

## A Strategy to Improve Aviation Safety of AirAsia Indonesia

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**Abstract.** This study uses a descriptive qualitative approach. Data collection is done through observation, interviews, and literature review. The analysis technique of this study uses SWOT analysis as data analysis to determine internal, external factors and efforts to improve aviation safety strategies at AirAsia Indonesia. The conclusion of the results of this study is a SWOT Analysis that can be used to find out what strategies are done at AirAsia Indonesia to improve aviation safety. From the weighting analysis, rating and IFAS and EFAS scores obtained the number of scores on the strength factor (S) 3.10, the weakness factor (W) 0.50, the opportunity factor (O) 2.25 and the threat factor (T) which is 0.75. The difference between IFAS and EFAS obtained by the position of AirAsia Indonesia in quadrant one is the position to support aggressive strategies is focuses on the established Safety Management System (SMS) program and optimizes aviation safety by complying with CASR 419 regulatory standards.

**Keywords:** strategy, aviation, safety management system

### Introduction

Aircraft is a means of transportation that proves the technological advancements of the current air transportation industry. Aircraft is considered as the safest means of transportation (Donna Ch, 2007). Air transportation is a complex system that comprises of complex distributed network, between human operators, procedures and technical systems as well as interconnected technologies. These factors causes providing socially acceptable levels of safety quite difficult (Blom et al., 1998; European Commission, 1999). Because of the potentially huge consequences of accidents, safety is always considered to be the most important problem in this sector (Janic, 2000).

Safety has always been the most significant problem for the operation of civil aviation units. Aviation safety is not only supported by aircraft technology, but human performance such as flight crews, ground staff and maintenance workers are included as well in order to realize the smallest possible risk. Most flight accidents are either caused by human error or mechanical failure; research shows that the magnitude of flight accidents is caused by human error (McFadden and Towell, 1999).

Efforts to improve aviation safety must always be a top priority in the aviation industry, and having aviation safety that can be accepted as an important note for the success of an airline, especially in Low Cost Carriers (LCC). Low Cost Carriers (LCC) is a term for airlines that generally offer flight fares which are relatively lower than most airlines in general. The concept of LCC was first applied in America in the early 1990s, then spread across the plains of Europe and subsequently spread throughout the world, including Indonesia (Banjarmasin, 2007).

With the occurrence of several accidents related to aviation safety in Indonesia, airplane accident cases that occur especially in LCC have seized a wide range of public attention. People's trust in comfort and safety in the use of air transportation services has diminished, despite for very high usage. Based on the accident that happened to AirAsia Indonesia regarding

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the fall of the Airbus A320-200 type aircraft on December 28, 2014 with flight number QZ8501 and PK-AXC registration number, Surabaya-Singapore Department which carried 155 passengers was declared missing from radar. This can be made as a valuable lesson and experience in the aspect of safety where that it must be prioritized.

Regarding this matter, AirAsia Indonesia continues to optimize the improvement of its aviation safety aspects. An airline must have safety management that is organized in a systematic and clear manner in order to help continue to improve aviation safety on its airline. As done by AirAsia Indonesia has various strategies to continue to improve its aviation safety. One of the strategies is the existence of a Safety Management System (SMS) which is a systematic approach to managing safety including the required organizational structure, obligations, policies and procedures. The concept of SMS according to Waring (Cooper, 2003) A systematic framework so that policy, objectives, strategy, organizing, planning, resourcing, risk assessment, implementation, monitoring and measuring performance, auditing, and review can be tackled coherently SMS focuses on a systematic approach in identifying and dealing with a risk in an effort to minimize any risks that can occur. Booth and Lee (1995) suggested that SMS aims to control a situation that is of dangerous value: The systematic and planned top management driven activity is safety hazards usually called safety management. The primary aim of safety management is to influence the process of accidents and incidents. SMS conducts planning of objectives, planning, and measurement of organizational performance in the form of safety programs that must be carried out systematically. Safety programs integrates rules and activities aimed at improving safety (SCSI, 2006). AirAsia Indonesia also has other programs to improve aviation safety to support the existing SMS programs.

Due to these problems, we want to do research study with the title of Strategy to Improve Aviation Safety Of AirAsia Indonesia. The purpose of this study is to find out what strategies are carried out by AirAsia Indonesia to improve aviation safety.

### **Research methods**

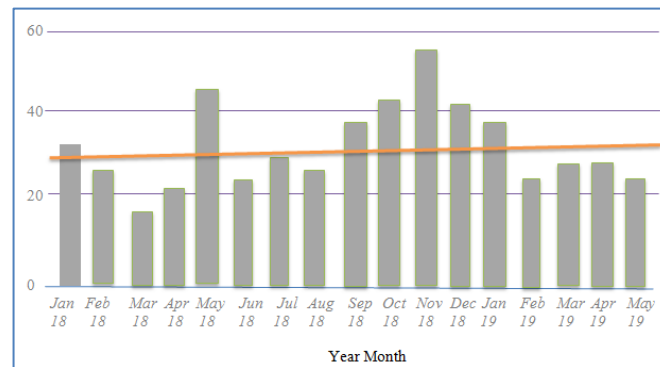
This research uses a qualitative approach as the data source uses primary data from observations and interviews as well as secondary data from library studies. Quantitative data and research data are obtained through primary data such as company data reports, because it seeks to identify how strategies to improve aviation safety at AirAsia Indonesia focuses on one case (Berg, 2004). Through case studies, researchers will identify how the strategy in improving aviation safety at AirAsia Indonesia. In its role as an airline service provider in the low-cost sector.

This research was conducted in a cross-sectional manner in a allocated period of time (Neuman, 2003). While the first data collection technique uses observation techniques as observation and identification of research objects through a visit to AirAsia Indonesia while the second data collection, uses interview techniques by interviewing internally from various parties AirAsia Indonesia, as well as other external parties and finally, the third data collection uses literature study by quoting theoretical references from experts. Then the data obtained from observations and interviews are grouped based on certain categories into a SWOT matrix from each informant. In interpreting the data obtained, researchers used qualitative analysis so that they were expected to answer the research questions. Given the better information and facts obtained, the resulting description will be closer to reality (Dabbs, 1992).

This study uses the SWOT Analysis technique, which is a research strategy method by analysing “Strengths”, “Weaknesses”, “Opportunities” and “Threats” to an object of research namely Aviation Safety. Strengths, Weaknesses, Opportunities and Threats are identified from internal parties at AirAsia Indonesia where researchers also identified this from various other external parties as observers.

## Result & Discussion

AirAsia Indonesia has several programs to improve aviation safety, such as the existence of an SMS program, Safety Culture program namely Safety Always which includes the values of Communication, Competency, Awareness, Leadership, Reporting, and Discipline. It prioritizes safety values that each employees must possess. The following Voluntary Safety Report data at AirAsia Indonesia:



*Figure 3.1 Voluntary Safety Report Count January 2016 - May 2019*

Figure above shows Voluntary Safety Report trend from January 2016 until May 2019. Based on above statistical data, the average number of report each month is 32 reports. The trend line of voluntary safety report is indicated by orange line. It reveals that voluntary safety report increases within 2018 and (May) 2019. Based on the voluntary Safety report data above, AirAsia Indonesia encourages and invites all AirAsia employees including vendors (third parties) to always report so that hazards can be identified immediately. The more reports received from employees regarding hazards, the easier it is for AirAsia Indonesia to minimize risks so that they could prevent incidents and flight accidents that can cause losses. In this case the safety department at AirAsia Indonesia plays a very important role in creating an optimal safety always program for all its employees, to improve aviation safety from human factors.

In addition, AirAsia Indonesia also has an IATA Operational Safety Audit (IOSA) certification since 2017. This IOSA certification is not owned by all airlines, IOSA is an internationally recognized and accepted evaluation system designed to assess management and control systems the operation of an airline. After conducting observations and interviews with resource persons as representatives of AirAsia Indonesia is specifically about weighting and rating, data obtained as presented in figure 3.2 and 3.3 are as follows:

| Internal Factor Analysis (IFAS)                                                                                                          | Weight      | Rating | Weight x Rating | Notes                                                           |
|------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------|-----------------|-----------------------------------------------------------------|
| <b>Strength</b>                                                                                                                          |             |        |                 |                                                                 |
| 1. AirAsia has a designed Safety Management System program                                                                               | 0,20        | 4      | 0,80            | Have safety regulation standards                                |
| 2. AirAsia has a Safety Culture program, one of which is "Safety Always" to support existing SMS to improve flight safety                | 0,15        | 4      | 0,60            | The existence of a safety program in Human Resources            |
| 3. AirAsia complies with all regulations that have been set, namely CASR 419                                                             | 0,20        | 4      | 0,80            | Meet regulatory standards                                       |
| 4. AirAsia has IOSA certification (Internasional Operational Safety Audit)                                                               | 0,15        | 4      | 0,60            | Has a program to improve safety that other airlines do not have |
| 5. Timely rotation of the aircraft, so that the absence of airplane accommodation outside the schedule can optimize aircraft maintenance | 0,10        | 4      | 0,30            | Airplane rotation is going well                                 |
| <b>SubTotal</b>                                                                                                                          | <b>0,80</b> |        | <b>3,10</b>     |                                                                 |
| <b>Weakness</b>                                                                                                                          |             |        |                 |                                                                 |
| 1. Human factors that are considered not enough to obey all existing programs                                                            | 0,10        | 2      | 0,20            | Influencing company performance                                 |
| 2. SMS programs that do not recognize penalties, unless someone intentionally violates                                                   | 0,10        | 3      | 0,30            | Penalties only apply to accidental infringement                 |
| <b>SubTotal</b>                                                                                                                          | <b>0,20</b> |        | <b>0,50</b>     |                                                                 |
| <b>Total</b>                                                                                                                             | <b>1,00</b> |        | <b>3,60</b>     |                                                                 |

Figure 3.2 Weightage, Rating, and IFAS Score

| Eksternal Factor Analysis (EFAS)                                                                                                                                   | Weight      | Rating | Weight x Rating | Notes                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------|-----------------|--------------------------------|
| <b>Opportunity</b>                                                                                                                                                 |             |        |                 |                                |
| 1. AirAsia always has the opportunity to improve the quality of flight safety, because AirAsia can always meet existing regulatory standards                       | 0,50        | 3      | 1,50            | There are big opportunities    |
| 2. AirAsia takes advantages of opportunities in terms of technology and the timeliness of crew work to optimize cost cutting because AirAsia is a low-cost airline | 0,25        | 3      | 0,75            | Opportunities are used well    |
| <b>Sub Total</b>                                                                                                                                                   | <b>0,75</b> |        | <b>2,25</b>     |                                |
| <b>Threat</b>                                                                                                                                                      |             |        |                 |                                |
| 1. Low-cost airlines have very competitive competition, thus making AirAsia continue to be vigilant by facing its competition by not reducing safety aspects       | 0,25        | 3      | 0,75            | Competition is getting tougher |
| <b>Sub Total</b>                                                                                                                                                   | <b>0,25</b> |        | <b>0,75</b>     |                                |
| <b>Total</b>                                                                                                                                                       | <b>1,00</b> |        | <b>3,00</b>     |                                |

Figure 3.3 Weightage, Rating, and EFAS Score

Based on the results of the IFAS and EFAS analysis above, the results of the score can be identified. In Table 3.1 above, there is a strength factor (S) with a score of 3.10 and weakness (W) with a score of 0.50. While in Table 3.2 above, there is an opportunity factor (O) that has a

score of 2.25 and a threat factor has a score of 0.75. So that the IFAS score is 3.60 and the EFAS score is 3.00.

Based on the results of the scores that have been discussed by the speakers as representatives of AirAsia Indonesia, the total score of internal strategy factor analysis (IFAS) is 3.60. The total IFAS score of 3.60 indicates that this company has a great strength to face opportunities and threats that occur, because the average IFAS value is 1.80. Meanwhile, the total number of EFAS scores that have been weighted and rated by the speakers as representatives of AirAsia Indonesia which is 3.00. The total EFAS score of 3.00 indicates that the company is quite responsive to the opportunities and threats that occur, because the average value of EFAS is 1.50. To determine the position of quadrant coordinates of AirAsia Indonesia, it is through the calculation of the difference from the total strength factor (S) with the total weakness factor (W). Then calculate the difference from the total opportunity score (O) with the total threat score (T) as follows:

$$\text{IFAS} = \text{Total Strength Score} - \text{Total Weakness Score} = 3.10 - 0.50 = 2.60$$

$$\text{EFAS} = \text{Total Opportunity Score} - \text{Threat Total Score} = 2.25 - 0.75 = 1.50$$

The results of all SWOT factors can then be described in the SWOT quadrant as follows:

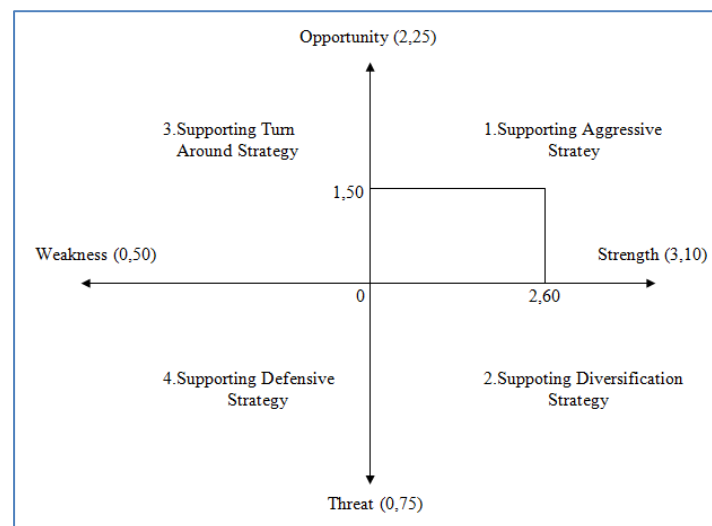


Figure 3.4 Position of AirAsia Indonesia in the SWOT Quadrant

Based on the alternative strategy in quadrant 1, which is to support the aggressive strategy above then discussed again with the resource person as the representative of AirAsia Indonesia, which finally determined the strategic alternative chosen by the resource person, is focuses on the established Safety Management System (SMS) program and optimizes aviation safety by complying with CASR 419 regulatory standards.

This strategy is carried out to improve aviation safety at AirAsia Indonesia. Implementation of strategies chosen by the resource person can also be done by identifying internal and external factors so that they can create four main strategies, namely SO (Strength and Opportunities) strategies, WO (Weakness and Opportunities) strategies, ST strategies (Strength and Threats) and WT strategies (Weakness and Threats). With the aggressive strategy, the company can also carry out the SO strategy that is used to utilize the strength (S) to get the opportunities (O) that exist and achieve the objectives, the strategies that AirAsia Indonesia is optimizing the SMS program by having an international Safety audit program certification such as IOSA to prove that AirAsia Indonesia has safety standards that must be achieved and running well also won international awards such as Skytrax for 11 consecutive years and increased

internal monitoring such as audits, observations and inspection as scheduled. And is supported by other aviation safety programs such as Safety Culture and IOSA, and utilizes the opportunities available. AirAsia Indonesia is in compliance with existing regulatory standards, so that it can improve its aviation safety regulation standards and take advantage of opportunities in terms of technology and crew working time to optimize cost-cutting because AirAsia is a low-cost airline. This strategy is an effort to improve aviation safety at AirAsia Indonesia, and achieve its goals.

## Conclusion

The strength possessed by AirAsia Indonesia is a SMS program that has been established and the Safety Culture program is one of which is "Safety always" to support the existing SMS in order to improve aviation safety. AirAsia can comply with all established regulations, namely CASR 419, IOSA certification (International Operational Safety Audit), and timely aircraft rotation, so that there is no airplane accommodation outside the schedule can optimize aircraft maintenance.

Weaknesses owned by AirAsia Indonesia includes, among other things, human factors which are considered not sufficiently compliant with all existing programs, and SMS programs that do not recognize penalties, unless someone commits an offense intentionally.

Opportunities owned by AirAsia Indonesia is always to improve the quality of aviation safety, because AirAsia can always meet existing regulatory standards and AirAsia takes advantage of opportunities in terms of technology and timeliness of crew work to optimize cost-cutting because AirAsia is a low-cost airline.

Threats that arise and become obstacles AirAsia Indonesia are of which it is a low-cost airline which has very competitive competition, thus making AirAsia continue to be vigilant by facing competition by not reducing safety aspects.

From the weighting analysis, rating and IFAS and EFAS scores obtained the number of scores on the strength factor (S) 3.10, weakness factors (W) 0.50, opportunity factors (O) 2.25 and Threat factor (T) 0.75. The difference between IFAS and EFAS obtained by the position of AirAsia Indonesia in quadrant 1 is the position to support aggressive strategies. Strategy of AirAsia Indonesia focuses on predefined SMS programs and optimizing aviation safety by complying with CASR 419 regulatory standards.

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