

TERMINAL CAPACITY ANALYSIS AND PASSENGER MOVEMENT AT KUALANAMU INTERNATIONAL AIRPORT, DELI, SERDANG, NORTH SUMATRA (STRATEGIC PARTNERSHIP STUDY)

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Abstract: The purpose of this paper is to analyze the movement of passengers on passenger capacity at Kualanamu International Airport, located in Deli Serdang Regency, North Sumatra. The research method used was descriptive qualitative, with data obtained from triangulation of data sources: interviews, theoretical methods, and literature methods. The object of research was analyzed by using a strategic partnership study. This research was conducted before the COVID-19 pandemic and during the COVID-19 pandemic; therefore the results obtained are recommendations regarding the development of Kualanamu International Airport by considering conditions during the pandemic.

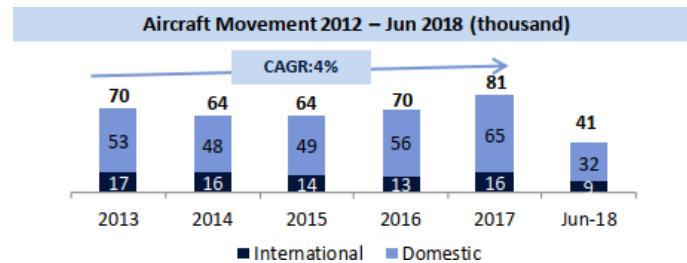
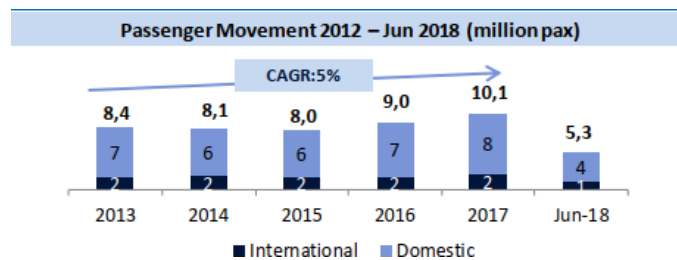
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A. Introduction

The airport service industry has been a favorite mode of transportation for users of transportation services, whether for personal trips, with family, business trips, business trips, and even for the purpose of delivering goods through cargo services. The choice of users of transportation services to this mode of air transportation is because it is practical, and it is faster to get from one place to another. Hence, it will have an impact on economic factors. The economic factor referred here is defined as the economic benefits that will be greater when using the air transportation mode in carrying out human movement activities and moving goods from one place to another. In accordance with the Regulation of the Director General of Civil Aviation Number SKEP.77/VI/2005 concerning Technical Requirements for Operation of Airport Engineering Facilities, what is meant by a passenger terminal building facility is a building provided as a service facility for all passenger activities from departure to arrival.

PT Angkasa Pura Aviassi is a subsidiary of PT Angkasa Pura II (Persero) which was established on November 7, 2018. The main purpose of the establishment of PT Angkasa Pura Aviassi is to manage Kualanamu International Airport through a strategic partnership program (Strategic Partnership) with Global Operators.

During 5 years of operation since 2013, to 2018, the capacity of the Kualanamu Airport terminal which can accommodate a maximum of 9 million passengers has exceeded the maximum passenger limit with a total of 10.5 million passengers. The passenger and aircraft movement can be seen on the picture below:



Decree of the Minister of Transportation Number KM 47 of 2002 concerning Airport Operation Certification. In setting the standard for operational technical requirements for land-side facilities, the unit used to obtain the standard value is the unit for the number of passengers served.

However, in 2019, a phenomenon occurred that affected the aviation service industry, it was the Traffic Tsunami, that caused a decrease in the number of passengers (users of air transportation services) caused by several factors, including the road infrastructure sector which has been getting better, thus making people have another option is to travel from one place to another by land.

Government Regulation of the Republic of Indonesia (PP) Number 21 of 2020 concerning Large-Scale Social Restrictions in the context of Accelerating the Handling of Covid-19, and the Instruction of the Minister of Home Affairs Number 01 of 2021 concerning the Enforcement of Activity Restrictions to Control the Spread of Covid-19, that based on the consideration of increasing the number of Covid-19 cases with 4 parameters, namely the death rate that is above the national average death rate of 3% and the cure rate is below the national cure rate of 82%, then active cases below the national active case of 14%, and last, the hospital occupancy rate for isolation beds and ICUs is above 70%, the Government has re-established the PSBB (Large-Scale Social Restrictions) tightening for 2 weeks, i.e. 11-25 January 2021, and extended until 22 February 2021 This has resulted in a decrease in the number of aircraft passenger movements in the first quarter of 2021.

Table 1.3

STATISTIK ANGKUTAN UDARA BANDARA KUALANAMU
TAHUN 2021

BUL	RE	FLIGHT				PENUMPANG						BAGASI (KG)				PBB (KG)				KARGO (KG)			
		REG	BRK	TOTAL	PBB	REG	BRK	TBS	TBP	TOTAL	PBB	REG	BRK	TOTAL	PBB	REG	BRK	TOTAL	PBB	REG	BRK	TOTAL	PBB
J	DOM	1,659	1,657	3,316	-	124,240	157,342	15,863	-	297,253	-	769,214	1,278,530	2,047,746	-	2,231	2,231	2,914,362	1,544,539	4,458,901	-	-	-
A	INT	35	42	77	-	2,065	379	-	-	2,444	-	46,821	14,143	60,964	-	-	-	8,887	21,289	30,176	-	-	-
N	TTL	1,694	1,699	3,393	-13%	126,305	157,721	15,863	-	299,697	-14%	816,035	1,292,673	2,108,710	-4%	-	2,231	2,923,249	1,565,828	4,489,077	-14%	-	-
F	DOM	1,210	1,201	2,411	-	106,105	130,191	9,817	-	216,113	-	696,671	820,134	1,516,805	-	5,276	5,276	2,611,875	1,414,639	4,026,514	-	-	-
E	INT	28	33	61	-	2,426	476	-	-	2,902	-	37,133	12,818	50,000	-	-	-	4,364	18,432	22,796	-	-	-
R	TTL	1,238	1,234	2,472	-27%	108,531	130,667	9,817	-	219,015	-27%	733,804	832,952	1,566,805	-28%	-	5,276	2,616,239	1,433,071	4,049,310	-29%	-	-
M	DOM	632	626	1,258	-	58,477	53,226	6,295	-	117,996	-	397,201	441,086	840,287	-	2,080	2,080	1,361,431	647,441	2,008,872	-	-	-
A	INT	21	22	43	-	1,551	317	-	-	1,868	-	31,361	6,580	41,950	-	-	-	13,328	9,458	22,786	-	-	-
R	TTL	653	628	1,279	-49%	60,028	53,543	6,295	-	119,864	-49%	432,562	447,666	882,237	-47%	-	2,080	1,374,759	656,899	2,031,658	-50%	-	-
J	DOM	3,479	3,464	6,943	-	288,439	316,787	31,775	-	624,362	-	1,863,688	2,541,839	4,405,527	-	9,587	9,587	6,977,812	3,686,619	10,664,431	-	-	-
E	INT	84	97	181	-	6,842	1,372	-	-	7,214	-	139,354	33,896	173,244	-	-	-	36,579	58,179	94,758	-	-	-
R	TTL	3,563	3,561	7,124	-	295,281	318,159	31,775	-	631,576	-	2,003,042	2,575,735	4,578,774	-	9,587	9,587	7,014,391	3,744,798	10,759,189	-	-	-

Here are several previous related research associated to this study about developing airport based on airport capacity point of view:

1. (Martin, Simon) 2016 entitled "Strategic Airport Capacity Management at Heathrow": Impact, spring 2016 Published online: 29 Jan 2018. Analysis of the strategy used in this journal is ACM (Airport Capacity Management) to overcome congestion capacity of Heathrow airport, UK. The ACM strategy uses a combination of simulation and data analysis to allow airport operators to make the most effective decisions about runway capacity, scheduling and planning changes to airport infrastructure;
2. (Putra, O.Y.S., Sihombing, S., & Tasran, C.) 2020 entitled "Influence of Services and Digital Facilities towards Passenger Satisfaction at Kualanamu International Airport". This research exposes the facilities used in the process of departure and arrival of passengers that are called the level of service, including: passenger and baggage inspection, check-in services, departure immigration, arrival immigration, customs services, departure waiting rooms, and baggage services;
3. (Igorstimac, Andrija Vidovic, Tomislav mihetec, Miroslav Drljaca) 2020 entitled

"Optimization of Airport Capacity Efficiency by Selecting Optimal Aircraft and Airline Business Model". This journal analyzes the impact of airline business models on airport infrastructure and operational capacity and answers the question of how to optimize capacity in order to achieve maximum efficiency and profitability and how to maintain an adequate level of service quality.

B. Method

This research was a qualitative research, which was carried out to understand the phenomena of what is experienced by the research subject, for example behavior, perception, motivation, action and others holistically and by way of explanation in word format and language in a specific and specific way naturally by using all natural methods (Moleong, 2013). The research method used to find the widest possible knowledge of the object of research at a certain time (Hidayat, Syah: 2010). In this study, the secondary data that the researcher used was a scientific journal related to the research title of this thesis "Terminal Capacity Analysis and Passenger Movement at Kualanamu Deli Serdang International Airport, North Sumatra", then the focus of research related to the research title was designed, and the formulation of the problem is determined. Data collection was carried out through observation, data analysis, in-depth interviews with competent informants in this research field from PT Angkasa Pura Aviasi, which was done in May-December 2020.

C. Discussion and Result

As one of the airports on the western side of Indonesia, Kualanamu Airport was inaugurated and started operating on July 25, 2013 as a replacement for Medan Polonia Airport which has been operating for more than 85 years, therefore it is no longer representative in terms of capacity and service. Standing on an area of 1,365 hectares of oil palm plantations, Kualanamu Airport is the third largest airport after Jakarta Soekarno Hatta International Airport (L: 2,370 Ha) and West Java International Airport (L: 1,800 Ha).

During this pandemic situation, the field of air transportation has a very detrimental impact on the industry and airport management, and Kualanamu Airport is no exception. The current capacity for passengers is adequate (the results of direct observations by

researchers at the Kualanamu Deli Serdang airport), Kualanamu airport can accommodate up to 9 million passengers, although in 2018 there were more than 9 million passengers. The development of the Kualanamu airport has already been planned by the manager. However, aircraft passenger movements in 2020 decreased by 58% compared to the previous year (2019). This downward trend in 2020 began in February 2020, when the government imposed a Corona Emergency and was followed by Large-Scale Social Restrictions (PSBB) starting in March 2020.

In facing the pandemic, PT Angkasa Pura Aviassi has implemented a strategy in dealing with the Covid 19 pandemic with the form of 3 business phases, including the Survival Phase, Recovery Phase, and Sustainability Phase. This is done based on the growth rate of passenger movements and aircraft movements that are minus or decreased during 2020, due to the effects of the Covid 19 Pandemic.

In the survival phase, PT Angkasa Pura Aviassi focuses on the strategy of protecting employees, then rescuing Cash Flow or company financial flows, then in the next phase after the Covid 19 pandemic, which is the Business recovery phase or business sector recovery. After the Business Recovery period is complete, then the implementation of the Business Sustainability strategy to restart the program and the pending investment during the Business Survival and Business Recovery periods. Based on a study conducted by a Technical consultant, Leighfisher, that the development of Kualanamu International Airport through the Strategic Partnership mechanism, namely by cooperating with Global Partners, will be carried out in 3 phases with Trigger or the keyword that is time. However, in line with the outbreak of the Covid 19 Virus, which has an impact on the aviation industry, PT Angkasa Pura Aviassi refers to the IATA forecast (International Air Transport Association) which states that the global aviation industry will recover in 2023, adjusting the trigger strategic partnership into passenger growth rates.

Based on research methods, there are five questions asked to the informers:

a. Source Triangulation

1. Question number 1 "Is the current passenger capacity for Kualanamu airport with the existing terminal conditions, is it sufficient?" The answer is "the current capacity is sufficient with a note that it must be developed because in 2018 the number of passengers was recorded at 10.5 million", but it must be noted as well that during pandemic, the passenger's movement decreased significantly and need

this fact as consideration to develop the airport terminal.

2. Question number 2 is “What about the current passenger service, is it available with appropriate facilities for passengers?” The answer is “There are two models of service to passengers, that is the conventional model that involves human resources, and the digitalized service model for passengers using technology, which is still difficult for passengers because there is no assistance.”
 3. Question number 3 is “What strength factors in developing Kualanamu International Airport?” The answer is “There are several strength factors for developing Kualanamu airport, such as policies of the Central Government, Regional Government, existing land potential, planning, and financial support.”
 4. Question number 4 is “What are the weakness factors in developing Kualanamu airport?” The answer is “Strategic partners in supporting development with budget support to be disbursed.”
 5. Question number 5 is “What are the solutions in dealing with weaknesses according to you in the development of Kualanamu airport?” The answer is “Involvement of the Central Government, Regional Government (Pemda) and Strategic Partners who will finance the process of developing Kualanamu airport.”
- b. Triangulation Method
1. Question number 1 is “Is the current passenger capacity for Kualanamu airport with the existing terminal conditions sufficient?” And the answer is “The current capacity for passengers is adequate and in the future with frequency observations it may need to be developed”;
 2. Question number 2 is “What about the current passenger service, is it available with appropriate facilities for passengers?” The answer is “Technology in assisting services at Kualanamu airport already exists in addition to conventional models, but passengers still prefer to use conventional models”;
 3. Question number 3 is “What strength factors in developing Kualanamu International Airport?” The answer is “Development can be realized from interview data if there is support from the Central Government, Local Government, Strategic Partners because there is still potential such as adequate land for terminal construction or runway expansion”;

4. Question number 4 is “What are the weakness factors in developing Kualanamu airport?” The answer is “Policies to support Kualanamu airport development planning”;
5. Question number 5 is “What are the solutions in dealing with weaknesses according to you in the development of Kualanamu airport?” The answer is “Government regulations that will be the umbrella for the development of Kualanamu airport.”

c. Theory of Triangulation

1. Question number 1 is ‘Is the current passenger capacity for Kualanamu airport with the existing terminal conditions sufficient?’ And the answer is “According to Hasyim, Farida, in 2009, a passenger is a party who is entitled to transportation services and is obliged to pay transportation fares (costs) in accordance with what is stipulated.”
2. Question number 2 is “What about the current passenger service, is it available with appropriate facilities for passengers?” The answer is “According to Mahmoedin (2010), service is an activity or a series of activities that are invisible that occur as a result of interactions between consumers and employees or other things provided by service providers that are intended to solve consumer/customer problems.”
3. Question number 3 is “What strength factors in developing Kualanamu International Airport?” The answer is “According to Deardorff and Williams (2006) synergy is not something we can hold in our hands but a term that means a multiplier effect that allows the energy of individual work or services to multiply exponentially through joint efforts”;
4. Question number 4 is “What are the weakness factors in developing Kualanamu airport?” the answer is “According to Irfan Islamy as quoted by Suandi (2009: 12) policy must be distinguished from wisdom. Understanding wisdom requires further considerations, while policy includes the rules that are in it Airport Directorate has task of carrying out the formulation and implementation of policies, preparation of norms, standards, procedures, and criteria, providing technical guidance and supervision, as well as evaluation and reporting in the airport sector”;

5. Question number 5 is “What are the solutions in dealing with weaknesses according to you in the development of Kualanamu airport?” The answer is “In the Law of the Republic of Indonesia Number 12 of 2011 concerning the Establishment of Legislations, it is stated that Government Regulations as "organic" rules rather than laws according to their hierarchy must not overlap nor contradict.”

D. Conclusion

Based on the results of the research and discussion conducted in this study regarding "Analysis of Terminal Capacity and Passenger Movement at Kualanamu Deli Serdang International Airport, North Sumatra (Strategic Partnership Study)", the conclusions of this study are:

1. Technology in assisting services at Kualanamu airport already exists in addition to the conventional model, but passengers still prefer to use the conventional model. For researchers, two service models at Kualanamu airport are currently used by passengers, from the results of interviews and observations, conventional service models are still dominantly used, but it is possible that those are using the unused technology.
2. The potential to be developed is related to passengers, terminals, and the availability of land for development, however, it is needed to be synergized from the beginning of the planning, implementation, process and evaluation interviews with various elements from the Central Government, Local Government and Strategic Partners.
3. Planning already exists for development and from the interviews done it can be seen that based on the existing data, this development process is supported by role of the Manager, the Central Government or the Airport Directorate or the Ministry of Transportation who are able to realize the development of Kualanamu airport and of course with the involvement of strategic partners policies to support Kualanamu airport development planning.
4. Government regulations will be the umbrella for the development of Kualanamu airport. In the Law of the Republic of Indonesia Number 12 of 2011 concerning the Establishment of Legislations, it is stated that Government Regulations as "organic" rules rather than laws according to their hierarchy must not overlap or contradict.

5. With the outburst of the Corona Virus Pandemic at the end of 2019, which has not been over until now, there must be a very serious and careful concern, especially related to the Planning or Master Plan that has been made for the construction and development of Kuala Namu International Airport. Mitigation, preventions and synergistic steps must be taken by the stakeholders to be able to overcome this global problem.

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