

The Impact of COVID-19 on The Effectiveness of The Indonesian Airport Service Company's Strategy: Case Study of Angkasa Pura I and Angkasa Pura II

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Abstract

Aviation is one of the modes of transportation that is relied on by the Indonesian until now. Currently, various parties are starting to focus on improving the quality and service of air transportation supporting infrastructure, both local and international flights. In the midst of the uncertainty of transportation conditions in Indonesia, aviation has had a considerable impact. One of them is service at the airport. Angkasa Pura I and Angkasa Pura II, are state owned enterprise companies which are engaged in airport management in Indonesia. This paper will focus on comparing the strategy effectiveness of both companies before and during pandemic situations using each company perspective. By comparing both revenue trends and cost revenue ratio from 2019 and 2020, it can be concluded that neither company's strategies are effectively implemented during the pandemic.

Keywords

Strategy Effectiveness, David's Alternative Strategy, Aviation Industry, Airport Service Company, COVID-19.

1. Introduction

Since the first quarter of 2020, the world has experienced changes due to the outbreak of the coronavirus disease (COVID-19) caused by the SARS-CoV-2 virus which originally started in China and spread throughout the world (WHO). Due to the massive spread of the disease and its fatality rate, WHO has declared this outbreak as a pandemic in March 2020 (McCarthy 2020). Therefore, countries started to implement preventive actions to limit the deadly outbreak, including Indonesia. One of the early steps Indonesia took is to tighten supervision of entry routes to Indonesia, including airport, ports, and land border crossings (Gitiyarko 2020). Thus, causing a huge business impact on the related sectors, such as the aviation industry.

On managing Indonesia's airport, the government has chosen a couple of airport services organizations to manage its hundreds of airports scattered throughout the archipelago. Angkasa Pura I and Angkasa Pura II are two state owned enterprise companies which manage different areas of airports in Indonesia. Angkasa Pura I is responsible for operating airports in eastern Indonesia, while Angkasa Pura II mainly operates in western Indonesia (Aksara 2021).

In an uncertain event like the pandemic, companies surely have to review its existing strategy to ensure that the company's operational and business performance are still as effective as its hoped. According to Nurcahyo et al. (2021), the company's operational performance and business performance are very important in increasing the global competitive advantage. Competitive advantage is closely related to competitiveness (Bredrup 1995) which is defined as the ability of a sector, industry, or company to compete successfully to achieve sustainable growth in a global environment as long as the balance cost is lower than the revenue from the resources used (Wibowo and Nurcahyo, 2020). Based on the study of Nurcahyo, Wibowo, Robasa & Cahyati (2019), capability in production, operations and functions carry extensive influence in strategic manufacturing planning which helps companies achieve their goals.

Strategy itself is the development of activities which require a broad selection of tasks and aims to make a profit (Porter, 1996). According to David (2011), there are 11 types of alternative strategies a company may implement, which are forward integration, backward integration, horizontal integration, market penetration, market development,

product development, related diversification, unrelated diversification, retrenchment, divestiture, and liquidation. This study will discuss the implementation effectiveness of Indonesian airport service company's strategies compared before and after the pandemic. The effectiveness itself will be measured by the company's financial ratio from different conditions mentioned. The objects of this paper are two Indonesian state-owned enterprises, Angkasa Pura I and Angkasa Pura II, which by passenger population held the higher number of handlings in Indonesia.

1.1 Objectives

1. To study and analyze the implementation of David's Alternative Strategies.
2. To study and analyze Angkasa Pura I and Angkasa Pura II's business strategies effectiveness on COVID-19 pandemic.

2. Literature Review

2.1 COVID-19 Impact on Aviation Company in Indonesia

The aviation industry is an inseparable part of the transportation of any country which is now experiencing a drastic decline due to the COVID-19 pandemic (INACA 2021). Airlines that are a source of fast transportation for passengers are unknowingly helping to transport the virus across borders. Because of this, many countries have prioritized public health over economic growth and have grounded flights. For the last two years, the COVID-19 pandemic has hit the world and impacted badly to the aviation industry sector in Indonesia (Muhammad, 2021). Until now, this sector is experiencing an alarming condition and is still struggling to recover and maintain their business stability.

The impact of the outbreak of COVID-19 has resulted in certain circumstances that affect the normal lifestyle and social activities of the community including people traveling. According to Angkasa Pura (2020), the outbreak of COVID-19 has had a massive impact on all airports around the world including airports under Angkasa Pura's management since the government has taken numerous measures to respond to the COVID-19 pandemic, among others are decreasing and limiting all domestic and international commercial flights. But other than passenger flight, airports still serve cargo, logistics, medical and humanitarian flights since the pandemic.

2.2 Indonesia's Pandemic Recovery Program

Indonesian National Board for Disaster Management (BNPB) is an institution to be at the forefront of the Government of Indonesia for handling COVID-19 guidelines and directions in Indonesia. According to INACA (2021), to suppress the spread of COVID-19 in Indonesia, Indonesian National Board for Disaster Management (BNPB) has a policy framework consisting of:

1. Healthy Indonesia (The priority of the people to be safe from COVID-19 and reform of health services);
2. Indonesia Works (Priority for Empowerment and Acceleration of Labor Absorption);
3. Indonesia Grows (Priority for National Economic Recovery and Transformation);

To realize this policy framework, the Indonesian National Board for Disaster Management (BNPB) has determined the performance of handling COVID-19 by setting 8 (eight) targets, including:

1. Protect the vulnerable groups (comorbid, elderly) including health workers;
2. Suppress active cases, increase recovery, decrease mortality;
3. Improved Testing, Tracing and Treatment with increasing the distribution of testing for 30,000 people/day, contact tracing and strengthening treatment;
4. Creating a conducive situation and condition for the national COVID-19 vaccination program;
5. Increase logistics availability, such as Reagen, PCR and PPE;
6. Massive Outreach using all national resources;
7. Improve behavior change in compliance with Health protocols;
8. Improve the data interoperability of Health, economic and social.

To recover in the aviation sector, the Indonesian Government is pushing for the national vaccination program. So that the more and faster the national vaccination program is carried out, it is hoped that herd immunity will form more quickly. However, in the process of establishing herd immunity, the community is expected to continue to apply the health protocol. The implementation of the health protocol has contributed to the reduction in the number of COVID-19 in Indonesia.

According to the Ministry of Communication and Information of the Republic of Indonesia (2021) vaccination will work effectively if approximately 70% of Indonesia's population has been vaccinated. If this vaccination rate has been reached, it is hoped that group immunity has been formed and the community can return to normal activities, including mobility by air transportation. The sooner the national vaccination program in Indonesia is implemented, the more it will have an impact on the projected recovery of the aviation sector which can move 1-2 times in line with the vaccine program carried out by the government. On the other hand, if the vaccination program is hampered, the projected aviation industry will also be affected.

2.3 Type of Strategy

Strategy means performing different activities to those performed by rivals or performing the same activities differently (Porter 1996). According to Miller and Dess (1996), strategy is a set of plans or decisions made in an effort to help organizations achieve their objectives. *Strategies* are the means by which long-term objectives will be achieved (David, 2011). Strategies are potential actions that require top management decisions and large amounts of the firm's resources. In addition, strategies affect an organization's long-term prosperity, typically for at least five years, and thus are future-oriented. Strategies have multi-functional or multidivisional consequences and require consideration of both the external and internal factors facing the firm.

According to Table 1, the alternative strategies that companies can implement are categorized into 11 strategies, such as: forward integration, backward integration, horizontal integration, market penetration, market development, product development, related diversification, unrelated diversification, retrenchment, divestiture, and liquidation.

Table 1. Alternative Strategies (David, 2011)

| Strategy | Definition |
|---------------------------|--|
| Forward Integration | Gaining ownership or increased control over distributors or retailers |
| Backward Integration | Seeking ownership or increased control of a firm's supplier |
| Horizontal Integration | Seeking ownership or increased control over competitors |
| Market Penetration | Seeking increased market share for present products or services in present markets through greater marketing efforts |
| Market Development | Introducing present products or services into new geographic area |
| Product Development | Seeking increased sales by improving present products or services or developing new ones |
| Related Diversification | Adding new but related products or services |
| Unrelated Diversification | Adding new, unrelated products or services |
| Retrenchment | Regrouping through cost and asset reduction to reverse declining sales and profit |
| Divestiture | Selling a division or part of an organization |
| Liquidation | Selling all of a company's assets, in parts, for their tangible worth |

Forward integration, backward integration, and horizontal integration are commonly collectively referred to as **vertical integration strategies**. Vertical integration strategies allow a firm to gain control over distributors, suppliers, and/or competitors. Market penetration, market development, and product development are sometimes referred to as **intensive strategies** because they require intensive efforts if a firm's competitive position with existing products is to improve. **Diversification strategies** divided into two general types: related and unrelated. Businesses are said to be *related* when their value chains possess competitively valuable cross-business strategic fits; businesses are said to be

unrelated when their value chains are so dissimilar that no competitively valuable cross-business relationships exist. In addition to integrative, intensive, and diversification strategies, organizations also could pursue retrenchment, divestiture, and liquidation or commonly referred to as **defensive strategies**.

3. Methods

This research was conducted in four stages as can be seen in Figure 1. In the first stage, we conducted a literature review related to the impact of COVID-19 on the aviation industry in Indonesia and the type of David's Alternative Strategies. The second stage is to look at the financial ratios of the Financial Statements and Annual Reports of each company for 2019 and 2020. The third stage, we identify the implementation of each company's strategy before and during the COVID-19 pandemic. The final stage is to measure the effectiveness of each company's strategy before and during the COVID-19 pandemic.

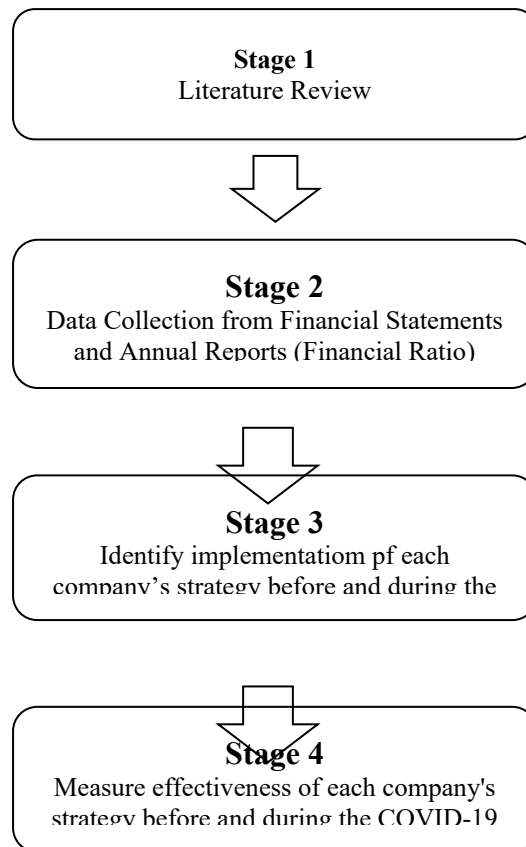


Figure 1. Research Methodology

2. Data Collection

Information regarding company data, obtained from the company Annual Report, the data analysis focuses on Angkasa Pura I and Angkasa Pura II, with the consideration of the coverage ratio of the operating area. The information taken from the Financial Statement Report section, namely revenue and expenses in 2019 - 2020, and also the number of airplane passengers, which focuses more on comparing conditions before the pandemic (2019) and during the pandemic (2020).

4.1 Financial Statements

The detailed information of the company's performance in the full year obtained from the financial statement report of the company's annual report. The total annual revenue between year 2019 and 2020 from Angkasa Pura I and

Angkasa Pura II is detailed in Table 2 and Table 3. From both tables we can conclude that the Angkasa Pura I and Angkasa Pura II revenue has declined since the pandemic Covid-19 situation.

Table 2. The Total Sales Annual Revenue (Aeronautical Services)

| No | Company Name | Sales Revenue (in thousand) | | % |
|----|-----------------|-----------------------------|------------------|--------|
| | | Aeronautical Services | | |
| | | 2019 | 2020 | |
| 1 | Angkasa Pura I | Rp 4.975.936.088 | Rp 1.814.044.354 | -63.54 |
| 2 | Angkasa Pura II | Rp 5.759.575.000 | Rp 2.171.199.000 | -62.3 |

Table 3. The Total Sales Annual Revenue (Non-Aeronautical Services)

| No | Company Name | Sales Revenue (in thousand) | | % |
|----|-----------------|-----------------------------|------------------|--------|
| | | Non-Aeronautical Services | | |
| | | 2019 | 2020 | |
| 1 | Angkasa Pura I | Rp 3.655.610.000 | Rp 1.805.065.000 | -50.62 |
| 2 | Angkasa Pura II | Rp 5.324.660.000 | Rp 3.672.530.000 | -31.02 |

Based on Table 2, it can be seen that aeronautical service revenues in 2019 and 2020 showed a decline in Angkasa Pura I and Angkasa Pura II. Aeronautical revenues came directly from the operation of aircraft, passengers or cargo. Based on Table 3 above, it can be seen that non-aeronautical service revenues in 2019 and 2020 also showed a decline in Angkasa Pura I and Angkasa Pura II. Non-aeronautical revenues came from commercial activities that were not related to aircraft, such as airport land, advertising, warehousing, and ground handling. The annual revenue trend from 2018 until 2020 of Angkasa Pura I and Angkasa Pura II can be seen in Figure 2 below.

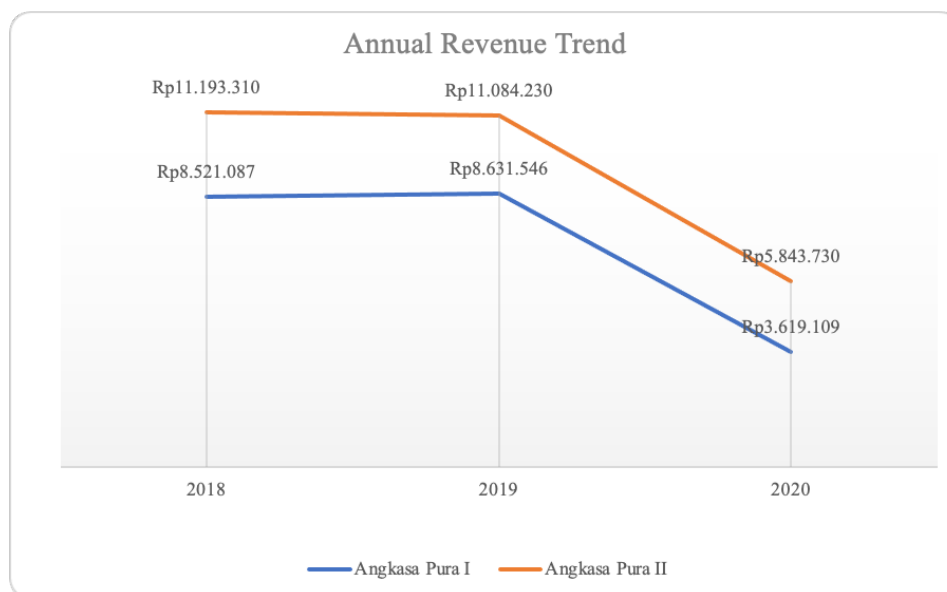


Figure 2. Annual Revenue Trend

Based on Figure 2 above, it can be seen that the annual revenue from Angkasa Pura I and Angkasa Pura II decreased sharply with 41.93% and 52.7% respectively due to the COVID-19 pandemic and the existence of restrictions on public travel from government regulation.

Other than their revenue achievements, the efficiency that compares a company's expense to its earnings can be calculated from the cost revenue ratio which includes all the expenses of production, including marketing and shipping cost. A lower result of cost revenue ratio means that a business can produce more revenue using fewer costs, which can also be considered to be a positive sign of efficiency by financial professionals. This can also be used to evaluate the effectiveness of an additional cost. Table 4 shows the cost revenue ratio of both companies in 2019 and 2020.

Table 4. Cost Revenue Ratio in 2019 and 2020

| Company | Year | Revenue (in thousand) | Cost (in thousand) | Ratio |
|-----------------|------|--------------------------|-----------------------|---------|
| Angkasa Pura I | 2019 | Rp 8.631.546 | Rp 5.937.866 | 68,79% |
| | 2020 | Rp 3.619.109 | Rp 5.340.583 | 147,57% |
| Angkasa Pura II | 2019 | Rp 11.084.230 | Rp 8.747.210 | 78,92% |
| | 2020 | Rp 5.843.730 | Rp 7.209.800 | 123,38% |

4.2 Passenger of Aviation Trend in Indonesia

Before the spread of COVID-19, Indonesia's aviation industry had a high demand of passengers. But after the COVID-19 case rose in 2020 and with the implementation of government regulations regarding the limitation of people mobilization, the number of passengers in Indonesia sharply decreased. The detailed data of Indonesia's passenger trend is described in Table 5 and illustrated in Figure 3 (INACA, 2020).

Table 5. The Number of Aviation Passengers in Indonesia

| Type | Year | | Number of Change | % Change |
|----------------------------|-------------|------------|------------------|----------|
| | 2019 | 2020 | | |
| Number of Passengers (Pax) | 116,758,084 | 42,583,553 | (74.174.531) | -63.52% |

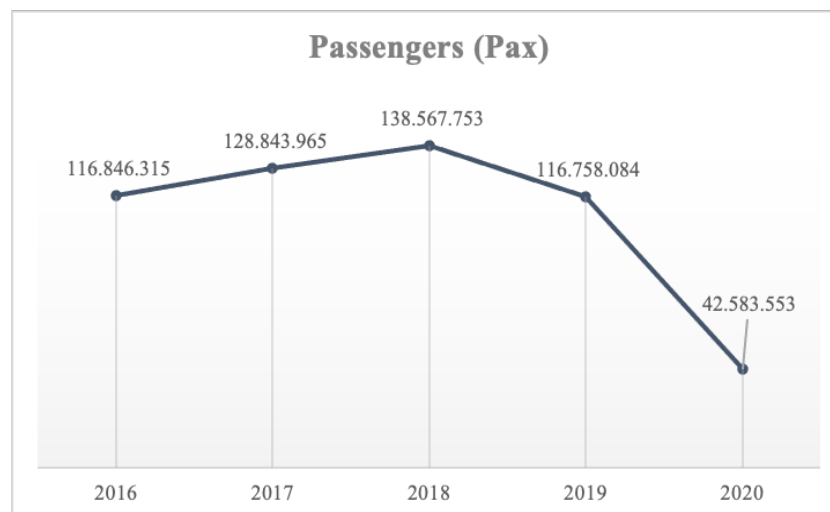


Figure 3. Indonesia's Passenger Trend (Domestic & International)

From Table 5, it can be concluded that, there was a significant decrease in the amount of aviation passengers in Indonesia 74.174.531 pax (-63.52%) due to the spread of first wave Covid-19.

4.3 Angkasa Pura I and Angkasa Pura II Position in Indonesia's Airport Industry

The COVID-19 pandemic that occurred in early 2020 greatly affected all sectors of the economy where the biggest impact was on the tourism and transportation sectors. At the beginning of the pandemic, several countries adopted a policy of closing access to/from their own country. This access closure resulted in a decreased number of passengers which therefore impacted on the operation of many airlines to temporarily halt their operational activities. The comparison of passenger movements in 2020 and 2019 are described in Table 6.

Table 6. The Passenger Movements in Angkasa Pura I and Angkasa Pura II Airports

| Company | Unit | Year | | Growth |
|-----------------|------|------------|------------|---------|
| | | 2019 | 2020 | |
| Angkasa Pura I | Pax | 81,532,700 | 32,711,088 | -59,88% |
| Angkasa Pura II | Pax | 90,779,230 | 35,869,972 | -60,50% |

Based on Table 6, the trend of passenger movement that uses Angkasa Pura's services, both Angkasa Pura I and Angkasa Pura II, in 2020 has decreased compared to the previous year due to the COVID-19 pandemic.

5. Results and Discussion

5.1 Strategy Implementation

Based on the data and decreased trend of aviation passengers that use Angkasa Pura's services, both companies try to catch up with their own strategy to recover and sustain in the middle of uncertain conditions due to pandemic. Angkasa Pura I implemented their strategy called Rebound Strategy and Angkasa Pura II stuck to their David's Alternative strategy to answer the challenge.

5.1.1 Implementation of Angkasa Pura I Strategy

Rebound Strategy is an initiatives strategy implemented by Angkasa Pura I, which serves as a strategic initiative in dealing with the next phase of the COVID-19 pandemic, namely the new normal. The method in the rebound strategy is, first, the preparation of The New Normal. The company maps and prepares touch points for airport users whose behavior will change to a new normal in the new phase of the COVID-19 pandemic or when the pandemic is declared over (Bisnis.com, 2022).

Second, strengthening new business portfolios through business development, creating new business streams that are not dependent on the number of aircraft and passenger traffic, optimizing unproductive land assets to support new business streams, and diversifying income through digital monetizing and optimizing subsidiaries so that they can create an integrated airport ecosystem.

Third, improvement of business processes in the context of revenue safeguarding and cost leadership, as well as support for digital functions in improving business processes, such as the use of artificial intelligence to record aircraft parking movements and the use of avio bridge.

Fourth, carry out organizational restructuring by simplifying the branch office organization and dividing the focus of the head office and empowering the roles of functional officials in their respective fields.

Fifth, enterprise architecture, which is remapping the business architecture, data, applications, and technology in Angkasa Pura I and its subsidiaries, as well as preparing the governance of the parent and subsidiary companies. Sixth, strategic procurement by strengthening procurement planning through the management category and centralizing the procurement team.

Those strategic steps can be identified as unrelated diversification and retrenchment strategies based on David's alternative strategies.

5.1.2 Implementation of Angkasa Pura II Strategy

Angkasa Pura II mentions their initiatives strategy based on David's Alternatives strategy and it is shown in Table 7. They focus mainly on market penetration, development, services, and diversification, to sustain both before and during the pandemic.

Table 7. Strategy of Angkasa Pura II (Angkasa Pura II Annual Report, 2019 & 2020)

| Type of Strategy | Policy Implementation in 2019 and 2020 |
|---------------------|---|
| Market Penetration | Develop core business by managing other airports both through assignment of shareholders and through company initiatives supported by adequate business studies. |
| Market Development | Utilization of resources owned by companies located outside the airport working area as a business portfolio that provides added value for the Company. |
| Service Development | Development of new services with technology related to serving the current market, by developing bonded zone terminals, developing integrated offices, developing Check-in Lounges/CIP Lounges, e-kiosks, e-payments, e-commerce, and commercialization of ICT. |
| Diversification | Partnership with world-class airport managers and Cargo Managers in an effort to open opportunities to improve performance and accelerate the Company's business growth. |

5.2 Strategy Effectiveness

Based on both companies' identification of strategies implementation, Angkasa Pura I indicates a more adaptive strategy approach to face the pandemic condition than Angkasa Pura II. Angkasa Pura I's rebound strategy focuses more on how the company can sustain and adapt to the new normal. They mainly focus on unrelated diversification and retrenchment strategies to survive in the condition of uncertainty. Whereas Angkasa Pura II implements the same strategy before and after the pandemic, which are market penetration, market development, service (product) development, and diversification.

By considering both company's revenue trend and cost revenue ratio, it can be concluded that neither Angkasa Pura I and Angkasa Pura II strategy is effectively implemented to sustain its business. Both company's revenue indicate a sharp decline of 58% for Angkasa Pura I and 47% for Angkasa Pura II. Even though they successfully decreased their cost by 10% for Angkasa Pura I and 17% for Angkasa Pura II, their cost revenue ratio still experienced an increase of almost double from the previous year. Angkasa Pura I experienced an increased cost revenue ratio from 68% to 147%, whereas Angkasa Pura II shifted from 78% to 123%.

6. Conclusion

COVID-19 has greatly affected the world of aviation in Indonesia, especially airport operators, which are shown from the evidence of declined revenue in the period from 2019 to 2020. Angkasa Pura I & Angkasa Pura II try to strengthen their preparation for the new policy of COVID-19 situations handling that can affect their operational services. From the data obtained, we found that Angkasa Pura I declined revenue and service has a lower number compared to Angkasa Pura II, which is caused by the operation area of Angkasa Pura II being larger than Angkasa Pura I.

To survive the uncertainty condition, both companies implement their initiatives such as Rebound Strategy implemented by Angkasa Pura I that consist of 5 step strategies from preparation about new normal behaviour, strengthening business portfolio, improvement of business process, organizational restructuring, and remapping business architecture that will adapt with current situation. On the other hand, Angkasa Pura II has implemented David's Alternative Strategy in 2019 and 2020 based on market penetration, market development, service development, and diversification.

Based on both initiative strategies we can conclude that both companies agree to strengthen the preparation about new behaviour of market and user, strengthen the company's assets and services, along with looking for new opportunities

of revenue stream to sustain uncertain conditions. Based on the strategy effectiveness of both companies by comparing its revenue and cost revenue ratio, it can be concluded that neither company has an effective strategy to face the pandemic condition.

This paper has several limitations, which is only focusing on financial aspects such as annual revenue and financial ratios. Furthermore, this paper emphasizes the empirical study about the aviation sector in Indonesia. The future research may consider additional information such as government regulations.

References

- Aksara, Dika., (June 08, 2021), Mengenal Angkasa Pura, Pengelola Bandara di Indonesia, www.bigalpha.id/news/mengenal-angkasa-pura-pengelola-bandara-di-indonesia/. Accessed April 14, 2022.
- Angkasa Pura I Annual Report 2020.
- Angkasa Pura II Annual Report 2020.
- Angkasa Pura New Normal Protocol 2020.
- Bisnis.com. (2022). Ini Strategi Bisnis Angkasa Pura I saat New Normal | Ekonomi - Bisnis.com. Retrieved 20 April 2022, from <https://ekonomi.bisnis.com/read/20200607/98/1249442/ini-strategi-bisnis-angkasa-pura-i-saat-new-normal>.
- Bredrup, H., Competitiveness and Competitive Advantage. *Performance Management*, pp.43-60. 1995.
- Coronavirus, www.who.int/health-topics/coronavirus. Accessed April 14, 2022.
- David, Fred R. *Strategic Management: Concepts and Cases*, 13th Edition, Prentice Hall, New Jersey, 2011.
- Gitiyarko, V., (June 22, 2020), Upaya dan Kebijakan Pemerintah Indonesia Menangani Pandemi Covid-19, kompaspedia.kompas.id/baca/paparan-topik/upaya-dan-kebijakan-pemerintah-indonesia-menangani-pandemi-covid-19/. Accessed April 14, 2022.
- INACA Annual Report 2020.
- INACA White Paper 2021.
- Kementerian Komunikasi dan Informatika Republik Indonesia. (2021). Target Vaksinasi 70% Penduduk, Menkominfo: Butuh Kolaborasi Lebih Masif. Retrieved from https://www.kominfo.go.id/content/detail/35518/siaran-pers-no-238hmkominfo072021-tentang-target-vaksinasi-70-penduduk-menkominfo-butuh-kolaborasi-lebih-masif/0/siaran_pers
- McCarthy, J., (March 12, 2020), The World Health Organization Officially Declared Coronavirus a Pandemic, www.globalcitizen.org/en/content/coronavirus-is-officially-a-pandemic/. Accessed April 14, 2022.
- Miller, D. and Dess, G., *Strategic Management*. 2nd Edition, McGraw Hill, New York, 1996.
- Muhammad, Azfar., (December 30, 2021), Dampak Pandemi, Industri Penerbangan Masih Terpincang-pincang, www.idxchannel.com/economics/dampak-pandemi-industri-penerbangan-masih-terpincang-pincang/. Accessed April 24, 2022
- Nurchahyo, R., Wibowo, A., Robasa, R., & Cahyati, I. (2019). Development of a Strategic Manufacturing Plan from a Resource-Based Perspective. *International Journal Of Technology*, 10(1), 178. doi: 10.14716/ijtech.v10i1.2140
- Nurchahyo, R., Zulfadlillah. and Habiburrahman, M., Relationship between ISO 9001: 2015 and operational and business performance of manufacturing industries in a developing country (Indonesia). *Heliyon*, 7(1), p.e05537, 2021.
- Porter, Michael. E. *What is strategy?* Harvard Business Review, November–December, 1996.
- Pradana, Rio, (June 07,2020), Ini Strategi Bisnis Angkasa Pura I saat New Normal, www.ekonomi.bisnis.com/read/20200607/98/1249442/ini-strategi-bisnis-angkasa-pura-i-saat-new-normal. Accessed April 14, 2022.
- Wibowo, N. and Nurchahyo R., Competitiveness In Global Transformation: A Systematic Review. *Proceedings of the International Conference on Industrial Engineering and Operations Management*, 2020.

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