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Proposed Alternative Business Strategy to Increase Sales in Line Maintenance (Case Study of GAT)

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ABSTRACT : *During the COVID-19 pandemic, several MRO (Maintenance, Repair, and Operations) industries faced challenges in maintaining and increasing their sales. Similarly, GAT as one of MRO company in Indonesia experienced difficulties in improving its financial performance despite implementing various efficient methods. In order to stimulate sales and achieve the revenue target set by management, researchers aimed to identify the internal and external factors that could impact the company's sales performance and develop alternative business strategies. The research process involved conducting a situational analysis (external and internal analysis) and stakeholder analysis to gain a comprehensive understanding of the company's current position and the interests of relevant parties. SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis was conducted to identify key factors that significantly influenced the business. These factors were then rated to determine the dominant ones. By formulating strategies based on the identified factors, the researcher aimed to devise effective approaches to increase sales and improve its financial performance. The alternative business strategies would be tailored to address the company's internal strengths and weaknesses, as well as external opportunities and threats. This analysis and strategic approach could potentially help the MRO Company overcome its challenges and achieve its sales goals.*

KEYWORDS - *Aircraft, Aircraft Maintenance, Aviation, Business Strategy, MRO, SWOT*

I. INTRODUCTION

The COVID-19 pandemic had a significant impact on the line maintenance business unit at GAT. GAT faced challenges in sustaining operations and generating revenue in the aviation industry. GAT's financial situation has been volatile in recent years, influenced by the overall economic conditions and turbulence in the aviation sector. In response to the challenges, GAT implemented various efficiency programs to stabilize the company and increased sales. Although sales started to improve in 2022, overall financial performance has not seen significant growth as expected. GAT continues to face the task of enhancing sales and overall financial performance to recover from the post-pandemic era.

The following questions are the focus of this research:

1. What are the internal and external factors that need to be addressed to effectively increase sales in the GAT line maintenance?
2. What are the GAT line maintenance strategies to increase sales achievement?

To achieve the objectives, the author outlines the scope analysis of business strategy in line maintenance.

II. LITERATURE REVIEW

Maintenance, repair, and overhaul (MRO) in the aeronautical industry is a complex process that has strict and precise requirements defined by airworthiness authorities to guarantee the safety of passengers and aircrew (Darli & Loures, 2016). In the federal aviation regulation, FAR part 1, maintenance is defined as "inspection, overhaul, repair, preservation, and the replacement of parts, but excludes preventive maintenance (faasafety.gov, 2023). According to Raju et al (2012), aviation maintenance is peculiar from maintenance of other equipment due to the degree and intensity of the requirement of equipment, manpower, infrastructure, fault diagnosis, cost, and time. Repair is corrective in nature and overhaul is detailed information of all components and subsystems and is the combination of preventive, corrective, and predictive maintenance. According to Kinnison & Siddiqui (2014), the authority requires airlines to have maintenance time limitations or a maintenance schedule that identifies what maintenance will be done, how it will be done, and when or how often it will be done.

Generally, the MRO business consists of line maintenance, base/hangar maintenance, and shop maintenance. Base maintenance is maintenance when the aircraft is removed from service and usually placed in a hangar (Efthymiou et all., 2022). Shop maintenance is normally done on an out-of-service basis: equipment is

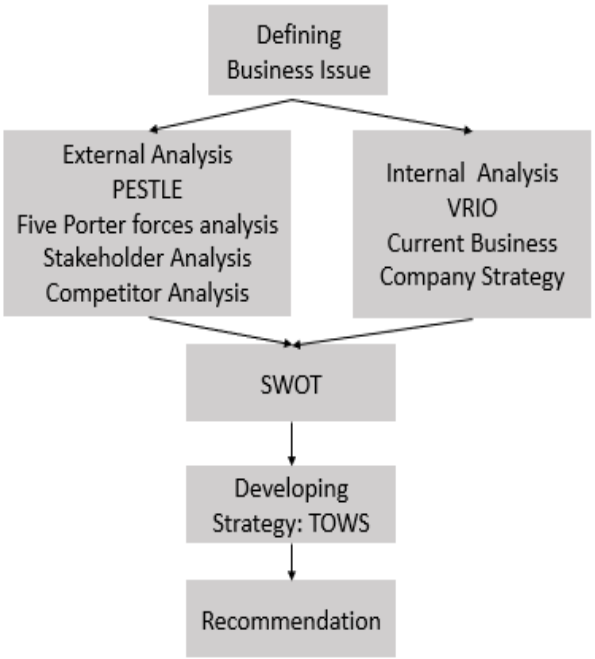
removed from the aircraft and replaced with a serviceable unit by the line or hangar maintenance personnel (Kinnison & Siddiqui, 2014). Line maintenance is routine inspections of civil aircraft in accordance with the worksheets provided by the operator and the rectification of malfunctions and defects encountered during line operation according to the applicable aircraft or engine maintenance manual, including line replacement unit (LRU) replacement and deferral of malfunctions and defects according to the operator's Minimum Equipment List (MEL) /Configuration Deviation List (CDL) of the particular type of aircraft (General Administration of Civil Aviation of China, 2005).

The growth of maintenance is directly related to the total number and usage of active aircraft (i.e., the greater air travel, the greater maintenance demand, and the greater the MRO market) (Miller & Park, 2004). The airline owners and operators, government agencies, and companies are the MRO customer (Acha et al., 2007). After passing the pandemic precaution and travel restriction in the previous year, inflation surging, conflict in Ukraine, labor shortage, snags in the supply chain, and faltering consumer confidence became a challenge for aviation industry.. Internally, several MRO is still facing problem how to determine method of repair required to lower cost, maintain quality and keep aircraft utilization high (Cobb, 1995). The effort to provide documentation and communication of customer needs, supply accurate and timely billing information, and what many feel is the most important aspect of service in the area of airline maintenance (Reed, 1989). MRO strategies focus on supply chain resilience and cost reduction over a long period. The right operations at minimum cost and at the right time will be the result of good strategic directions (Liangrokapart & Sittiwatethanasiri, 2022). Readiness to understand the market in the future is also important by analyzing the number change of active aircraft and the size of MRO in the region (Nam et al., 2022). To be competitive, MRO should determine their competitive strategy by understanding their driven factor such as cost, workforce, geographic presence, quality with shorter turnaround time, technological advancement & certification (Nam et al., 2022). Competitive-driven factors come from internal resources.

SWOT (Strength, Weakness, Opportunities and Threats) framework can be used in aviation to define suitable strategies (Oswald & Flouris, 2006). (Li, 2020) conduct SWOT analysis to determine particular situation and environment of China air transport industry in the context of covid-19 pandemic. (Liangrokapart & Sittiwatethanasiri, 2022) also implement SWOT analyis to set the right strategic direction of Thailand by defining external and internal factor in aviation industry. (Jamali et al., 2021) combine SWOT analysis to present the most critial "Financial" criterion and the sub-criterion of "competitiveness and improving customer satisfaction" in aircraft maintenance. Formulation strategy based on SWOT analysis can be follow up by using TOWS matrix that matching environmental threats and opportunities with the company's weaknesses and especially its strengths (Heinz, 1982)

The conceptual framework is used to develop the business solution based on the literature review of existing studies. Figure 2.1 illustrate the conceptual work as a reference for this research.

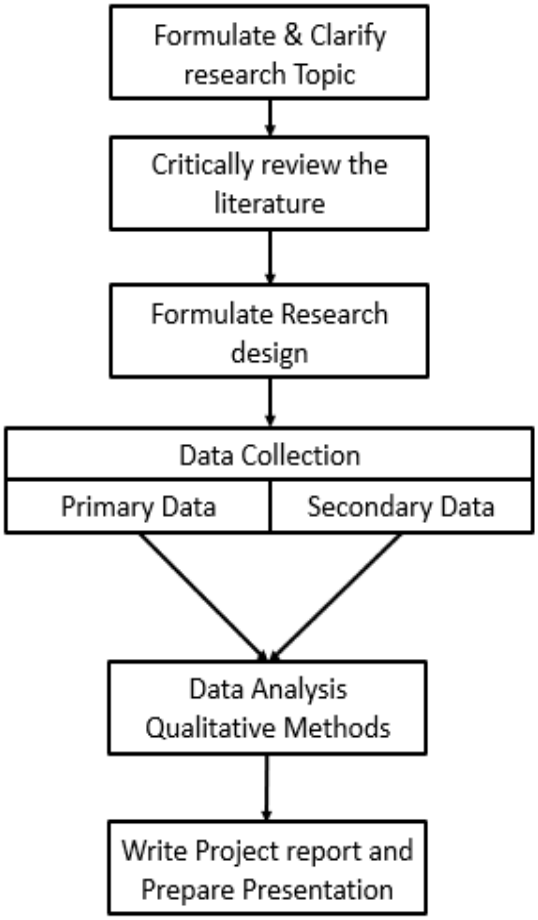
Figure II.1 Conceptual Framework



III. RESEARCH METHODOLOGY

In this research, the case study in GAT is chosen as the type of research design that uses qualitative analysis as a strategy for this research. Fig. III.1 shows the research process.

Figure III.1 Research process



Data collection uses primary data and secondary data for this research. The primary data are collected from organization documents such as annual reports, financial monthly reports, MRO magazines, etc. The technique for collecting secondary data in this research uses qualitative semi-structured interviews. The qualitative interview will be taken by interviewing internal leaders experienced in maintenance repair and overhaul and person who taking part directly in the line maintenance business.

Content analysis analyses will interpret primary qualitative data, such as texts, documents, or media. It involves manually examining and categorizing the content based on predetermined criteria or themes, allowing researchers to gain insights and draw conclusions from the data through a systematic analysis approach. Then, secondary data collected from interviews will be highlighted to be found similarities in themes and patterns observed in primary data. The interview data becomes a cross-reference to validate findings with other sources of information.

IV. ANALYSIS

The analysis of the environment through methods such as PESTEL Analysis and Five Porter Forces competitor analysis helps identify external factors that can present opportunities and threats for a company. Furthermore, conducting a VRIO analysis on the company's existing resources allows for the identification of strengths and weaknesses within GAT line maintenance's current strategy. These factors can be summarized in the following SWOT framework (Table III. 1).

Table IV.1 SWOT Framework

Strength	Opportunities
- Skilled & experienced workforces - Captive market with steady revenue - An integrated maintenance network around Indonesia - Approved maintenance training center - Streamline bonded area. - International Certification - Versatile maintenance facilities for various aircraft type	- The election in 2024 drive increased mobility. - Positive economic growth - Increasing air transportation usage due to tourism recovery - Favorable PDRI tax implementation - Increasing number of aircraft due to reactivation around the world - Difficulties to gain certification & establish new MRO. - Attractive domestic line maintenance growth

Table IV.1 SWOT Framework (continuance)

Weakness	Threat
- Limited availability of aircraft parts - Limited working capital - Dependency on group - Inadequate documentation of maintenance activities - Procedure complexity - Lack of innovation	- EU lawsuit impacts imported A/C spares. - Russia-Ukraine war affect A/C spares distribution. - High fuel prices impact| airline operations - Exchange rate pressure affects MRO transactions & profitability. - Robotic and autonomous inspection reduces the workforce. - Zero emission policy which drives eco-friendly MRO. - Aircraft part scarcity - Competitor-aggressive movement - Increasing availability of land & sea transport - Increasing of shipment cost

In order to identify the primary factors influencing GAT's line maintenance business, the researcher employed secondary data and validated the findings through semi-structured interviews. From these findings, the researcher selected the top five factors with the highest ratings as the main elements to consider in formulating the company's strategy. These factors are presented in the TOW matrix for strategy formulation provided below.

Table IV.2 TOWS Matrix

TOWS Matrix Vision: The Most Valuable MRO Company Mission: Integrated and Reliable Maintenance Solution as a Contribution to the nation		External Factors **Opportunities** O1 Increasing number of aircraft due to reactivation around the world O2 The election in 2024 drives increased mobility O3 positive domestic economic growth O4 Increasing air transportation usage due to tourism recovery. O5 Favorable PDRI tax implementation for imported aircraft parts	**Threat** T1 Aircraft part scarcity T2 Exchange rate pressure affects MRO transactions & profitability T3 Competitor-aggressive movement T4 High fuel prices impact airline operations T5 Increasing of shipment cost
Internal Factors	**Strength** S1 Skilled and experienced workforce S2 International certifications S3 Versatile maintenance facilities for various aircraft types S4 Captive market with steady revenue S5 An integrated maintenance network around Indonesia	**Strength - Opportunities** S-O1 *Boost company's market position by implementing an offensive strategy focused on enhancing services. Offering A-Check and Engine Compressor Wash services directly at the apron, limiting support to competitor customer* (S1,S2,S3,S4,O1,O2,O3,O4,O5) S-O2 International Expansion in Asia Pacific (S4,S5, O2,O3,O4)	**Strength Threat** S-T1 *Boost company's market position by implementing an offensive strategy focused on enhancing services. Offering A-Check and Engine Compressor Wash services directly at the apron.* (S1,S2,S3,S4, T3) S-T2 *Implement best cost strategy through variable pricing in international stations* (S1,S2,S4,S5, S,T1,T2,T3,T4,T5)
	Weakness W1 Inadequate documentation of maintenance activities W2 Inefficiency management practice W3 Limited availability of aircraft parts W4 Limited working capital W5 Dependency on group	**Weakness- Opportunities** W-O1 Build Strategic Partnership with potential supplier such as SATAIR, BOEING& AIRBUS (W3,W4 O1, O2, O3,O4,O5) W-O2 Internal Capability & Business Process Enhancement (W1, W2, W5, O1,O2,O3,O4) W-O3 Revisit Agreement between the customers especially primary customer (W2, W4,W5, O1,O2,O3,O4)	**Weakness Threat** W-T1 Build Strategic Partnership with potential supplier SATAIR, BOEING& AIRBUS (W3,W4,O1,T1,T2,T3) W-T2 Improve stakeholder engagement by routine collaboration (W1, W2, W5,T3,T4) W-T3 Revisit Agreement between the customers especially primary customer (W2, W4,W5, T2,T4,T5)

Based on the strategy formulation, seven proposed strategies are recommended to achieve the sales target.

1. Boost the company's market position by implementing an offensive strategy focused on enhancing services. Offering A-Check and Engine Compressor Wash services directly at the apron
2. International expansion in Asia Pacific
3. Build strategic partnership with potential suppliers such as SATAIR, BOEING& AIRBUS
4. Implement best cost strategy through variable pricing in the international station.
5. Internal Capability dan Business Process Development
6. Improve stakeholder engagement.
7. Revisiting the Agreement

Building strategic partnerships with potential suppliers, revisiting agreements between the customers, and enhancing internal capability & business processes have already been set up for corporate strategy in 2023 and 2024. The international expansion would be considered when GAT has already enough capital or investment to open new maintenance stations in other countries. Improving stakeholder engagement is not a direct strategy that generates revenue. Therefore, boosting the company's market position by implementing offensive strategy focused on enhancing services and implementing the best cost strategy through variable pricing in international stations become researchers' alternative recommendation strategies aligned with the company's conditions.

The business model canvas is used to translate existing alternative strategies by capturing key elements such as concepts, customers, infrastructure, and financial aspects of a company. It provides a visual framework that helps organizations understand and communicate their business model, enabling them to analyse and align various components of their strategy in a clear and concise manner.

Table IV. Line Maintenance Business Canvas Model

<table>
<tr>
<td rowspan="2">Key Partner
- Airport Management (Angkasa Pura)
- Airport Authority (DGCA)</td>
<td>Key Activities
- Ensure Aiport Permit
- Delivering on-time maintenance service & high-quality service</td>
<td rowspan="2">Value Proportions
- Remain Overnight Services at Apron
- Flexible (airport) competitive Price</td>
<td>Customer relationship
- Personalize support</td>
<td rowspan="2">Customer segment

- Passenger and cargo airline</td>
</tr>
<tr>
<td>Key resources
- Maintenance Facility
- Skilled and Experience Work Force
- Captive Market
- Certification</td>
<td>Channels
- Direct Sales Team
- Collaboration with intermediaries
- Partnership with airport management</td>
</tr>
<tr>
<td colspan="3">Cost Structure
Fix Cost
Variable Cost</td>
<td colspan="2">Revenue Stream
Pay by the Hours (PBTH)
Time Material Basis (TMB)</td>
</tr>
</table>

V. CONCLUSION

The researcher's analysis, both external and internal, identified multiple barriers, yet only a select few factors emerged as prominent. The researcher has formulated two alternative strategies to increase sales in line maintenance. A first strategy is an offensive approach that leverages GAT's competitive advantage by offering specific maintenance tasks at the apron and limiting competitor or customer movement during urgent requests. This aims to strengthen GAT's market position. The second strategy involves offering competitive maintenance and attractive packages price. To ensure this research's sustainability, the responsible unit should implement the proposed strategy in GAT line maintenance, following the outlined plan. It is important to evaluate the success of the initiative as a benchmark for its sustainability.

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