

FLIGHT OPERATION HOME BASE AT ISKANDAR AIRPORT IN PANGKALANBUN CENTRAL KALIMANTAN AND OBSTACLES FACED BY THE AIRLINES IN CONNECTION TO AIRCRAFT UTILIZATION

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Abstract: The development of the aviation industry (Expert, n.d.) affect the growth of potential passengers in various areas of the Country and province. In line with the regional autonomy, the need for communication and transportation between regency cities and provincial capital cities and state capital city, also contributes to stimulate the need for air transportation in this segment. The potential market certainly had invited airlines to develop the route from and to the region and provinces in Kalimantan. As a consequence of the growth in passenger such good enough has led to competition between airlines in Kalimantan. According to air transportation regulation in indonesia, the routes are considered as middle traffic routes and determined as limited operator routes, so that they may be operated only by several operators having turboprop aircrafts and jet aircraft with not more than 148 seater. Several airlines have established a base of operations of aircraft in the area of the Country as an effort to win the competition and to give assurance of the flight for the local community. However, the base of operations constraints both in operational and non-operational activities such as the weather, so that all airlines that will put the aircraft in the region should do analysis appropriately both in technical aspects as well as operational aspects due to economical operation. Another evaluation is how far the aircraft utilization can be achieved properly and optimally. This study will ultimately provide an overview of the extent to which the readiness of airports located in the district may serve the best possible flights.(Yusuf, 2012)

Keywords : The growth of potential passengers, airport constrain and aircraft utilization

Introduction

The airline industry has the characteristics of a capital-intensive, high technology, high government regulation, relatively low margins and high risk (Breu, Guggenbichler, & Wollmann, 2008). Changes the global paradigm of prolific due to technological developments, deregulation in the field of air transport and tourism brings impact to all aspects . The aviation business is very sensitive to these changes. The airline industry is a very dynamic industry and highly related to the influence of changes in both the national and global scope. The demands of security, safety, and comfort

have become a basic requirement for passengers who could not be bargained. Increased prosperity and economic growth in the district caused by the autonomous region has provided a positive impact on the purchasing power of the community. Airlines are always required to innovate and change the paradigm that is adapted to the demands of the market and the development of the aviation industry. Airlines that want to survive and thrive is required to search for opportunities with various attempts to find the potential of the market.

Indicators of success of the aviation business

The airline industry is a very competitive industry, with high-risk characteristics, require high investment, high working capital, relating to high technology and regulation. In order to keep operating the airline needed several approaches; service oriented, cost leadership and cost control, yield management, production flexibility, continuously innovation and information technology oriented. In measuring the success rate of an airline can be seen from some indicators include; Success in achieving a high yield, achieve a high level of passenger load factor and achievement of a high aircraft utilization and optimal crew productivity to create low cost per unit.

Yield may indicate; The strength of competition in the route, Responses market conditions, Percentage of the business traveler and The result of the differentiation products.

Load Factor may indicate; Competitive price, The efficiency of planning routes, Flexibility and responses, Customer loyalty and Fulfillment of the desires of the customer.

Low cost per unit can be demonstrated with regard to utilization of the flee; Wage rates, Aircraft fuel efficiency, Employee productivity, Load factors and Administrative overhead.

Market segmentation and potential passengers in Pangkalanbun

There are two axes that can be used to conduct market segmentation i.e. Schedule flight routes and passenger profiles (Breu et al., 2008). Routes can be distinguished in the high passenger traffic route (trunk line), medium

passenger traffic route (Feeder lines), low passenger traffic route (the pioneer). A profile of passengers can be distinguished on the basis of the business or the benefit of passengers, passengers for excursions and passenger in order to visit family. In General, a profile of passengers who travel to and from Kalimantan is the

Merchants that had been long-established and became a captive market for the Airlines that operate in the region of Kalimantan. Some passengers also come from personal travel activity because there are dependencies with family relations because of the many exiles from Java in Kalimantan. Opportunity to become a market leader in several feeder routes such as Pangkalanbun – Semarang, Pangkalanbun – Surabaya, Pangkalanbun – Jakarta, Sampit – Surabaya, Sampit - Jakarta and other routes are still very good with a potential market that continues to grow. The market potential and the number of passengers on the feeder routes have not been able to identify, but from the data of the existing passenger traffic from some cities served by the airline's scheduled services during this provide sufficient description that potential passengers on feeder routes quite well and growing fast in 5 years behind. (<http://hubud.dephub.go.id/2017>).

In according to the above mentioned, it is important to analyze from other point of view as a case study of the airport operation limitation.

Discussion and Result

The Airport's Operations Base in Pakalanbun

Airline efforts to strengthen competitiveness on feeder routes is putting the aircraft with an operating base in the feeder area with the flight schedule that fit market demand.

However the decision to put the aircraft in areas not easily caused by limitations encountered. Therefore, each airline that will operate flights on feeder routes has to do an accurate calculation and consideration. A few things to note is relating to technical aspects of operational, airport facilities support services of passengers and goods, human resources readiness of airports, aircraft performance, Airport

infrastructure as well as the readiness of airports in maintaining the safety and security of aviation including the factors of weather phenomena. Some obstacles in conducting flight operations at the airport include:

Adequacy of the length of the runway, the strength of the runway and aircraft parking spaces

The majority of second-class Airport has runway length limitations between 1000 meters up to 2000 meters, runway width up to 30 meters. The limitations of the durability and strength of the runway or the pavement classification number (PCN) that average no more than 30. PCN can only accommodate turboprop and turbojet aircraft that has a capacity of seating 148, while for aircraft which has a capacity of over 148 seats should get the treatment limitation of haulage especially in wet runway condition, and be not optimal. Another limitation is the availability of parking spaces for aircraft, in general just for 2 aircraft up to 4 aircraft only, and will complicate the movement of the aircraft in the event of congestion flight schedules. ("Bandar Udara Kelas II," n.d.)

Limitations of capacity of passenger lounges, check-in counters and other Supporting facilities

The needs of the development of the terminal building for space departure lounge, the passenger waiting room, check-in counters as well as the arrival lounge, of course should comfort to the passengers. The availability of other facilities associated with the processing of passengers and baggage handling became a very important needs. The limitation of facilities check-in counter that there are only between 3 and 5 counters will certainly disrupt the smooth process of handling passengers, especially if the addition of the frequency as well as the addition of new routes by the airline. The limitation of facilities Runway light, Instrument landing system, electricity and Airport operating hours Availability of runway lighting facilities, instrument landing system (ILS) and guarantees the availability of electricity to support flight operations at the second class airport must be met. The lack of runway lighting facilities and instrument landing system

resulted in all flights at the second class airport entirely based on sunrise and sunset that surely each region has different characteristics.

The conditions are very difficult in the airline flight schedules, increase the productivity of the crew and aircraft utilization optimization.

In General, the operation hour of the second class airport is largely determined by the available supporting facilities such as runway lighting facilities, navigation facilities and the availability of sufficient human resources based on the rhythm of work and hours framework of the rules of safety and the security of flights. At the moment there are still many second-class airport operating hours at 00:00 – 09:00 (UTC+7) due to the airport limited facilities available. With limited hours of airport operation, then the entire flight can only operate with limited hours of operation that is only 9 hours per day including ground time needed to process ground handling on the routes. So the actual block time achieving for each aircraft, not more than 6 hours a day.

Weather phenomenon and the characteristics of the weather at the airport

The weather phenomenon in the region second-class Airport became the barometer in determining routes and flight schedules due to limitations of flight operations that must be adhered to every airline (Menteri et al., 2016). Some of the considerations that should be a concern to put aircraft in the region of the second airport such as; rapidly changing weather related to a minimum viewing distance, characteristic of the weather around the Airport as the type of fog or smoke.

The characteristics of the wind (crosswind, updraft, downdraft), wind speed and its change and Airport altitude. It is certainly related to the safety and security of the flight, and the demands of the commercial aspects, the flight operations should be done properly without any delay and cancellation due related to revenue and cost efficiency of flight operations.(Coza, 2015)

On-Time Performance and characteristics of passengers

The accuracy of the flight schedule is very influential on performance and productivity of flight operations at the second class airport, because of

the very influential towards the achievement of the optimization of aircraft utilization by reason;

1. Limitations of the operating hours of the airport

The limitation of the airport operation hour will have an effect on aircraft utilization. The delay of departure will result in the late arrival in an end-route station, so that aircraft cannot return to base operations on the same day.

2. The rapidly changing weather conditions

Weather changes will have an effect on the accuracy of the departure of the aircraft due to rapid changes in certain hours so that it can disrupt flight schedules. The delay in the process of ground handling will affect flight schedules at the next destination or airport.

3. Flight Traffic Congestion at the main airport destination

The delay in departure may result in delays at the next airport ("PM_89_Tahun_2015-1 Delay Regulasi.pdf," n.d.). The frequent air traffic congestion, as well as air craft parking capacity at the main airport, could delay landing and hold position of the aircraft at a destination.

4. Airport operation hours at the final destination.

Delay's departure at the origin airport or transit airport will result the aircraft cannot return to the base station . The aircraft are not allowed to land because of the limitation of airport operation hour ("551-PM_94_2015 Operasional Bandara.pdf," n.d.)

5. Refueling facilities which are not available in some airports.

Refueling facilities which are not available in the second-class airport could result in the fuel in jection process in the main airport that will certainly take time due to queuing up of refueling .

6. Shortage of public transport from the airport to the city center

Shortage of public transport from the airport to the city center and vice versa makes passengers difficult to mobilize.

7. The characteristics of passengers

The habit of some passengers arriving at the airport not in the right time will become barriers to airlines in passenger handling process. As a result, the passenger was left behind. Limitation of Airport capability in-connection with Aircraft Utilization and operating costs. The three indicators that should be a major concern in order to maintain the viability of flight operations is passenger yield, passenger load factor, and aircraft utilization, besides controlling operating expenses efficiently to achieve cost leadership. The very strong factor to do with the ability of airlines in the face of competition is to control the revenues by revenue management accurately. Creating cost efficiencies for flight operations is very related to the efforts of achieving the maximizing aircraft utilization. And creating maximum aircraft utilization is closely associated with the planning of the routes, the circumstances of the airports' condition and facilities in areas.

Here is the data the number of the second class Airport in the governance by the second Airport management unit authority. ("551-Airport Operational PM_94_2015. pdf," n.d.) under the responsibility of the Ministry of transportation and airport qualification data (Air, 2009) :

Table 1
Runway Classification

No	Class	Runway Length	Number	Management
1	II	> 1000 M – 2000 M	23 Airport	Ministry of Transportation
2	III	< 1000 M	117 Airport	Ministry of Transportation

Source : Directorate General Air Communication

Qualification data of airports in Indonesia

Airport classification consists of several classes that are assigned based on the operational activities of the service and the capacity of the airport. Service capacity is the ability of airports to serve the largest aircraft type and number of passengers and goods include code numbers that is the calculation of the runway based on air plane reference field length (ARFL)

Table 2

The letter code that is the calculation of the appropriate width and wide wings/outer wheel distance.

Code Number	(Aeroplane Reference Field Length - ARFL)	Code Letter	Wing Span	Outer Mean Gear
1	ARFL < 800 m	A	WS < 15 m	OMG < 4.5 m
2	800 m ≤ ARFL < 1200 m	B	15 m ≤ WS < 24 m	4.5 m ≤ OMG < 6 m
3	1200 m ≤ ARFL < 1800 m	C	24 m ≤ WS < 36 m	6 m ≤ OMG < 9 m
4	1800 m ≤ ARFL	D	36 m ≤ WS < 52 m	9 m ≤ OMG < 14 m
		E	52 m ≤ WS < 56 m	9 m ≤ OMG < 14 m
		F	56 m ≤ WS < 80 m	14 m ≤ OMG < 16 m

Source : Directorate General Air Communication

The result from case study, that the airline will be faced by some difficulties to operate optimum aircraft utilization to put aircraft main base in Pangkalanbun because of airport limitation and unpreparedness of the supporting facilities.

Conclusion

The decision to put the plane at the feeder region should be considered and calculated with the best possible due to limitations of the runway length, the runway lighting facilities and the unavailability of the instrument landing system at the local airport.

The operation airport hour is restricted by operating hour from 00.00 UTC - 09.00 UTC (UTC+7). As a result, all flights either departing from and arriving at the airport have to adjust its flight schedule due to airport operation hour.

The delay in the flight schedule planned both at the origin station and transit station can cause the aircraft could not return to its home base, and cannot serve the passengers from the home base station for the next day.

Weather factors such as fog and smoke around the airport will influence towards the on-time departure, as it must be delayed until the

smoke or fog is to be declared clear in accordance with the aviation safety and security regulations.

The existing limitations on the airport will have an effect on the accuracy of the departure of the aircraft, aircraft utilization, operating cost efficiency and passenger comfort. Therefore, the decision to put a plane at the second class airport must be ensured that the passenger's load factor should be optimal and high yield that can guarantee the continuity of flight operations.

References

- Air, b. (2009). Airports, 2009, 16 – 60.
<http://hubud.dephub.go.id/> 2017
- Annexes - ICAO Document, Aviation law of 2009, Government and Ministerial Regulations (UU Penerbangan No 1 tahun 2009, PP & Permenhub)
- Ashford, Norman J Ashford, H.P. Martin Stanton, Clifton A. Moore, Pierre Coutu, John R. Besley, 2013, *Airport Operation*, Third Edition, Mc Graw Hill
- Breu, f., Guggenbichler, s., &Wollmann, j. (2008). *Airline Marketing and Management*. Vasa. Retrieved from Expert, a. m. (n.d.). Author Sam Issac.
- 551-PM_94_2015 Operasional Bandara.pdf. (n.d.).
 Bandar Udara Kelas II. (n.d.).
- Coza, D. (2015). *Yield Management In the Airline Industry. Travel Technology & Solutions* (Vol. 14). Retrieved from
<http://commons.erau.edu/jaaer/vol14/iss3/9%5Cnhttp://tts.com/blog/yeild-management-airline-industry>
- “551- Airport Operational Peraturan Menteri No_94_2015. (n.d.) Direktorat Jenderal Perhubungan Udara, Jakarta
- Menteri, P., Republik, P., Kedua, P., Peraturan, A., Perhubungan, M., Pelayanan, T., ... Indonesia, R. (2016). Illi £.
- Neufville, Richard de & Amedeo Odoni, 2013, *Airport System (Planning, Design, and Management)*, Second Edition, Mc Graw Hill.
- PM_89_Tahun_2015-1 Delay Regulasi.pdf. (n.d.).
<http://medcontent.metapress.com/index/A65RM03P4874243N.2017>
- Radnoti, George. 2002. “*profit strategies for air transportation*”, McGraw-Hill.Two Penn, New York
- Yusuf, M. (2012). Warta Ardhia Pelimpahan Kewenangan Perizinan Bidang Penerbangan Ke Otoritas Bandar Udara Ngurah Rai - Bali Delegation Of Authority Flight to Permit The Airport Authority Ngurah Rai - Bali.