondary numerical data to provide essential context, as understanding customer satisfaction requires listening directly to customers and interpreting their experiences beyond mere numerical scores.

This study employs a qualitative descriptive research design, an approach deemed suitable for obtaining clear, direct summaries of events and experiences from the perspective of those involved (Sandelowski, 2000). This methodology is chosen because the research goal is to understand the key service areas influencing customer satisfaction through detailed insights into customers' lived experiences, perceptions, and challenges, rather than through numerical measurement (Creswell, 2013). As emphasized by scholars like Merriam and Tisdell (2016) and Patton (2015), a qualitative inquiry is particularly effective for exploring complex service issues where human interpretations are central, as it provides the depth, context, and meaning that quantitative indicators alone cannot fully capture.

The primary data for this research is gathered through semi-structured interviews with airline operators, lessors, and technical representatives who have direct experience with BMF's Engine Shop Visit services, focusing on the six key service quality dimensions. To support and enrich the interpretation of these firsthand accounts, secondary data such as BMF's internal Customer Satisfaction Index (CSI) reports from 2020–2025 are used as contextual background, aligning with Flick (2018) view on the utility of secondary sources in qualitative research. The study remains strictly qualitative without statistical testing, as its core objective is to uncover the underlying reasons and narratives behind the CSI scores, which numerical data alone cannot explain.

A well-defined set of research questions and objectives is crucial for ensuring this study effectively addresses the key performance areas of BMF's engine shop visit services. These questions are systematically derived from the Customer Satisfaction Index questionnaire results and are carefully aligned with the established SERVQUAL framework to maintain academic rigor and practical relevance.

The study is guided by three primary research questions aimed at uncovering the core drivers of service performance. It first seeks to determine which specific service areas—encompassing communication, service alignment, service quality, pricing

competitiveness, technical documentation, and turnaround time—most significantly influence customer satisfaction levels. Subsequently, the research will explore customers' perspectives on potential improvement strategies for the top three service areas identified as needing enhancement. Finally, the investigation will examine how the overall Customer Satisfaction Index ultimately influences customer loyalty within the engine maintenance service context.

Corresponding directly to these inquiries, the research objectives are designed to provide actionable insights for service improvement. The first objective focuses on identifying and prioritizing the service areas that exert the greatest influence on customer satisfaction metrics. Building on these findings, the second objective aims to develop and propose appropriate improvement strategies specifically targeted at the most critical problem areas affecting customer satisfaction. The third objective centers on analyzing the precise relationship between the Customer Satisfaction Index and customer loyalty, providing valuable understanding of how service quality perceptions translate into long-term customer relationships for BMF's engine shop visit services.

RESULTS AND DISCUSSION

Respondent Overview and Rationale for Selection

Five respondents participated in the interviews, carefully selected due to their direct involvement in engine shop visit activities. They hold key roles such as Technical Representatives, Vice Presidents, and Planning & Purchasing staff within their respective organizations. Their consistent daily communication with BMF for project coordination, documentation updates, technical findings, commercial clarifications, and TAT follow-ups makes their insights highly reliable and deeply grounded in real operational experience.

These frontline professionals provided valuable input on how communication flows throughout the shop visit process, how workscope changes and technical findings are managed, and how documentation accuracy, pricing clarity, and approval timelines impact project progress. Their firsthand accounts reveal the true customer experience—especially in areas like service responsiveness, technical precision, and on-time delivery—offering an authentic view of both strengths and service gaps within BMF's operations.

The respondents come from diverse organizations including M Jets Malaysia, FTAI, AFD & Fly Baghdad, Garuda Indonesia, and Indonesia AirAsia, reflecting a broad cross-section of customer needs and expectations. Their collective experience spans from 3 to over 10 years with BMF, covering critical dimensions such as supply chain management, certification compliance, and pricing transparency. This diversity strengthens the credibility of the feedback, especially when aligned with quantitative CSI performance data from 81 customer observations across six service quality dimensions measured on a 1–5 Likert scale.

Supporting Secondary Data: CSI Trends 2020–2025

Secondary data from BMF's Customer Satisfaction Index (CSI) reports (2020–2025) provide background context for interpreting the qualitative interview themes. Although this research is qualitative, the CSI trends help validate whether concerns raised by respondents are consistent with broader company performance.

Table 1. Customer Feedback Respondents by Engine type (Source: Internal Data, 2025)

Engine Type	Total Feedback	Percentage
CFM56-3	22	27%
CFM56-5	21	26%
CFM56-7	38	48%
Grand Total	81	

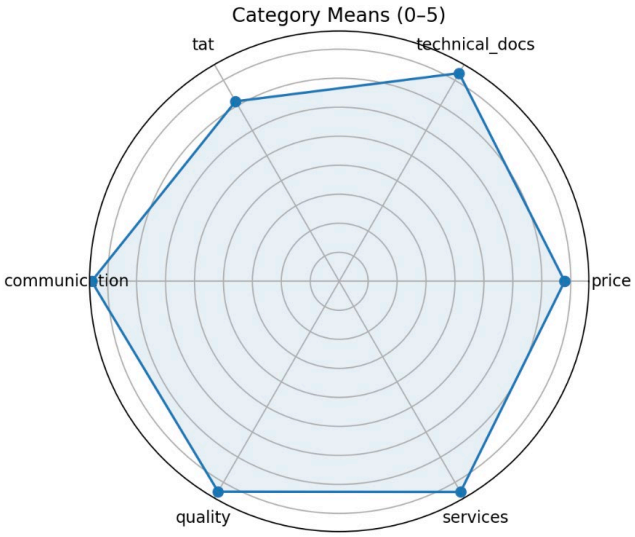

Figure 3. Average CSI Scores by Service Quality Dimension (CFM56 Series, 2020–2025)"

This radar chart shows the mean Customer Satisfaction Index (CSI) scores across six service quality dimensions—communication, services, quality, price, technical documentation, and turnaround time (TAT)—for BMF's CFM56 series customers from 2020 to 2025. The figure highlights strong performance in communication, services, and quality, while pricing and TAT remain weaker areas that require improvement.

Interview Coding & Category

Customer feedback reveals that BMF's Engine Shop Visit services possess several key strengths that foster satisfaction and loyalty. The company is consistently praised for its competitive and flexible pricing within the Asia-Pacific region, which is a significant advantage. Furthermore, the technical quality of the work is highly regarded, with customers reporting no post-redelivery issues and good engine performance. Other notable strengths include generally accurate workscope execution, decent technical documentation, and high responsiveness from the team, especially when handling urgent requests. These positive attributes form a solid foundation for customer relationships and are frequently cited as reasons for continued business.

However, the analysis uncovers critical weaknesses that severely impact customer satisfaction. The most prominent and recurring issue is poor performance on Turnaround Time (TAT), which consistently falls below customer expectations. This problem is exacerbated by internal bottlenecks, including manpower limitations, workstation or tooling constraints, and delays in internal approvals and supply chain

management. Communication, while often responsive, suffers from significant flaws such as slow follow-ups, unrealistic or constantly shifting delivery dates, and progress reports that do not match the actual situation on the shop floor. These communication gaps create planning difficulties and erode trust.

The consequences of these service shortcomings directly influence customer loyalty. While there is a positive intention to continue working with BMF, driven by its pricing and flexibility, this loyalty is conditional and fragile. Customers from various airlines explicitly state that their future commitment is heavily dependent on visible improvements in TAT reliability and enhanced internal capabilities. The feedback indicates that BMF's current reliance on subcontracting for many repairs not only lengthens TAT but also diminishes the perceived value of its services, making loyalty highly sensitive to both performance and price.

In summary, the interview data presents a clear strategic imperative for BMF. To strengthen its competitive position and secure long-term customer loyalty, the company must address its operational weaknesses. The prioritized areas for improvement are enhancing TAT reliability through better capacity planning and process efficiency, and overhauling communication protocols to ensure realistic, stable, and transparent reporting. By systematically improving these customer-facing service dimensions, BMF can leverage its existing strengths in price and quality to build a more resilient and loyal customer base.

Cross-Case Analysis and Convergent Themes

An analysis of feedback from five different airline customers reveals a consistent picture of BMF's engine repair services. The company has clear strengths: customers are happy with the final quality of the work, find the pricing competitive, and appreciate responsive communication for urgent matters. The initial planning and workscope alignment also generally meet expectations. However, one major weakness stands out across all interviews: Turnaround Time (TAT). Delays in getting engines back are the number one pain point for every customer, hurting their satisfaction significantly.

The customers' future loyalty to BMF is directly tied to fixing these TAT problems. While they have a positive view of BMF and want to continue their partnership, their loyalty is conditional. They will only commit to sending more engines if BMF can prove it can deliver them on time, reliably. To achieve this, the analysis suggests BMF should focus on better planning to manage delays, invest in its own repair capabilities to rely less on slow subcontractors, and improve communication with clearer, more honest progress updates.

Triangulation of Qualitative Insights and CSI Metrics

To make sure the findings are accurate and reliable, this study uses two different types of information together. It combines detailed opinions from customer interviews with numerical satisfaction scores from BMF's own reports from 2020 to 2025. Using both kinds of data provides a more complete picture of which service areas affect customer satisfaction the most.

The process of combining this data involved three main steps. First, common themes and topics were identified from the five in-depth interviews. Next, these themes were compared directly with the historical customer satisfaction scores for each service area. Finally, the results were analyzed to see where the interviews and

the scores agreed; these areas of agreement were then treated as the most important issues to fix.

Table 2. Triangulation Results

Dimension	Qualitative Themes	CSI Mean	Triangulation Insight
X1 - Communication	Mixed: praised for responsiveness, criticized for slow updates & unclear reporting	4.250	Confirmed: Scores are high, but interviews reveal **perception gaps** in progress reporting
X2 - Service Alignment	Strong when workscope clear; issues with unexpected findings	4.177	Supported: High scores reflect satisfaction, but need **better change control**
X3 - Service Quality	Consistently positive: good workmanship, no major issues	4.175	Aligned: High scores match feedback on technical reliability
X4 - Pricing	Competitive in region, but perceived as high; transparency issues	3.872	Confirmed: Lowest score among dimensions; validate **price sensitivity**
X5 - Documentation	Generally acceptable, but lacks detail and digital integration	4.128	Partially aligned: Moderate scores, but need **deeper reporting**
X6 - TAT	Major pain point: delays due to parts, approvals, subcontracting	3.591	Strongly aligned: Lowest performance score; **most critical issue**

Interpretation of Triangulated Findings

The analysis reveals that Pricing and Turnaround Time (TAT) are the most critical issues, as both the numerical satisfaction scores and customer interview feedback strongly agree that these areas are performing poorly and need immediate attention. For Communication and Technical Documentation, the satisfaction scores are moderately high, but the interviews tell a different story, revealing a clear need for better clarity, more detail, and digital accessibility. Meanwhile, Service Alignment and Service Quality are consistently strong performers according to both the scores and customer comments, with the interviews only suggesting minor opportunities for refinement in process management.

Linkage to Research Questions

Based on the combined findings, we can now answer the study's main questions. The research shows that Turnaround Time (TAT) and Pricing are the two most important factors affecting customer satisfaction. Although all service areas play a role, these two have the strongest connection to how unhappy customers feel, which is clear from both the satisfaction scores and what customers said in interviews.

For the top areas that need improvement, customers suggested specific strategies. To fix TAT, BMF should better manage its schedules and hold suppliers accountable. For Pricing, becoming more self-reliant with repairs and being more transparent about costs would help. To improve Communication, setting clear response time guarantees and providing regular updates are key.

Finally, the study found that customer satisfaction has a powerful but conditional effect on customer loyalty. Customers are willing to keep doing business with BMF, but only if they see clear improvements. Their continued loyalty depends on BMF delivering engines on time more reliably, maintaining fair and clear pricing, and making communication more responsive and detailed.

Business Solution Framework

Based on the comprehensive cross-case analysis and triangulation of results, a structured business solution framework is proposed to address identified challenges. The framework outlines immediate actions to be implemented within the first three months, including the establishment of tiered response service level agreements for urgent cases, the introduction of weekly customer status reporting, and the creation of a pre-induction checklist coupled with a risk register to enhance operational preparedness.

For medium-term initiatives spanning three to nine months, the framework focuses on developing in-house repair capabilities for the top ten outsourced components, digitalizing documentation packs with auto-population features to improve efficiency, and implementing critical-path turnaround time governance supported by mean repair interval analysis. The long-term strategic initiatives, scheduled for nine to twelve months, encompass expanding certification for new engine types, making strategic capacity investments with layout optimization, and establishing a comprehensive supplier performance management program to ensure sustainable operational excellence.

Implementation Roadmap

Table 3. Integrated 12-Month Implementation Roadmap

Initiative	Owner	KPI (12 mo)	Q1	Q2	Q3	Q4
Tiered Response SLAs + Weekly Status + Escalation	Customer Support & Project Manager	SLA ≥95%; Comms CSAT ≥4.5/5	●	●	●	●
Shipment Verification Gate (3-point check)	Logistics	Misdirected shipments ≤0.2%	●	●	●	●

Pre-Induction Checklist + Risk Register + Change-Control	Forecasting + Project Manager + Customer Support	Scope-change ≤10%; re-baseline ≥95%	●	●		
Digital Redelivery Packs (Templates, e-sign, Auto-populate)	Planning Engineering + QC + IT	≥90% digital; acceptance −30%	●	●	●	
In-House Repair Catalog (Top 10)	Engineering Repair Dev	In-house ≥60% (top spend); material TAT −25%		●	●	●
TAT: Critical-Path, MRI, Supplier OTIF, SJM SLA	Ops + SCM + Contracts	OTD ≥90%; avg TAT −15%	●	●	●	●

Chapter Summary

This chapter has presented a comprehensive analysis of customer satisfaction drivers in BMF Engine Shop Visit services. Through thematic analysis of five in-depth interviews and triangulation with historical CSI data, the research identifies TAT (X6) and Pricing (X4) as the most critical dimensions requiring improvement. The convergent findings from both qualitative and quantitative data sources provide strong evidence for prioritizing these areas in BMF's service quality enhancement strategy.

The implementation roadmap presented offers a practical, time-bound approach to addressing these issues, with clear ownership and measurable KPIs. The solutions are directly derived from customer feedback and aligned with BMF's operational context, ensuring both relevance and feasibility.

In the final chapter, we will present conclusions and specific recommendations for BMF management, along with implications for future research and practice in aviation MRO service quality.

CONCLUSION AND RECOMMENDATION

Conclusion

This study examined how different service factors influence customer satisfaction with CFM56 engine repairs at PT. Burung Maintenance Facility. By combining detailed customer interviews with historical satisfaction data, the research offers a clear picture of what matters most to clients. The results provide direct answers to the study's main goals.

The first objective was to find which service areas impact satisfaction the most. The evidence clearly shows that Turnaround Time (TAT) and Pricing are the two most critical factors. TAT is the biggest concern, with the lowest satisfaction score, as delays caused by parts and subcontractors severely disrupt airline operations. Pricing is also a major issue; while seen as competitive in the region, a lack of transparency and high costs from outsourcing hurt customer perceptions. Other areas, like Communication and Service Quality, were viewed more positively but still have room for improvement.

The second objective was to suggest solutions for the main problem areas. For the slow TAT, a major overhaul is needed, including better schedule management, holding suppliers accountable for delays, and ensuring parts are ready before work begins. To address pricing concerns, BMF should do more repairs in-house to control costs and create a clearer, fairer pricing policy for small jobs. To improve Communication, the company should set guaranteed response times for urgent issues and provide customers with regular, standardized progress reports.

Finally, the study looked at the link between customer satisfaction and loyalty. It found that while customers are generally willing to stay with BMF due to its technical skill and regional presence, their loyalty is conditional. Their decision to sign long-term contracts and provide more business depends entirely on BMF's ability to prove it can deliver engines on time and be more transparent about costs. Therefore, achieving high customer satisfaction is a necessary foundation for securing lasting customer loyalty.

Recommendation

BMF's top management should make improving Turnaround Time (TAT) a primary company-wide goal, not just an operational concern, and dedicate the needed resources to fix it. To tackle the root causes of delays and high costs, the company should strategically invest in building its own in-house repair capabilities instead of relying so much on outsourcing. Furthermore, the process for handling customer feedback needs to be strengthened by ensuring that every concern is acknowledged, acted upon, and that the solution is communicated back to the customer, which will help build greater trust.

For the Engine Services Division, more immediate steps can be taken. A special team with members from different departments should be created and given the authority to lead the effort to improve TAT. To meet customer demands for better communication, BMF should test a digital portal where clients can see real-time repair status and access documents. Finally, making the use of a pre-repair checklist and risk assessment mandatory for every new project will help set clear expectations from the start and prevent misunderstandings and delays later on.

Research Limitations

This study offers valuable insights, but it is important to consider its limitations. The conclusions are based on detailed interviews with five customers, which provided deep understanding but means the findings might not apply to all of BMF's different clients or other types of engines. Furthermore, the research data comes from the period between 2020 and 2025, a time heavily impacted by the global pandemic and major supply chain issues. Therefore, the strong customer focus on problems like Turnaround Time (TAT) and pricing may have been intensified by these unique global circumstances and could change as the situation normalizes.

Additionally, the chosen research method itself defines the scope of the findings. This was primarily a qualitative study, meaning its main strength is in providing a detailed understanding of customer experiences rather than broad, statistical truths. The numerical customer satisfaction data was used to support and confirm the interview themes, but it was not analyzed for statistical relationships, which limits the types of conclusions that can be drawn.

Suggestions for Future Research

Future studies could build on this work in several valuable ways. A large-scale survey using statistical models could confirm the connections between service quality, customer satisfaction, and loyalty that this study identified. It would also be useful to expand the research to include newer engine models or other BMF services to see if the same factors drive customer satisfaction outside of CFM56 engine repairs.

Another important direction would be to track the company's performance over several years to measure how effectively the recommended improvements actually boost satisfaction and loyalty. Finally, to get a complete picture, future research should also investigate the internal employee perspective to uncover any operational hurdles or barriers within BMF that prevent service quality from being delivered consistently.

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