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THE IMPACT OF AIRPORT PASSENGER TRAFFIC AND INTERNATIONAL TOURIST ARRIVALS ON TOURISM COMPETITIVENESS CASE: INDONESIA'S MAIN INTERNATIONAL AIRPORTS

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Abstract:-

This paper has the objective to investigate the relation between the Air Transport Infrastructure Index and International Tourist Arrival in Indonesia, especially in the main international airport in Indonesia. The index of the Air Transport Infrastructure is one of the 14 pillars in Global Tourist and Travel Competitiveness and considered very important for a country such as Indonesia, to increase its competitiveness in becoming one of the most chosen tourist destination in the world. The data shown that the Air Transport Infrastructure index for Indonesia is still low comparing to other countries, and this is inline with the number of international tourist arrival. This study follows the quantitative method to measure the relation between Air Transport Infrastructure Index and International Tourist Arrival. This paper also explained about the megahub in Soekarno-Hatta Airport. In conclusion, there is still a long way to achieve high competitiveness concerning the air transport infrastructure, and to increase the arrival of international tourist to Indonesia.

Keywords: - *Passenger Traffic, Airport, Tourism, Air Transport Infrastructure Index, International Tourist Arrival.*

INTRODUCTION

Tourism industry has long been a source to contribute to economic growth of a country. According to Ministry of Tourism, in the last five years tourism has been the fifth largest contributor to national GDP of Indonesia. The Indonesian Government targets the number of international tourist in 2019 will be 20 million or 8% contribution to total GDP (www.kemenpar.go.id, 2018). To prepare this, many infrastructures and facilities development had been run in order to achieve the goal, including building and upgrading domestic airport to be an international airport.

As an international tourist gateway, airports in Indonesia already considered one of the busiest in the world. For example, Soekarno – Hatta International Airport (SKH) in Jakarta served more than 60 million passenger, by the end of 2017, and about 14 millions are international passengers.The Skytrax magazine ranked SKH the world's most improved airport in 2017. Other example is Ngurah Rai International Airport (NGR) in Bali, received with 15 – 25 Million passengers and named the best airport in 2017 by Airport Council International (ACI).

The travel and tourism is also regarded important in World Economic Forum. This institution releasse the Travel and Tourism Competitiveness Index that measures the degree of the competitiveness all countries in the world based on its travel and tourism data. The aggregate index includes the The Air Transport Infrastructure (ATI) index. Previous researches have shown the contribution of the global competitiveness index to affect the travel intensity for a given country, and that Air Infrastructure improvement has a significant impact to overall TTCI. While WEF has measured the ATI Index using macro indicators, this research will try to investigate how the efforts of Indonesian government and airport authorities to enhance the capacity of airports, as shown in terms of pasenger traffic may contribute to the index. Another objective is to investigate whether the number of International Tourist Arrivals, as the government has set to achieve, have also significant contributions. From year to year, Indonesia managed to improve its ATI index. It means that the country is able to manage its competitiveness as a one of the world tourist destination.

WEF (2017) defined the Travel and Tourism Competitiveness Index (TTCI) as "the set of factors and policies that enable the sustainable development of the Travel & Tourism (T&T) sector, which in turn, contributes the development and competitiveness of a country." This index were composed from 4 main frameworks consist of 1) Enabling environment, 2) Travel and Tourism Policy and Enabling Conditiong, 3) Infrastructure, and 4) Natural and Cultural Resources. The framework of Infrastructure consists of three pillar which are 1) Air Transport Infrastructure, 2) Ground and Port Infrastructure, and 3) Tourist Service Infrastructure. The framework and the pillars are shown in Table 1.

Table 1. Travel and Tourism Competitiveness Index Frameworks and Pillars (WEF, 2017).

No.	Framework	Pillar
1.	Enabling Environment	1.1. Business Environment
		1.2.Safety and Security
		1.3. Healthy and Hygiene
		1.4. Human Resource and Labor Market
		1.5.ICT Readiness
2.	T&T Policy and Enabling Conditions	2.1. Prioritization of T&T
		2.2. International Openness
		2.3. Price Competitiveness
		2.4. Environmental Sustainability
3.	Infrastructure	3.1. Air Transport Infrastructure
		3.2. Ground and Port Infrastructure
		3.3. Tourist Service Infrastructure
4.	Natural & Cultural Resources	4.1. Natural Resources
		4.2. Cultural Resources and Business Travel

WEF publishes the report of Travel and Tourism Competitiveness Index since 2007 every year, and started 2009 they published once in every 2 year. Below is the table of the score of TTCI and Air Transport Infrastructure from year 2008 to 2017.

Indonesia ranks 42nd, climbing eight places. The country has made the most of its globally recognized natural resources (14th) at very affordable prices (5th). To build on its assets, Indonesia has emphasized its cultural resources (23rd) and prioritized the T&T sector as an important driver of economic development. Currently representing 6% of the country's exports, the government recognizes the potential of T&T and is investing about 9% of its budget in the sector. Indonesia has further improved its international openness (17th, up 38 positions), becoming the country with the 2nd strongest visa policy.

Below is the score of TTCI Index in 2017 based on each pillars.

Table 2. Indonesia's TTCI Index on 2017 for each pillars (WEF, 2017)

Enabling environment										
Country/Economy	Global rank		Business environment		Safety and security		Health and hygiene		Human resource and labour market		ICT readiness	
Indonesia	42		4.5		5.1		4.3		4.6		3.8	
T&T policy and enabling conditions						Infrastructure				Natural and cultural resources		
Country/Economy	Prioritization of T&T	International Openness	Price Competitiveness	Environmental Sustainability	Air Transport Infrastructure		Ground and port infrastructure		Tourist Service Infrastructure	Natural Resources	Cultural Resources & Business Travel	
Indonesia	5.6 5.6	4.3 4.3	6.0 6.0	3.2	3.2	3.8	3.8	3.2	3.2	3.1 3.1	4.7 4.7	3.3 3.3

The other research conducted by IATA (Ach & Pearce, 2009) had the factors that made up Travel and Tourism Competitiveness Index were strongly related to the numbers of passengers arriving and departing for a given country and suggested that any effort to increase TTCI is likely increase those numbers.

Another study by Cirstea (2014) which focused on developed countries, suggested that there was strong relationship between Air Transport Infrastructure with the overall index of TTCI. In this research, the development of airport would give positive impact on tourism competitiveness for a given country.

Table 3. Score of TTCI and ATI for Indonesia from 2008 to 2017

Year	2008	2009	2011	2013	2015	2017
Score (TTCI)	3.70	3.80	4.00	4.00	4.04	4.20
Rank	80	81	74	70	50	42
Score (ATI)	3.07	3.22	3.35	3.50	3.80	3.80
Rank	61	60	58	54	39	36

Souce: compiled from WEF (2017)

From the figures above, Indonesia has been increasing its position in years for both indexes and become one of the most improved country in Asia Pacific region for tourism industry.

The sub-index of Air Transport Infrastructure measures as follows : measurement (WEF, 2017) : 1) Quality of Transport Infrastructure : Using Executive Opinion Survey, 2) Available Seat Kilometres, Domestic which is the number of available seats of domestic flight multiplied by the flight distance in kilometres, 3) Available Seat Kilometres, International, calculate the number of available seats of international flight multiplied by the flight distance in kilometres, 4) Aircraft Departures : Number of domestic and international air carriers takeoff per 1,000 population, 5) Airport Density: Number of airports with at least one scheduled flight per million of urban population, and 6) Number of Operating Airlines which is the number of airlines with scheduled flights originating in country.

In related to airport passenger traffic, Air Transport Infrastructure (ATI) score is the factor that can be considered will be affected directly by any efforts of airport managements in delivering their services to the passenger.
The high-quality Air Transport Infrastructure is the main driver of competitiveness in the tourism industry and a major contribution to the Indonesian economy (IATA, 2016). Air Transport Infrastructure makes it possible to reduce distance barriers between countries, connect the national market to the whole world, and increased the demand for long-distance trips. Air transport infrastructure is a component of the TTCI score and is captured in the 6th pillar (World Economic Forum, 2009). Therefore, increasing the Air Transport Infrastructure is likely to affect the increase of overall index of TTCI.

Table 3 explains that Air Transportation Infrastructure in Indonesia in the last 10 years has developed very rapidly. In 2008 Indonesia rose to 61th to 36th in 2017. Likewise, the TTCI index rose to rank 42th, which was previously ranked 80th. From the data mentioned, it should be noticed a relation between Air Transportation Infrastructure with overall T&T performance. The higher the Air Transport Infrastructure's score, the higher the TTCI index would be.

Air Transportation Infrastructure plays an important role in tourist behavior. It cannot be doubted because the future development of the tourism industry depends on an increase in air services quality. More than half of tourists in the world, use air transportation as their main transportation (Zajac, 2016). Papatheodorou dan Busuttil (2003) studied the implications of air transportation liberalization for Malta and Cyprus, showing that the development of the European Union route could lead to a large increase in the tourism flows.

Technological advances in air transportation infrastructure are a factor that play an important role in the growth of new tourist destinations and attractions in a country (Papatheodorou & Zenelis, 2013). A tourist must consider safety when

looking for new destinations and places. The existence of the airport is to ensure the security and approval of air transportation operations.

International Tourist Arrivals and Airport Capacity

International tourist defined as any person who travel to a country other than that in which s/he has his/her usual residence but outside his/her usual environment for a period not exceeding 12 months and whose main purpose of visit is other than the exercise of an activity remunerated from with the country visited, and who stay at least one night in a collective or private accommodation in the country visited. (UNWTO).

In order to achieve the target in 2019, The Indonesian Ministry of Tourism had been preparing 3 strategic programs: Digital Tourism, Homestay Buildings, and Air accessibility (detik travel: 2017). Furthermore, One of Important steps to establish air accessibility is to build additional Airport Capacity. Hence, the government had planned to continue building some new international airports, as well as developing more capacity on existing airports.
Below is the data of International Tourist Arrivals from the official website of Indonesian Ministry of Tourism from 2008 to 2017.

Table 4. International Tourist arrival in 9 airports in Indonesia from year 2008 to 2017(Kemenpar.go.id; 2018). (in 000)

No.	Arrival gate	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
1	SoekarnoHatta	1,465	1,390	1,824	1,933	2,054	2,241	2,246	2,304	2,416	2,563
2	Ngurah Rai	2,082	2,385	2,546	2,789	2,902	3,242	3,732	3,924	4,853	5,653
3	Juanda	157	158	169	186	198	225	217	201	221	237
4	SultanHasanuddin	6	20	16	14	14	18	16	13	17	18
5	Kualanamu	130	148	162	193	206	226	235	198	204	237
6	Sultan Aji Muhammad Sulaiman	11	10	11	16	17	17	13	8	11	5
7	Adisucipto	34	46	47	48	59	86	89	81	112	143
8	Hang Nadim	1,061	951	1,007	1,162	1,220	1,336	1,454	1,546	1,432	1,504
9	Lombok	14	14	17	18	17	40	70	70	91	123

Airport capacity or p assenger traffic is the number of passenger of the airline in a given period of time. Walters (2006) stated that the capacity of an airport is usually stated in terms of the maximum number of passengers that can use it in a year. Airport Council International (ACI) regularly published annual report that showed the ranks of airports worldwide based on the passenger traffic, which measures the performance of airlines and airports. Airport capacity consists of two terminology of operational: 1) Air-side operations – largely the number of passengers that planes can deliver and take away, determined by the number of runways, time slots available for planes to land and take-off, size of planes, occupancy, etc, and 2) Land-side operations – largely the number of passengers that the terminal buildings can handle, dealing with all aspects of arrivals, departures and associated services.

Soekarno Hatta airport (SHIA) is one example of Indonesian Airport that has run beyond its planned capacity since 2010. Despite this exceeding number of passengers, SHIA can still manage to fulfill the requirement of safety and secure airport operation, based on the latest on site survey by International Civil Aviation Association (ICAO) in 2017.

The table below shows the passenger traffic of 9 major international airports in Indonesia that contribute more than 80% of passenger traffic nationwide

Table 5. Passenger traffic from 9 airports in Indonesia year 2008 to 2017 (http://www.aci.aero/Data-Centre; 2017)

No.	Airport name	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
1	Soekarno Hatta	32.172	37.144	44.356	51.533	57.731	59.702	57.221	54.054	54.970	63.016
2	Ngurah Rai	8.471	9.622	11.120	12.781	14.189	15.631	17.271	17.108	19.986	22.864
3	Juanda	8.879	10.634	11.139	13.778	16.446	17.684	17.285	17.144	19.484	21.882
4	Sultan Hasanuddin	4.703	5.064	6.547	7.456	8.581	9.634	8.848	9.306	10.673	11.653
5	Kualanamu	4.817	5.852	6.617	7.170	7.992	8.359	8.060	8.005	8.957	12.245
6	Sultan Aji Muhammad Sulaiman	3.576	4.311	5.105	5.681	6.621	6.587	7.701	7.375	7.878	7.502
7	Adisucipto	2.794	3.368	3.690	4.292	4.998	5.776	6.237	6.380	7.209	8.634
8	Hang Nadim	2.682	2.910	3.272	4.306	3.762	4.212	4.773	5.031	6.120	6.355
9	Lombok	1.049	1.174	1.406	1.520	1.836	2.168	2.418	2.552	3.450	3.677

*numbers in (000)

UNWTO predicts that in 2030, the number of international tourist arrivals is expected to increase by 3% a year from 2010 to 2030, on average in the worldwide. This means there will be more than 43 million international tourist arrivals in yearly basis, and the total will be 1.8 billion arrivals in the year of 2030 (UNWTO, 2012). Globally, tourism industry reached 30% of commercial services worldwide, and it ranks the fourth after fuels, chemical and food. In Indonesia itself, tourism is projected to achieve 8% from the GDP.

Facing the reality that international tourist is increasing in yearly basis, the improvement of airport capacity in the country or city for the tourist destination should be inline simultaneously. The demand of one tourist destination will grow once it has easy access and good infrastructure. However, The problem is not increasing the airport capacity but more to air connectivity issues. It is clear that the role of airline and airports is crucial in opening up new tourist destinations. Airlines that connects countries, islands, and continents also should have frequent and safe flight will increase the number of international tourist (WEF, 2017).

Senguttuvan (2011) had urged the importance of having International Hub Airport in order to support business and economic growth while in the same time maintaining operational cost in more efficient way.

Challenge of Airport Megahub and Number of Tourist

In the year of 2016, the airport of Soekarno Hatta in Indonesia (Soetta) was declared as the 7th most connected airports in the global rankings by OAG, UK-based travel Intelligence Company. The other six airports were in the United States (and the first was Chicago's O'Hare International Airport), that makes Soekarno-Hatta the most connected in Asia. The OAG calculated the total number of all possible connections within a six-hour window both inbound and outbound flights, taken the sample from the 100 largest airports in the world. The findings was, on its busiest day, Soekarno–Hatta connected 40,000 flights within six hours, connecting passengers not less than 71 destinations.

This good thing might not come without arguments. First, one might disagree that high volume might be due to inefficiencies rather than real very high volume of flights. The airport has been over capacity for a long with estimated 33 million passengers passing through in yearly basis. In this case, the inefficiencies come from delaying flight and other service problems. Second, the megahub development of Soetta Airport might be a backfire to Indonesia itself, since the opportunity of increasing the number of international tourist might be not as much as expected if the megahub is in the center on Indonesia.

The position of Soetta is in Java Island. If you would fly to the west (Sumatra and surroundings), it would need 2 to 3 hours. The same hours to reach Singapore, Kuala Lumpur or Bangkok. Different stories happen if you visit to Makassar, Papua, Maluku, or Ternate (eastern Indonesia), you need more than 6 hours flight. This hours is the same hour flight if you go to Tokyo, Seoul, or Beijing. Because Soetta is the megahub, it means that passengers just transit in Soetta and continue their flight. Based on Soetta report, in the growth of 7% number of passengers in the end of 2018, the favorite destination is not to Papua, Maluku, or other east cities, but to Surabaya, Denpasar, Medan, Makassar and Yogyakarta. Other destination is to Singapore, Kuala Lumpur, Jeddah, Hong Kong and Bangkok. In relation with tourist destination, the existence of megahub in Jakarta will not increase the number of international tourist, because Jakarta is not destination ariport. The megahub supposed to locate in the centre of Indonesia to reach more tourist with the lower flight hours. However, this idea needs further political will from government of Indonesia (Rahardjo, 2018).

Conclusions

The objective of this paper is to investigate the relation between the Air Transport Infrastructure Index and International Tourist Arrival in Indonesia, especially in the main international airport in Indonesia. The analysis shows that the the Air Transport Infrastructure Index is impacting the International Tourist Arrival in Indonesia. In conclusion, there is still a long way to achieve high competitiveness concerning the air transport infrastructure, and to increase the arrival of international tourist to Indonesia.

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