Abstract. Coronavirus disease (COVID-19) has a very big impact on the aviation industry throughout the world. The purposes of this scientific paper are to review the impact of the COVID-19 pandemic on airports and to review the strategy of the airports in Indonesia. This research focuses on the West Java International Airport (BIJB). The research method was descriptive qualitative using SWOT analysis. The primary data was taken from interview and the secondary data was obtained from BIJB managers and literature studies related to the research problem. The results of the analysis are (1) Airports should focus on cost management efficiency to survive until the pandemic ended; (2) Health and service facilities at the airports should be improved and varied; (3) The development of Aero city as a long-term strategy should be hastened.

Keywords: COVID-19, Impact, Airport, Strategy, SWOT Analysis.

Introduction
Coronavirus disease, known as COVID-19, was first discovered in late December 2019 by the World Health Organization (WHO) China Country Office, which reported mysterious cases of pneumonia of unknown etiology. As defined in Velavan and Meyer (2020, p.278), "coronaviruses are enveloped, positive single stranded large RNA viruses that infect humans, and also a wide range of animals." Therefore, initially, this virus transmission could not be determined whether it could be transmitted through humans or among animals only.

This virus has the ability to spread quickly from human to human. As of July 16, 2020, the number of people confirmed positive for the COVID-19 virus in Indonesia was 81,668, with a total of 3,873 fatalities. Such a large number of positive cases of COVID-19 made Indonesia rank 1st in Southeast Asia. Below is the data on the number of confirmed cases and deaths in Southeast Asia due to COVID-19.

Table 1. Number of COVID-19 Cases in Southeast Asia Region

<table>
<thead>
<tr>
<th>Country Name</th>
<th>Number of Case</th>
<th>Number of Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indonesia</td>
<td>81,668</td>
<td>3,873</td>
</tr>
<tr>
<td>Philippines</td>
<td>61,266</td>
<td>1,643</td>
</tr>
<tr>
<td>Singapore</td>
<td>47,126</td>
<td>27</td>
</tr>
<tr>
<td>Malaysia</td>
<td>8,737</td>
<td>122</td>
</tr>
<tr>
<td>Thailand</td>
<td>3,236</td>
<td>58</td>
</tr>
</tbody>
</table>

Source: ASEAN Briefing (The Author)

As the COVID-19 virus spread widely from China to all countries and regions in Southeast Asia, including Indonesia, it brings about a major impact on all industries, including Aviation industry. Based on the data from Airport Council International (ACI, 2020), there has been a decrease in global air traffic in February by 22.9 percent, in March by 53.1 percent, and in April by 90 percent. From this condition, ACI (2020) estimates that the number of aircraft passengers in the world in 2020 is only about 5.9 billion passengers or 38% (equivalent to 3.6 billion passengers) compared to the initial estimate of 9.5 billion passengers. Due to the limitation of
flight activities at airports around the world as an effort to reduce the spread of COVID-19; this condition becomes a serious problem for the Aviation industry.

BLJB is the second largest airport in Indonesia, which only started operating in 2018 using the Aero city concept. The airport is expected to become the center of West Java economic activity. If COVID-19 pandemic and the activities restrictions continue, it is likely that BLJB and other airports are threatened with huge losses and face difficulties in developing aviation business in the future.

Based on the current condition, the airports need strategy to survive COVID-19. According to Carrilho (2009), a strategy is a set of plans and resources to achieve this goal. The definition of goals does not characterize the strategy. It means that the goal is the objective the company decides to achieve and a strategy means the way to achieve this goal. To create strategy, the airports management could focus on three main topics: their external environment, internal environment, and the ability to add value to the services they provide.

Rangkuti (2008) said that a company can develop strategies to overcome external threats and seize the opportunities that exist. The process of analysis, formulation and evaluation of such strategies is called strategic planning. Strategic planning is a part of strategic management. The main purpose of strategic planning is for companies to view objectively internal and external conditions, so that companies can anticipate changes in the external environment. Strategic formulation includes developing business missions, identifying external opportunities and threats, establishing internal strengths and weaknesses, establishing long-term goals, generating alternative strategies, and choosing specific strategies to implement (David, 2009). Many studies show that strategy formulation plays an essential role in how organizations identify the major problems, find alternative solutions to those problems, and choose appropriate strategies as a result (Andersen, 2004; Hopkins and Hopkins, 1997).

Method
The type of the research was Qualitative. According to Bogdan and Taylor (Moleong, 2010: 4), in Qualitative research, the research procedure produces descriptive data in the form of written or oral words of people and behavior that can be observed using SWOT analysis. SWOT analysis was used to analyze the strengths and weaknesses of a company, the development opportunity, and the outsider threat (Gretzky, 2010). The data used in this research were primary data and secondary data. Primary data were obtained through in-depth interviews with Mr. Salahudin Rafi, President Director of BLJB. While, the secondary data were obtained from PT. BLJB literature reviews related to the research and journals relevant to the research problem.

The input on this research is about how Indonesian airports could survive during the COVID-19 pandemic. The subject of this research was BIJB and the object of this research was COVID-19 pandemic. The output of this research is the strategy of Indonesian airports, especially BLJB to survive the COVID-19 pandemic.

Discussion and Result
A. The analysis of COVID-19 Impact on the Airports in Indonesia
The widespread of COVID-19 pandemic in Indonesia has quite an impact on the Aviation industry, one of which is the airports. This condition does not only occur in Indonesia but also in the whole world. ACI (2020) stated that the estimated losses received by airports around the world are the decrease of passengers’ traffic by more than 50% and the decrease of airports’ revenue in 2020 by 57% or more than USD 97 billion compared to the previous year.

Prior to the COVID-19 pandemic, the Aviation industry was once affected by the Severe Acute Respiratory Syndrome (SARS) outbreak in 2003 though the impact of the SARS outbreak did not exceed the COVID-19 pandemic. The time needed to recover from SARS outbreak was only six months, while for the COVID-19 pandemic, it is likely that the recovery period will take a long time based on the International Civil Aviation Organization (ICAO, 2020).

In the first quarter of 2020, PT. Angkasa Pura I & PT. Angkasa Pura II, the airport managers in Indonesia recorded a decrease compared to last year in the number of passengers of 8.11% and 4.84%, respectively. It was due to restrictions on airport activities to reduce the spread of COVID-19.

Likewise, the number of passengers, cargo, and also aircraft movements of BIJB, as one of the airports managed by PT. Angkasa Pura II, had decreased during COVID-19 pandemic which could be seen in the following data:

![Figure 1. The Number of Movement Passenger, Flight and Cargo in BIJB, 2020](Image)

*Source: West Java International Airport (BIJB)*

**Notes on Movement Flight:**

On April: Movement Flight 2 and Aircraft Parking Movement 4,
On May: Movement Flight 4,
On June: Movement Flight 1 and Aircraft Parking Movement 3.
B. SWOT Analysis

Table 2. BIJB SWOT Indicators

<table>
<thead>
<tr>
<th>Strength</th>
<th>Weakness</th>
<th>Opportunity</th>
<th>Threat</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The quality of human resources,</td>
<td>1. Operating airport of Husein Sastranegara Airport,</td>
<td>1. Increased cargo shipment,</td>
<td>1. The spread of COVID-19,</td>
</tr>
<tr>
<td>2. The comprehensive services in accordance with the health protocol,</td>
<td>2. No inter-modes transportation,</td>
<td>2. Attracting investors’ interest,</td>
<td>2. Non-operating airlines,</td>
</tr>
<tr>
<td>3. An international airport,</td>
<td>3. Decreased revenue,</td>
<td>3. Hajj embarkation,</td>
<td>3. Inconsistent government policies,</td>
</tr>
<tr>
<td>4. Adequate airport facilities,</td>
<td>4. Access to BIJB which is time-consuming,</td>
<td>4. The implementation of ‘new normal’ in several regions,</td>
<td>4. Lengthy licensing process,</td>
</tr>
<tr>
<td>5. Huge airport capacity.</td>
<td>5. Costly variable cost.</td>
<td>5. A ‘greenfield’ region.</td>
<td>5. Decreased interest on air travel.</td>
</tr>
</tbody>
</table>

After analyzing SWOT indicators (Strength, Weakness, Opportunity, Threat), the researchers then compiled SWOT analysis as presented in Table 3. SWOT analysis is a tool of strategy development for airports that can clearly illustrate the opportunities and threats posed by external factors to airports, which can be adapted to the strengths and weaknesses of airports’ internal factors.

Table 3. BIJB SWOT Analysis

<table>
<thead>
<tr>
<th>The Strategy of Applying Strength to Utilize Opportunity</th>
<th>The Strategy of Dealing with Weakness by Utilizing Opportunity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Preparing cargo terminals for increased demand of goods delivery (S5, O1).</td>
<td>1. Persuade investors to invest (W3, O2).</td>
</tr>
<tr>
<td>2. Implementing services by following health protocol to face the ‘new normal’ (S2, O4).</td>
<td>2. Preparing inter-modes transportation as soon as possible (W2, O2).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The Strategy of Applying Strength to Face Threat</th>
<th>The Strategy of Dealing with Weakness to Face Threat</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Dealing with COVID-19 by improving airport facilities (S2, T1).</td>
<td>1. Managing costs efficiently to survive the pandemic (W5, T1).</td>
</tr>
<tr>
<td>2. Preparing area for non-operating airlines (S5, T2).</td>
<td>2. Improving accessibility through inter-modes transportation to attract air travel passengers (W2, W4, T2).</td>
</tr>
</tbody>
</table>
C. BIJB’s Strategy to Survive

Considering the current conditions experienced by BIJB and looking at the results of SWOT analysis as well as the results of the interview, there are several strategies that could be applied:

1. Efficiency is the key

Based on the information has been gathered, BIJB has not provided commercial flights due to Large-Scale Social Restriction (PSBB) in several regions. In addition, the health protocol procedures that require passengers to carry medical documents, to undergo a Rapid Test/Polymerase Chain Reaction (PCR) Test and to come 3 hours before departure has added doubts on passengers to use air transportation. These conditions lead airports and airlines to not to operate yet, even though they have prepared the health procedures and facilities.

In order to survive the COVID-19 pandemic, BIJB management needs to manage costs as efficient as possible since there is no optimal income for the company. They could, for instance, minimize the electricity costs by reducing usage time at several areas at the airport and delay Capital Expenditure (CAPEX) for airport development until the situation get better. However, the efficiency carried out by the management should not reduce the quality of safety and security at the airport because it remains as an alternate aerodrome for passing aircraft though the airport is not operating commercially right now.

According to the President Director of BIJB, Mr. Salahudin Rafi, about the purpose of efficiency, "The goal of efficiency is to prioritize the commitment of the airport management not to fire and cut the salaries of employees because the current priority is "employee first, the company next".

2. Aerocity Development

During the COVID-19 pandemic, the aviation industry experiences a significant decline in the number of passengers, cargo, and aircraft movements, which cause airports do not achieve optimal revenue. Based on the prediction of the Head Economy of the International Air Transport Association (IATA, 2020), Brian Pearce, who stated that the aviation industry in 2021 will start operating normally though the flight flow will not be maximized and it is estimated that in 2023 the aviation industry will start to go up again.

Considering the previous prediction, BIJB managers should plan to build an aero city business in the form of Maintenance, Repair and Overhaul (MRO) as well as logistics hub and cargo village. This is in accordance with BIJB's goal to become a center for logistics activities that connect land, sea, and air transportation modes in Cirebon, Patimban Harbor, and BIJB in order to build the latest industrial estate in West Java called the Golden Rebana Triangle.
In addition, the management is also required to review the supporting inter-modes transportation, such as the airport trains, and also accelerate the construction of Cisumdawu Free Way (Cileunyi – Sumedang - Dawuan) that by mid-2022 it will be operated to facilitate the accessibility of passengers to BIJB and to welcome the flight flows which are predicted to rise in the year 2023. In line with the IATA predictions, the BIJB managers need to conduct Build, Transfer and Operate (BTO) with investors to carry out aero city development around the airport.

3. Airport Development

To face the new normal era, the airport management needs to improve its various service facilities by following the health protocol recommended by ICAO, WHO, and the Indonesian Government to prevent the spread of Covid-19. There are 11 points should be enforced by the management; (1) Require people (airport personnel/passengers/others) to wear masks; (2) Sterilize the airports public facilities; (3) Clean the airports regularly; (4) Provide physical distancing information by marking, giving lines, or other sign; (5) Modifyelevator buttons; (6) Check the travel documents; (7) Provide well-managed security system and; (8) Develope virtual assistants or apps for passengers to reduce physical contact; (9) Prepare physical distancing signs; (10) Providea thermal scanner to detect body temperature; (11) Create an electronic health reminder card application in a smartphone.

The airport needs to adjust with other countries’ airport regulations, such as Incheon Airport and Abu Dhabi Airport; that improving service facilities related to health protocols in accordance with ICAO and WHO recommendations. The recommendations focus on emphasizing sterilization, disinfection, and sanitation in every point at the airport, imposing 3-stages temperature inspection, and providing special procedures for passengers. The difference is only at the implementation of advanced technology at two airports mentioned before, compared to Indonesian airports, though the purpose and function remain the same to prevent the spread of Covid-19 (ACI Insight and IATA, 2020).

Conclusion

Based on the research results and discussions above, it is clear that the Covid-19 pandemic has affected the aviation industry significantly, especially the airports. The pandemic situation raises problems for BIJB. To prove that this pandemic has quite an impact, we can take a look at the data about the decreasing number of passengers, air cargo, and aircraft movements at BIJB that quite influence the sustainability of the airport business.

With these challenges, BIJB is required to implement a strategy by utilizing existing threats and opportunities to face the Covid-19 pandemic, where airports should focus on cost management efficiency to survive until the pandemic ends, improve with the latest innovation various health and service facilities at the airports, and hasten the development of aero city as a long-term strategy.

Reference


