

# Correlations Analysis of Airport Sustainability and Local Government Budget

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**Abstract:** The development of a public private partnership business centre in the region, particularly in the airport area, will improve regional economic equity. This study aims to analyse the correlation between airport sustainability and local government budget in Indonesia. The method used in this research is mixed method research. The results indicate that a cooperation agreement between the local government and the airport management will generate mutual benefits for both parties. Airport managers can improve their services to consumers and local governments receive contributions during the term of the agreement. Based on the T-Value Test Result, the T-value for the Airport Performance variable is 0.694. T-Value Test Results and compared with T-table equal to 1,976 (significant level 0,05) hence T-count <T-table thus variable of Airport Performance is predicted not to have a significant correlation to Local Government Budget (APBD) Performance. Regional governments are expected to participate more actively in investments or asset sharing of airports in the region.

**Keywords:** airport sustainability, public private partnership, local government, investment, asset sharing

## 1. Introduction

The importance of the integration of air transport infrastructure with economic business center, supported by the growing tourist number in the region. It is recorded as many as 11,519 million foreign tourists have visited Indonesia, supported by accommodation of 2,387 star hotels, with occupancy rate star hotel room reach 54.34%. Increased regional economy is also seen in the improvement in internet use by households that reached 47.22%. This has an impact on the ease of people accessing the information. Increased regional economy is vividly seen in the mobility of people, especially the utilization of air transportation access through airports in the region. In 2016 there were 835.9 thousand domestic and international aircraft departures, 99.7 million

domestic and international passengers were transported, 75.6% load-factor domestic and international passengers, 715.8 thousand tons of domestic and international goods were transported. With the potential for high passengers, Indonesia is expected to rise to the world rankings in 10 years (2027), ahead of Japan, Germany, Thailand and France. Currently, Indonesia and China and India are countries with low flight frequency compared to high population, thus airport infrastructure investment will be very profitable in the future for the acceleration of regional economic growth. Indonesia's GDP growth in 2016 reached 5.0, becoming one of the world's highest, below Cambodia (7.0), Bangladesh (6.9), India (6.8), Philippines (6.8), China (6.7), Myanmar (6.3) and Vietnam (6.2). The GDP growth shows Indonesia's

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economic strength in the Asia Pacific and ASEAN region. Indonesia with Malaysia, Thailand, Vietnam and Singapore became Asia-Pacific and ASEAN countries with a trade balance surplus in 2016, while other countries such as Philippines, Hong Kong, India, Cambodia, and Myanmar experienced a minus. This indicates the potential of Indonesia's international economic strength supported by an increasingly dominant demographic surplus. With the growth rate of national gross domestic product in 2016 reaching 5.02 and only 8 provinces from 34 provinces with the value of growth of gross regional domestic product below the national growth value, points out the regional economic strength is getting more and more even and the need to accelerate the increase of equity by developing business centre integrated with development infrastructure in the regions. Currently in Indonesia there is an imbalance of the economy. The development of a government-private partnership business center in the region, particularly in the airport area, will improve regional economic equity. This study aims to analyze the economic growth of airport areas in Indonesia. Problem identified includes regional economic growth, contribution of airport management to regional revenue and airport performance evaluation to Local Revenue Budget (APBD) [1–5]

## 2. Research Method

The method used in this research is quantitative research with correlational analysis. Correlational study aims to determine the correlation between variables. The correlation between two or more variables is determined by using the regression equation to make predictions on the population. The steps in performing regression and correlational analysis is to create a data table, create a scatter diagram to see a clear correlation or trend, calculate the correlation coefficient  $r$  or Pearson correlation coefficient factor and determine whether  $r$  is statistically significant. If  $r$  is significant, then regression analysis can be used to determine the correlation between variables. The total population used in this study are 296 airports which all managed by the government. However, by using stratified random sampling, only 151 airports were used as research sample. The research variables include two variables: Variable X is airport performance and variable Y is Regional Government Budget (APBD), with hypothesis as follows: [6–9]

$H_1$ : Airport Perform has significant influence on APBD Performance

$H_0$ : Airport Perform does not have a significant influence on APBD Performance

Analysis of the research data was done by statistical test. Hypothesis testing is conducted by comparing the value of t-count with t-table. The t-count value is obtained with the help of the SmartPLS 2.0 software, while the t-table value corresponds to the alpha and degree of freedom. Table 1 and Table 2 were referred to determine the validity and reliability of the results [1–10]

Table 1 Indicators Validity and Reliability Test [1–10]

Validity and Reliability	Parameter	Indicators
Convergent Validity	Loading Factor	$\geq 0,7$
	Average Variance Extracted (AVE)	$\geq 0,5$
	Communality	$\geq 0,5$
Discriminant Validity	Cross Loading	$> 0,7$ for every variables
	AVE root of quadratic and correlation of latent construct	AVE root of quadratic $>$ correlation of latent construct

Table 2 Reliability Test Rule of Thumb [1–10]

Reliabilities	Parameter	Rule of Thumb
Reliability	Cronbach Alpha	0,70 for confirmatory research 0,60 for exploratory research
	Composite Reliability	0,70 for confirmatory research 0,60 – 0,70 for exploratory research

## 3. Results and Discussion

### 3.1. Regional Government Budget (APBD) and Airport Sustainability

The economic development of an area is measured by economic growth which is shown by the growth of goods and services production in an economic area within a certain time interval. Regional economic growth can be seen from the Regional Government Budget (APBD) and Gross Domestic Product-Regional (GDP-Regional). APBD is an effort of local government to optimize the existing resources, increase its regional income, and allocate it for the welfare of society. While the GDP-Regional is a concept of added value, created by the economic sectors in the region concerned. Actual total provincial government revenues across Indonesia from 2013-2016 continues to increase, with total revenues of 205.78 trillion rupiah in 2013; 233.28 trillion rupiah in 2014; and 242.71 trillion rupiah in 2015, or growth of 13.36 percent in 2014 and 4.04 percent in 2015. In 2016, provincial government revenue is targeted to rise 15.10 percent to 279.34 trillion rupiah. Significant growth in 2016 was mainly attributed to higher income from balancing funds, especially the Special Allocation Fund (DAK) component which increased by 714.40 percent compared to 2015. In addition, the increase in revenues was also supported by the increase in the target of the Local Revenue (PAD) in particular the components of regional-owned enterprises and separated regional wealth management which increased by 22.08 percent compared to 2015. The province with the highest revenue growth in 2016 was North Kalimantan with 36.96 percent compared

to 2015. PAD was one of the important sources of revenue for the region. Areas that succeeded in increasing their PAD significantly indicate that the area has been able to exploit the existing potential optimally. During the period of 2013-2015, PAD continued to increase, from 101.60 trillion rupiah in 2013 to 121.45 trillion rupiah in 2014 and 127.50 trillion rupiah in 2015. Regional tax is the component that has the greatest contribution against PAD. Other legitimate PAD components are ranked second, followed by separated regional wealth management, and regional levies. In 2016, PAD is targeted to increase to 138.51 trillion rupiah, while local tax revenue is targeted to increase by 8.46 percent. PAD is an important thing in measuring local financial independence. The greater the role of PAD in the APBD, it can be concluded that the role of central government, in this case the transfer of funds to the area getting smaller. If the level of independence of a region is "very low", it can be said that the central government has a dominant role than the local government itself. Whereas if an area has a "low" level of independence, central government intervention has begun to decline, as the region is considered slightly more capable of implementing regional autonomy. The "moderate" category illustrates an area already capable of implementing regional autonomy, while the "high" category; mean that the local government has been able and independent in carrying out its regional autonomy affairs. The contribution of PAD to provincial government revenue in 2013 to 2015 is still between 40 and 50 percent, so that on average, the level of provincial independence in Indonesia in those years is still categorized as low. In 2013 the province's independence rate in Indonesia is amounted to 49.37 percent which is still included in the low category. This could be an indicator that in general the provincial government can not yet be said to be independent. In 2014, the contribution of PAD increased to 52.06 percent, and again increased to 52.53 percent in 2015. In 2017, Sumatra's GDP-Regional contribution to Indonesia reaches 22%, potentially high in the development of a government-private airport cooperation business centre in Sumatra. The transportation sector and the F&B providers sector is above 5% of Sumatra's total GDP-Regional and is likely to continue to increase support Sumatra's economic growth. Air transportation access contributed to the increase of foreign tourist share to the total national tourist reached almost 23%, while the share of domestic tourists reached 16%. Four cities in Sumatra are included in the top 20 national tourism competitiveness of the highest Batam, Padang, Palembang and Belitung. Sumatra's flagship tourism destinations include Lake Toba and Tanjung Kelayang. APBD Sumatra in 2017 has increased to IDR 227.8 trillion compared to the 2016 APBD of IDR 196.8 trillion. The largest peak in APBD occurred in North Sumatra at 26.57% (yoy). On the other hand, some provinces show a decrease in budgets such as in Riau along with the declining revenue share (DBH) of oil and gas. This is where the development of a government-private business cooperation centre in Sumatra, particularly in the airport area, will play a role

in increasing revenue and the regional economy. The island of Java contributes 58% of Indonesia's economic growth, the strongest potential in the development of a government-private business cooperation centre. Tourism and creative industries are an alternative source of new economic growth, continuing to grow quite steadily in the ever-increasing GDP-Regional. Tourism potential could compete with tourism objects outside Java, in addition to nature tourism, a number of areas in Java has a wealth of cultural, historical and religious values that can be optimized into thematic tourist destinations. Government policy to grant visa-free visits to 169 countries, is expected to have a positive impact. Bank Indonesia's estimation displays that every 10% increase in domestic and foreign tourists will increase economic growth by 0.31% and encourage the addition of labour force of about 0.68%. The increasing investment of Gross Fixed Capital Formation (PMTB), the investment of national strategic infrastructure and investment of Foreign Investment (PMA) in Eastern Region of Indonesia (KTI) is the trigger for the development of business centre of government-private cooperation. PMTB accelerated in Q1 / 2017, by 4.22% (yoy), higher than the previous quarter by 3.37% (yoy), boosted by construction investment in Kalimantan and Sulampua, accelerated work on several infrastructure projects included in strategic national projects (Presidential Regulation No. 3 of 2016). Private direct investment also experienced an increase indicated by accelerated FDI growth. Increased capacity of refineries, construction of factories in the real sector, and continued multi-year projects from the Local Government contributed to increased investment growth. Commitment from the Central Government and Local Government in accelerating the development of regional infrastructure, such as railway lines, freeways, bridges, ports and airports. Private building and non-construction investment in the manufacturing sector in KTI (smelters in Kalimantan, Sulawesi and North Maluku, oil refinery capacity in Kalimantan, food factory in NTB and NTT) will still increase. Performance of the absorption of regional revenues in APBD in KTI in the first quarter of 2017 was recorded at 21.31%, lower than the achievement of the same quarter of 2016 of 22.41%. The decrease of local revenues (PAD) and other legitimate income compared to the same quarter last year, particularly in Kalimantan, indicates that the improvement of coal exports has not had a direct impact on fiscal performance in the regions and is expected to have an impact and expand the fiscal capacity in quarter runs. Tourist visits to Balinusra reached 43% of total tourist arrivals to Indonesia. One of the tourism development strategies that can be done in Balinusra is through the development of Halal Tourism segment, potentially bringing 20 million Muslim tourists from abroad, carried out in NTB Province through Mandalika Special Economic Zone (KEK) development which sells Nature Luxuries and Sharia concept, Integrated tourism complex, Ecotourism and sharia, high capacity tourism, and future connectivity supported by environmentally friendly technology. The total investment of KEK

Mandalika is estimated to reach IDR 32.14 trillion and is expected to create a multiplier effect on the community through the absorption of new workforce of 58,700 people, unproductive land use, and increase the national output up to IDR 7.5 trillion, also create retail investment opportunities, accommodation and restaurants and other supporting services. Based on research conducted by ACI Airport Service Quality (ASQ) on the provision of customer service related to the correlation between customer satisfaction variable to the growth of Non Aeronautics revenue in the year 2016, exhibit that 1% increase in passenger numbers will affect the growth of Non Aeronautical income by 0.7% 1%, 1% increase in commercial area will affect the growth of non-aeronautical revenue by 0.2% and 1% increase in customer satisfaction (on average) will impacted the growth of non-aeronautical revenue by 1.5%.

### 3.2. Contribution of Airport Management to Local Government Budget (APBD)

Some areas have cooperated with airport managers. For example the West Nusa Tenggara Provincial Government entered into a cooperation agreement with PT Angkasa Pura I (Persero) in the construction and utilization of some of the air side physical facilities of Lombok Baru International Airport in Central Lombok District. The agreement covers the physical development of the air side by the Government of West Nusa Tenggara Province on land owned by PT Angkasa Pura I (Persero), preparation and delivery of Basic Design, delivery of the development of the Air Side Physical Facility by the West Nusa Tenggara Provincial Government to PT Angkasa Pura I Persero) to be utilized in the form of airport management and operation and a permanent contribution from PT Angkasa Pura I (Persero) to the West Nusa Tenggara Provincial Government during the management and operation of part of the air side's physical facilities (including the amount of value) pursuant to the agreement. The cooperation agreement will generate mutual benefits for both parties. Airport managers can improve their services to consumers and local governments receive contributions during the term of the agreement. Table 3 shows the results of airport performance evaluation on APBD performance.

Table 3 The results of the first evaluation of the Research Model

Variable	Indicator	Outer Loading	AVE	Communality	Status
Airport (X1)	Aircraft Arrival (x1.1)	0.995	0.881	0.881	VALID
	Aircraft Departure (x1.2)	0.994			VALID
	Passenger Departure (x1.3)	0.989			VALID
	Passenger Arrival (x1.4)	0.989			VALID
	Baggage Unloaded (x1.5)	0.988			VALID
	Baggage Loaded (x1.6)	0.990			VALID
	Cargo Unloaded (x1.7)	0.685			VALID
	Cargo Loaded (x1.8)	0.828			VALID
	APBD (Y1)	Revenue (Y1.1)			0.997
PAD (Y1.2)		0.996	VALID		
The result of separated regional wealth management (Y1.3)		0.979	VALID		
Expenditure (Y1.4)		0.996	VALID		
Capital Expenditure (Y1.5)		0.986	VALID		
Investment of Regional Capital (Investment) (Y1.6)		0.991	VALID		

Based on the Table 3, Convergent Test Validity Results it is seen that the value of Outer loading is > 0.50 and the Average Variance Extracted (AVE) is > 0.50, it can be concluded that the Airport and APBD variable meet the convergence validity test. Furthermore in Table 4 shown a discriminant test.

Table 4 Discriminant Test Results (Cross Loading Value)

Variable	Airport Performance (X1)	APBD Performance (Y1)	PDRB Performance (Y2)	CBD Performance (Y3)
Aircraft Arrival (x1.1)	0.995	0.127	0.411	0.412
Aircraft Departure (x1.2)	0.994	0.131	0.416	0.418
Passenger Departure (x1.3)	0.989	0.124	0.398	0.400
Passenger Arrival (x1.4)	0.989	0.117	0.392	0.393
Baggage Unloaded (x1.5)	0.988	0.115	0.396	0.401
Baggage Loaded (x1.6)	0.990	0.108	0.380	0.381
Cargo Unloaded (x1.7)	0.685	0.028	0.225	0.237
Cargo Loaded (x1.8)	0.828	0.037	0.214	0.219
Revenue (Y1.1)	0.134	0.997	0.849	0.761
PAD (Y1.2)	0.111	0.996	0.813	0.714
The result of separated regional wealth management (Y1.3)	0.116	0.979	0.781	0.674
Expenditure (Y1.4)	0.131	0.996	0.852	0.765
Capital Expenditure (Y1.5)	0.120	0.986	0.834	0.746
Investment of Regional Capital (Investment) (Y1.6)	0.048	0.991	0.767	0.662

Discriminant Test Results (Cross Loading Value) explains the largest cross loading is in the construct that formed. Thus it can be concluded that the research indicators meet the discriminant validity. Furthermore, constructive reliability test with the results shown in Table 5.

Table 5 Construction Reliability Test Results

Variable	Composite Reliability	Cronbachs Alpha	Status
Airport (X1)	0.983132	0.978889	RELIABLE
APBD (Y1)	0.996872	0.99623	RELIABLE

Based on the reliability test results, it can be seen in Table 5 that the value of composite reliability and Cronbach Alpha value for the variable Airport and APBD variable is > 0.6. Therefore it can be concluded that the Airport and APBD variable meet the reliability test, which clearly shows that all the constructor indicators are reliable. Based on the R-Square value, the value larger than > 0.75 is called the strong model, whereas > 0.50 summed up the moderate model and > 0.25 concludes that the model is weak. The result of R-Square test in this research, APBD model is very weak (Table 6).

Table 6 R Square Test Results

Dependent Variables	R-Square Value	Note
APBD (Y1)	0.013	Weak

Based on the T-Value Test Result an in Table 7, the T-value for the Airport Perform variable is 0.694. T-Value Test Results and compared with T-table is equal to 1,976 (significant level 0,05) hence T-count <T-table so variable of Airport Performance is predicted to have no significant correlation to APBD Performance.

Table 7 T-Value Test Results

Relation Between Variables	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics ( O/S - M  / STERR)
Airport (X1) -> APBD (Y1)	0.112	0.299	0.161	0.161	0.694

Based on statistical analysis, there is no significant correlation between airport performance and APBD performance. This indicates that regional governments are weak in supporting airport management in the regions. Regional governments are expected to participate more actively in investments or asset sharing of airports in the region.

#### 4. Summary

Cooperation between local governments and airport managers will generate a mutual benefits for both parties. Airport managers could improve their services to consumers and local governments receive contributions during the term of the agreement. Thus, the development

of a government-private partnership business centre in the region, particularly in the airport area, will increase regional economic equity. Based on statistical analysis, there is no significant correlation between airport performance and APBD performance. This indicates that regional governments are weak in supporting airport management in the regions. Regional governments are expected to participate more actively in investments or asset sharing of airports in the region.

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