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Analysis of the Influence of Tourism Sector on Original Local Government Revenue (PAD) of Tourism Sub-Sector in the Special Region of Yogyakarta (2013-2021)

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ABSTRACT

The objective of this study is to examine the impact of variables such as the volume of tourist visit, the quantity of tourist attractions. and the number of non-star hotels on the Original Local Government Revenue (PAD) of the tourism sub sector in the Districts/Cities of the Special Region of Yogyakarta Province in 2013-2021. This research is based on secondary data, namely the number of tourist visits, number of tourist attractions, and local revenue from the tourism sub-sector which is available in the tourism statistics of the Yogyakarta Special Region Tourism Office in 2013-2021 as well as the number of non-star hotels available in the Central Statistics Agency in 2013-2021. The analytical tool used is Panel Data Regression with the Random Effect Model (REM) approach. The research results highlight the positive impact of tourist visits and non-star hotels on local revenue in the tourism sub-sector, emphasizing the need for strategies to increase tourist arrivals and support non-star hotel growth. The lack of influence from tourist attractions suggests a need for further investigation and potential reevaluation of promotional efforts.

Keywords: Local Revenue; Non-Star Hotels; Tourist Attractions; Tourist Visits; Yogyakarta Tourism

INTRODUCTION

In Indonesia, one sector that has potential and is a driving force for the country and each region to increase revenue and become a driver of the economy is the tourism sector (Putra et al., 2019). The development of the tourism sector is able to contribute to regional economic development, namely increasing regional original income figures. The relationship between the tourism sector and regional income is connected through regional revenue channels and tax/non-tax revenue sharing (Sanjaya & Wijaya, 2020). Original Local Government Revenue (PAD) is an important source of revenue for local governments. Each region must always be creative and innovative in developing potential PAD sources so that the more PAD sources it has, the more sources of income that can be used to develop the region. PAD is also an indicator that can explain the independence of a region. The higher the PAD in an area, the higher its independence, and vice versa.

Table 1. Development of the Number of Tourist Visits in DIY Province 2013-2021

Year	Total (Soul)	Growth (%)
2013	13,486,721	18.52
2014	16,779,554	24.42
2015	19,507,914	16.26
2016	20,710,976	6.17
2017	25,950,793	25.30
2018	26,515,788	2.18
2019	28,324,394	6.82
2020	10,830,143	-61.76
2021	7,854,170	-27.48

Source: Yogyakarta City Tourism Department (2013-2021)

The Special Region of Yogyakarta (DIY) is not only famous as a city of struggle, student city and cultural city, but is also a province that is popular for its tourism sector. The uniqueness of tourism in DIY Province compared to other regions is that even though the area is relatively small, its cultural richness, strong customs and diverse natural beauty provide great potential for DIY if it continues to be developed. With the variety of tourist attractions available, DIY is no longer foreign to tourists, thus opening up opportunities to attract domestic and foreign tourists.

Based on table 1, it can be seen that the number of tourist visits from 2013 to 2019, the number of tourist visits in Yogyakarta Special Region Province (DIY) tends to experience positive growth. The highest number of tourist visits occurred in 2019 with total tourist visits reaching 28 million visits consisting of 4.2 million tourist visits in Yogyakarta City, 10.3 million visits in Sleman district, 8 million tourist visits in Bantul Regency, 2 million visits in Kulon Progo Regency, and 3.6 million visits in Gunung Kidul Regency. This number grew by 6.82% from the previous year which amounted to 26 million tourist visits. However, this number grew negatively by -61.76% in 2020 and -27.48% in 2021. The decline in the number of tourist visits was the impact of the Covid- 19 pandemic with the implementation of PSBB (Large-Scale Social Restrictions) which began in in 2020. The impact caused by the Covid-19 pandemic shows that tourism, which is linked to many supporting sectors, is a sector that is very vulnerable to disasters such as disease outbreaks or pandemics (Adam, 2022).

Table 2. Development of the Number of Tourist Attractions in DIY Province 2013-2021

Year	Tourist Attractions (units)	Growth (%)
2013	145	10.69
2014	146	0.69
2015	116	-20.55
2016	126	8.62
2017	150	19.84
2018	181	20.67
2019	183	1.10
2020	228	24.59
2021	265	16.23

Source: Indonesia. Development Planning Agency at Sub-National Level (n.d.)

According to table 2, tourist attractions in DIY Province from 2013 to 2021 experienced developments that tended to fluctuate. The largest increase in the number of tourist attractions occurred in 2018, namely an increase of 31 units or an increase of 19.84% from 2017. This quite drastic increase was caused by the increasing number of tourism-based villages being inaugurated, especially in Sleman Regency as well as the increase in the number of tourist attractions being opened. recently opened, especially in Kulon Progo Regency. Negative growth occurred in 2015 with a reduction of 30 tourist attractions. The decrease in the number of tourist attractions is due to the Tourism Department's policy of combining several similar tourist attractions that are located close together into one single tourist attraction. Then the numbers show a trend that will continue to increase until 2021.

Table 3. Development of the Number of Hotels in DIY Province 2013-2021

Year	Star Hotels (units)	Non-Star Hotels (units)	Hotels (units)	Growth (%)
2013	61	1106	1167	1.13
2014	72	1067	1139	-2.40
2015	85	1081	1165	2.28
2016	89	1076	1165	0
2017	117	1062	1179	1.20
2018	143	1475	1618	37.23
2019	163	1636	1799	11,19
2020	172	1951	2123	18.01
2021	168	1661	1829	-13.85

Source: Central Bureau of Statistics of Yogyakarta (n.d.)

Based on table 3, from 2013 to 2021 the number of hotels consisting of star and non-star hotels in the Special Region of Yogyakarta Province tends to fluctuate. From table 3, it can also be seen that the existence of non-star hotels is still recognized by tourists. The highest increase in the number of non-star hotels occurred in 2018 with an increase of 439 units from the previous year. This drastic increase in the number of hotels is due to the potential for the hotel business which is projected to continue to grow positively considering the increasing number of tourists visiting the Special Region of Yogyakarta Province every year. However, in 2021 the number of non-star hotels decreased by 294 units. The decline in the number of hotels in 2021 was caused by the policies issued during the Covid-19 pandemic which put a burden on hotels to operate and decided to close.

Table 4. Development of PAD in the Tourism Sub Sector in DIY Province 2013-2021

Year	Tourism Sub-Sector PAD (Rupiah)	Growth (%)
2013	188.821.138.834	10.54
2014	236,932,548,790	25.48
2015	266,941,954,875	12.67
2016	353,823,536,820	32.55
2017	423,014,287,594	19.56
2018	475.224.670.046	12.34
2019	606,380,697,697	27.60
2020	285,712,963,791	-52.88
2021	332,683,753,244	16.44

Source: Indonesia. Yogyakarta Tourism Department (n.d.)

From table 4, it can be seen that from 2013 to 2019 the amount of PAD for the tourism sub-sector has always shown an increase. The total PAD for the tourism sub-sector reached its highest point in 2019, namely IDR 606,380,697,697. There are several factors that can support the increase in the amount of PAD in the tourism sub-sector, especially the arrival of tourists visiting an area. Theoretically in Setiyaningsih (2018), the longer tourists stay in a tourist destination, the more money they will spend at that place for food, drink, and rental accommodation services.

From table 4 it can also be seen that the amount of PAD for the tourism sub-sector experienced a drastic decline of up to -51% in 2020. This was due to the impact of the Covid-19 pandemic which began to be felt at the beginning of 2020. The tourism sector is the sector most affected by the pandemic because of policies that require people to refrain from traveling, including for tourism, so that in 2020, according to data from the Yogyakarta Tourism Department (n.d.), tourism sector revenues will be through hotel and restaurant taxes, object levies. and tourist attractions, as well as spectacle and entertainment taxes, have also experienced drastic declines.

Seeing the position of PAD which is so important for regional financing independence, efforts and priorities are needed to manage tourism so that it is expected to be able to contribute maximally to regional income. The description above is the background to which the researchers are interested in conducting further research on " Analysis of the Influence of Tourism Sector on Original Local Government Revenue (PAD) of Tourism Sub-Sector in the Special Region of Yogyakarta (2013-2021)".

LITERATURE REVIEW

In accordance with Law No. 33 of 2004 regarding Central and Regional Financial Balancing (Indonesia. The Audit Board, 2004), PAD refers to revenue accrued by regions as per regional regulations within the framework of relevant laws and regulations. PAD serves as a manifestation of decentralization by empowering regional governments to finance regional autonomy in alignment with the potential of their respective regions. As stipulated in Article 6 of the same law, PAD comprises revenues derived from regional taxes, regional levies, proceeds from separately managed regional assets, and other lawful sources of PAD.

Based on Law Number 28 of 2009 (Indonesia. The Audit Board, 2009b), regional taxation, termed as tax hereafter, is a compulsory payment to the locality, mandated by law without direct compensation (Ritonga, 2021). It is imposed on individuals or entities and is utilized for regional necessities, aiming at the optimal well-being of the populace. Taxation is crucial for gathering state income and sustaining a vibrant economy and

society continuously (Soebroto et al., 2023). PAD through taxes is managed by provinces and districts/cities.

Revenue from the management of regional assets that are separated constitutes PAD in the form of proceeds from the operations of regional enterprises. Oversight of this revenue falls under the purview of Regional Owned Enterprises (BUMD) and other regional financial sub-sectors. The earnings generated from the management of separated assets may stem from profit-sharing arrangements with entities such as Regional Drinking Water Companies (PDAM), banking and non-banking financial institutions, and other locally owned enterprises, as well as returns from regional capital investments in third-party ventures (Tobing, 2021).

Additionally, according to Law No. 33 of 2004 (Indonesia. The Audit Board, 2004), other legitimate sources of PAD include revenue derived from the sale of non-separated regional assets, earnings from current account services, interest income, gains from fluctuations in the rupiah exchange rate vis-à-vis foreign currencies, and commissions, deductions, or other forms of income arising from the sale and/or procurement of goods and/or services by the region.

Tourism is a travel activity by individuals or groups of people who visit a place with the intention of recreation, self-development, or learning the unique value of the tourist attraction visited. People who travel are called tourists (Himawan, 2022). Tourism income is part of PAD originating from tourism activities such as hotel and restaurant taxes, entertainment taxes, etc. in rupiah units per year (Rahayu & Arifin, 2020). Apart from contributing through taxes, the tourism sector also contributes through levies originating from the use of regional property (rent), accommodation, and also tourist and sports attractions (Marie & Widodo, 2020). Based on tourism statistics by the Yogyakarta Tourism Department (n.d.), the components that make up the amount of Regional Original Income (PAD) for the Tourism Sub Sector come from Hotel and Restaurant Taxes, Spectacle and Entertainment Taxes, Tourism Business Licensing Levy, and Levy for Use of Regional Government Assets (Rent/Contact/Share).

Based on Law No. 10 of 2009 (Indonesia. The Audit Board, 2009a), concerning Tourism, tourist objects or tourist attractions are anything that has the value of beauty, uniqueness, and diversity in the form of natural, cultural, or man-made riches that are targeted by tourists to visit. A tourist attraction is anything that is found in an area and has its own charm, uniqueness and value that can make tourists interested in coming to that place (Ahmad, 2022). The large number of tourist attractions will result in many tourists visiting so that local revenue will increase (Maharani et al., 2020).

Several prior studies have explored the impact of variables such as the number of tourist visits, number of tourist attractions, and number of non-star hotels on Regional Original Income (PAD) within the Tourism Sub Sector.

Firstly, Sari and Dewi (2023) conducted research analyzing the combined and individual effects of these factors on PAD in the Regency/City of Bali Province from 2014 to 2018. Utilizing secondary data from various sources including the Central Bureau of Statistics (BPS) and literature sources, they employed multiple linear regression analysis. Their findings revealed that collectively, the number of tourist visits, tourist attractions, and hotels significantly influenced PAD in the Regency/City of Bali Province. Additionally, each factor individually exhibited a positive and significant effect on PAD.

Secondly, Nurainina and Asmara (2022) investigated the influence of the number of tourists, hotels, and tourist attractions on PAD in Tuban Regency spanning from 2006 to 2020. Employing multiple linear regression analysis on secondary data sourced from budget realization reports and BPS publications, they found that while the number of tourist visits had no effect on PAD, the number of hotels and tourist attractions significantly impacted PAD. Simultaneously, all three factors exerted a significant influence on PAD.

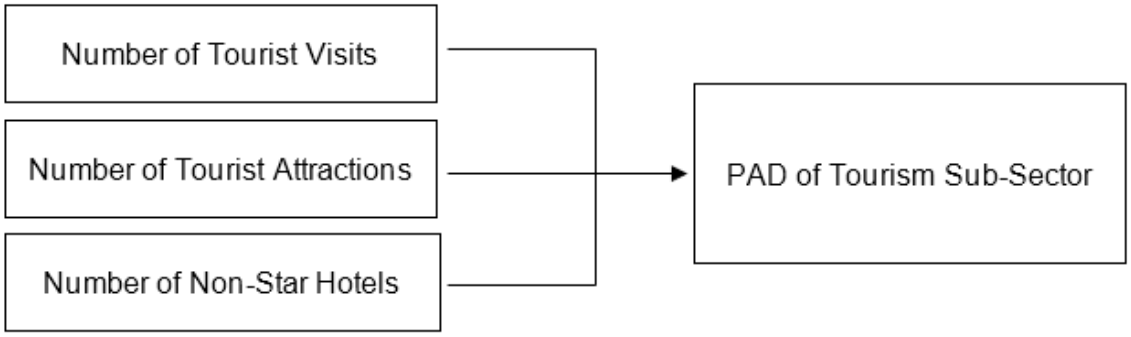
Thirdly, Inayati and Wirasandi (2020) aimed to ascertain the effect of the number of tourists and tourist attractions on PAD in Central Lombok Regency from 2017 to 2019. Using the saturated sample method for sampling and multiple linear regression analysis for analysis, they discovered that both the number of tourists and tourist attractions had a positive and significant impact on PAD, individually and collectively.

Fourthly, Asmisari et al. (2021) sought to identify the impact of the number of tourists, restaurants, hotels, and population on PAD within the tourism sector in Central Java Province from 2015 to 2019. Employing panel data regression analysis on data obtained from BPS and the Central Java Province Tourism Department, they found that all variables except the number of hotels significantly influenced PAD within the tourism sector.

Lastly, Ahmad (2022) conducted research analyzing the influence of the number of tourist visits, tourist attractions, and tourism levies on local revenue in the Regency/City of Yogyakarta Special Region Province from 2015 to 2020, utilizing secondary data from the Yogyakarta Special Region Tourism Department.

The conceptual framework of this research explains that the number of tourist visits, number of tourist attractions, and number of non-star hotels will have an influence on PAD. This Conceptual Thinking Framework is presented in Figure 1 as follows.

Figure 1. Conceptual Thinking Framework



The number of tourist visits has an important role in tourism which will have an impact on the amount of fees paid when traveling on tour. Tourists who visit a tourist attraction will be charged a levy so that the higher the number of tourists who come will increase the community's economy and local revenue (Wijaya & Sudiana, 2016). Seeing that levies are one of the sources of PAD, the number of tourist visits can support the amount of PAD, especially in the tourism sector in the Regencies/Cities of DIY Province.

Hotels have a function as a driver of regional development, they need to be designed perfectly so that they can increase people's income, PAD, absorb labor and expand business (Sabrina & Mudzhalifah, 2018). The greater number of non-star hotels that exist will increase the PAD obtained in the area through taxes.

RESEARCH METHOD

This study adopts a quantitative approach, which, as described by Sugiyono (2018), involves utilizing positivistic data. The objective is to examine the impact of the number of tourist visits, number of tourist attractions, and number of non-star hotels on PAD in the Regency/City of Yogyakarta Special Region Province from 2013 to 2021.

The data utilized in this study is secondary in nature, specifically quantitative data. It comprises panel data encompassing both time series data spanning from 2013 to 2021 and cross-sectional data representing districts/cities within the Special Region of Yogyakarta Province. These datasets were sourced from the Central Bureau of Statistics (BPS) of Yogyakarta for the years 2013 to 2022, providing information on the number of non-star hotels. Additionally, data on the number of tourist visits, number of tourist attractions, and PAD within the tourism subsector were obtained from Yogyakarta Tourism Statistics for the years 2013 to 2021.

PAD data for the tourism sub-sector was obtained from tourism statistics by the Yogyakarta Tourism Department which were published in various years and expressed in rupiah units. Data on the number of tourists was obtained from form the same source which were published in various years in person units. Meanwhile, data on the number of tourist attractions was obtained from DIY BPS in various years in units.

The analytical approach employed in this study is panel data regression, which integrates both time series and cross-sectional data. As highlighted by Widarjono (2007), utilizing panel data offers several advantages, including the ability to incorporate a broader range of data, leading to outcomes with increased degrees of freedom. Moreover, panel data analysis can address issues related to omitted variables more effectively.

The function of the regression equation can be written with the following equation:

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + e_{it}$$

Information:
Y is the Log of Regional Original Income (PAD) for the Tourism Sub Sector
X1 is the log of the number of tourist visits
X2 is the Log Number of Tourist Attractions
X3 is the Log Number of Hotels
B is a Parameter
i is the Regency/City (i = 1,….n)
t is the Research Period (t + 1,….t)
e is the Standard Error

After making estimates, the best model for this research is then selected. There are 3 (three) choices of regression estimation models from panel data, namely as follows.

The Common Effect Model (CEM)
The Common Effect Model (CEM) is a straightforward panel data estimation model that amalgamates time series and cross-sectional data into pooled data, assuming uniform behavior across individual entities. Consequently, distinctions between different time periods and entities are either indistinguishable or disregarded.

The Fixed Effect Model (FEM)

In contrast, the Fixed Effect Model (FEM) posits that various entities exhibit unique characteristics. This model assumes differing intercepts for each entity while maintaining uniform slopes. Dummy variables, known as FEM, are introduced to differentiate the intercepts of each entity, allowing for the observation of behavioral changes across diverse datasets.

The Random Effect Model (REM)

The Random Effect Model (REM) is an estimation technique that introduces nuisance variables to address potential issues stemming from the use of dummy variables in FEM. These nuisance variables, or error terms, alleviate the reduction in degrees of freedom caused by dummy variables. REM operates under the assumption that error terms for each entity are interrelated, resulting in varying intercepts for each individual.

The optimal model for estimating panel data will be identified among these three models. To ascertain the most appropriate model, model selection tests are essential. Conducting tests such as the Chow Test, Hausman Test, and Lagrange Multiplier Test is necessary to determine the regression model that best fits the research data.

If the Cross Section probability F exceeds the predetermined significance level (α = 0.05), indicating statistical insignificance, the Common Effect Model is considered the preferred option. Conversely, if the Cross Section probability F falls below the significance level, indicating statistical significance, the Fixed Effect Model is deemed the most suitable choice (Basuki & Prawoto, 2016).

The partial significance test, also known as the t-test, is utilized to assess the impact of each independent variable on the dependent variable (Ghozali, 2021). This study aims to determine whether the independent variables—namely, the number of tourist visits, the number of tourist attractions, and the number of non-star hotels—significantly influence the dependent variable, local revenue in the tourism sub-sector.

A significance level of 5% or 0.05 is employed in this test. If the significance value is less than 0.05, it indicates that the independent variable has a significant effect on the dependent variable. Conversely, if the significance value exceeds 0.05, it implies that the independent variable does not significantly affect the dependent variable. The calculated t-value will be compared to the t-table at a significance level of α = 5% or 0.05. To obtain the t-table value, the degrees of freedom (df) must be determined.

According to Ghozali (2021), the coefficient of determination (R^2) assesses the model's ability to explain variations in the dependent variable. R^2 ranges between zero and one, with a higher Adjusted R Square value indicating better explanatory power of the independent variables on the dependent variable. Conversely, a lower Adjusted R Square suggests that variations in the independent variable provide less explanation for variations in the dependent variable. A value of zero for Adjusted R Square indicates no relationship between the dependent and independent variables.

The study focuses on districts and cities within the Special Region of Yogyakarta (DIY) Province from 2013 to 2021. The dataset comprises four districts and one city, totaling five districts and cities in DIY Province. The sample includes five regions, resulting in a total of 45 data points over the nine-year period. Panel data regression analysis is employed in this study, with PAD for the tourism sub-sector as the dependent variable and the number of tourist visits, number of tourist attractions, and number of non-star hotels as the independent variables.

RESULTS

Table 5. PAD for the Tourism Sub-Sector in Regencies/Cities of DIY Province 2013-2021

Year	Tourism Sub-Sector PAD in Regencies/Cities of DIY Province (Million)				
	Yogyakarta	Sleman	Bantul	Kulon Progo	Gunung Kidul
2013	94,840.26	68,632.18	14,533.81	2,646.01	8,168.85
2014	116,146.93	84,780.22	16,046.01	2,544.11	17,415.25
2015	116,146.93	104,985.10	18,281.32	3,420.77	24,107.81
2016	162,390.76	137,152.07	21,901.26	4,004.04	28,375.38
2017	186,241.78	180,915.05	17,774.91	5,323.77	32,758.74
2018	177,219.54	218,475.24	47,172.65	6,570.89	25,786.32
2019	253,163.83	260,993.14	51,667.90	7,734.23	32,821.57
2020	126,191.70	117,594.79	21,157.02	6,176.83	14,592.59
2021	118,807.33	148,434.55	34,074.71	7,912.53	23,454.60

Source: Yogyakarta Tourism Department (n.d.)

Based on table 5, PAD for the tourism sub-sector according to Regency/City, Yogyakarta in 2013-2019 experienced an increasing trend every year. This shows that the sub-sector's original regional income in Yogyakarta has experienced positive development. However, this development experienced a setback in 2020 because the Covid-19 pandemic that hit the world affected the tourism sector. In 2021, the PAD figure for the tourism sub-sector in DIY Province will begin to gradually increase again. Sleman Regency had the largest PAD value for the Tourism Sub Sector in 2019 with a figure reaching IDR 260,993,149,843 and the highest contributor was Hotel and Restaurant Tax worth IDR 231,803,333,854. This is natural because the number of hotels in Sleman Regency continues to increase.

Table 6. Number of Tourist Visits in Regencies/Cities of DIY Province 2013-2021

Year	Number of Tourist Visits in the District/City of DIY Province (soul)				
	Yogyakarta	Sleman	Bantul	Kulon Progo	Gunung Kidul
2013	4,979,818	3,950,928	2,037,874	695,850	1,822,251
2014	5,251,352	4,223,958	2,708,816	904.972	3,690,456
2015	5,850,110	5,206,128	4,519,199	1,289,718	2,642,759
2016	5,520,952	4,950,934	5,405,800	1,353,400	3,479,890
2017	5,347,303	6,814,558	9,141,150	1,400,786	3,246,996
2018	4,752,351	7,898,088	8,840,442	1,969,623	3,055,284
2019	4,216,601	10,378,154	8,012,666	2,036,170	3,680,803
2020	1,366,570	4,250,119	2,265,423	966,432	1,981,599
2021	459,262	1,728,418	2,819,748	909.107	1,937,635

Source: Yogyakarta Tourism Department (n.d.)

Based on table 6, the number of tourist visits in Yogyakarta in 2013-2019 is uncertain every year. Sleman Regency had the highest number of tourist visits in 2019, namely 10,378,154 people. Meanwhile, Yogyakarta City in 2021 had the lowest number of tourist visits, namely only 459,262 people. From table 6, it can also be seen that the number of tourist visits each year has a tendency to always increase. This data proofs that the Yogyakarta has great potential to develop its tourism sector. However, in 2020 and 2021 the number of tourist visits has decreased.

Table 7. Number of Regency/City Tourist Attractions in DIY Province 2013-2021

Year	Number of Tourist Attractions Regency/City in DIY Province (unit)				
	Yogyakarta	Sleman	Bantul	Kulon Progo	Gunung Kidul
2013	25	69	8	25	18
2014	25	70	8	25	18
2015	22	47	17	18	12
2016	23	47	28	16	12
2017	25	46	53	16	10
2018	23	57	46	41	14
2019	19	49	48	42	25
2020	21	60	59	48	40
2021	22	80	74	48	41

Source: Yogyakarta Tourism Department (n.d.)

Table 7 shows the number of tourist attractions in Yogyakarta in 2013-2021 which is uncertain in each district and each year. The highest number of tourist attractions will be in Sleman Regency in 2021 with the number of tourist attractions reaching 80 units. Meanwhile, the lowest number of tourist attractions was in Bantul Regency in 2013 and 2014 with only 8 tourist attractions. Table 7 also shows that the increase and decrease in the number of tourist attractions in each region occurs erratically. A quite drastic increase occurred in 2020. Despite the Covid-19 pandemic, tourist attractions were not affected in terms of numbers. According to a review by Yogyakarta Tourism Department (n.d.), this is due to the emergence of new innovations which have resulted in an increasing number of villages and restaurants changing their base to tourism-based ones which have been launched, especially in Sleman Regency, as well as an increase in the number of newly opened tourist attractions, especially in Kulon Progo Regency. Apart from that, even though the government is intensifying the Large-Scale Social Restrictions (PSBB) policy and closing some tourist attractions, activities within tourist attractions are still ongoing to refresh and improve tourist attractions.

Negative growth in the number of tourist attractions occurred in 2015 with a decrease of 30 tourist attractions. The decrease in the number of tourist attractions is due to the Tourism Department's policy of combining several similar tourist attractions that are located close together into one single tourist attraction. Therefore, the number of tourist attractions becomes simpler and fewer. Then the numbers show a trend that will continue to increase until 2021.

Table 8. Number of Non-Star Hotels in Regencies/Cities of DIY Province 2013-2021

Year	Number of Non-Star Hotels in the District/City of DIY Province (unit)				
	Yogyakarta	Sleman	Bantul	Kulon Progo	Gunung Kidul
2013	362	379	278	26	61
2014	356	366	248	27	70
2015	362	363	261	26	69
2016	362	354	265	26	69
2017	356	358	251	24	73
2018	490	575	251	24	135
2019	479	649	283	26	199
2020	623	715	384	36	193
2021	536	587	344	35	159

Source: Yogyakarta Tourism Department (n.d.)

Table 8 illustrates the variation in the number of non-star hotels across different districts and years. The lowest count was recorded in Kulon Progo district in 2017 and 2018, totaling 24 units, while the highest count occurred in Sleman Regency in 2020, reaching 715 units. Despite the challenges posed by the Covid-19 pandemic, data from the Central Bureau of Statistics of Yogyakarta (n.d.) reveal a consistent increase in the number of non-star hotels in Yogyakarta Special Region Province. This growth can be attributed to the timing of data collection, which occurred from January to February, before the pandemic significantly impacted the hospitality sector.

Following the regression analysis to determine the optimal model between the Common Effect Model and the Fixed Effect Model, the Chow Test yielded the following results.

Table 9. Chow Test Results

Effect Test	Statistics	df	Prob
Cross-section F	21.523465	(4.37)	0.0000

Source: Data Analysis 2013-2021, EViews 12

From Table 9, it is evident that the F-statistic probability value (0.0000) is less than α (0.05), indicating the rejection of the null hypothesis (H0). Therefore, the optimal model to employ is the Fixed Effect Model. The subsequent step involves testing the best model between the Fixed Effect Model and the Random Effect Model using the Hausman Test.

In the Hausman test, if the probability value for the random cross-section exceeds α (0.05), then the preferable model is the Random Effect Model. Conversely, if the probability value for the random cross-section is below α (0.05), it indicates that the Fixed Effect Model is the preferred choice. Based on the test results conducted to ascertain the superior model between the Fixed Effect Model and the Random Effect Model.

Table 10. Hausman Test Results

Test Summary	Chi-Sq. Statistics	Chi-Sq.df	Prob.
Random cross-section	1.942084	3	0.5845

Source: Data Analysis 2011-2021, EViews 12

The cross-section probability value (0.5845) exceeds α (0.05), indicating acceptance of the null hypothesis (H0). Consequently, the results suggest that the Random Effect Model is the most suitable choice. The subsequent step involves determining the optimal model between the Random Effect model and the Common Effect model using the Lagrange Multiplier Test.

In the Lagrange Multiplier test, if the probability value for the Breusch-Pagan test surpasses α (0.05), then the preferred model is the Common Effect Model. Conversely, if the probability value for the Breusch-Pagan test falls below α (0.05), it indicates that the Random Effect Model is the preferable option. Based on the test results conducted to identify the superior model between the Random Effect Model and the Common Effect Model, the LM Test yielded the following outcomes.

Table 11. LM Test Results

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	66.69752	0.290693	66.98821
	(0.0000)	(0.5898)	(0.0000)

Source: Data Analysis for 2011-2021, EViews 12

Table 11 displays the outcomes of the LM Test in this study, as indicated by the Breusch-Pagan probability value (0.0000) being less than α (0.05). Consequently, the null hypothesis (H0) is rejected, leading to the conclusion that the Random Effect model is the most appropriate choice.

Following the model selection tests, it is evident that the Random Effect model is the optimal choice for this research. The estimation results obtained using the Random Effect model are presented below.

Table 12. Random Effect Model Regression Results

Variables	Coefficient	Std. Error	t-Statistics	Prob.
C	6.352603	0.853118	7.446331	0.0000
LOG_JKW	0.412119	0.105856	3.893206	0.0004
LOG_JOW	0.005688	0.133000	0.042766	0.9661
LOG_JH	0.673397	0.192557	3.497136	0.0011

Source: Data Analysis 2013-2021, EViews 12

Based on table 12 through the results of the Random Effect model, the regression equation can then be written as follows:

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 \_\_ \_\_ \_$$

LOG_PADPAR = 6.352602 + 0.412119 LOG_JKW + 0.005688 LOG_JOW + 0.673397 LOG_JH

The computation results yield a degree of freedom of df = (n - k), which equals df = (45 – 4) = 41. The t-table value is determined as 1.6829. For the variable "Number of Tourist Visits," the t-count value is 3.8932 with a significance level (α) of 5%. Thus, the t-count value (3.8932) exceeds the t-table value (1.6829). Consequently, with a probability of 0.0004 < 0.05, it can be inferred that the number of tourist visits significantly and positively influences the PAD of the tourism sub-sector in Yogyakarta.

Regarding the variable "Number of Tourist Attractions," the t-count value is 0.0427 with α = 5%, indicating that the t-count value (0.0427) is less than the t-table value (1.6829). With a probability of 0.0427 > 0.05, it suggests that the number of tourist attractions does not significantly affect the PAD of the tourism sub-sector in the Regency/City of the Special Region of Yogyakarta.

For the variable "Number of Non-Star Hotels," the t-count value is 3.4971 with α = 5%. Here, the t-count value (3.4971) surpasses the t-table value (1.6829). With a probability of 0.0011 < 0.05, it indicates that the number of non-star hotels significantly influences and has a positive relationship with the PAD of the tourism sub-sector in Yogyakarta.

The F-statistical test is employed to ascertain whether the independent variables concurrently influence the dependent variable. In this study, the F test examines the accuracy of the regression model, specifically assessing whether the independent variables—number of tourist visits, number of tourist attractions, and number of non-star hotels—jointly influence the dependent variable, Regional Original Income, in the tourism sub-sector. With a significance level of 5% or 0.05, if the F test yields a significance value ≤ 0.05, it indicates that the regression model is significant; conversely, a significance value ≥ 0.05 implies insignificance.

Table 13. Simultaneous Test (F Test)

F-statistic	9.046856
Prob(F-statistic)	0.000102

Source: Data Analysis 2013-2021, EViews 12

The Random Effect model, investigating the impact of the number of tourist visits, number of tourist attractions, and number of non-star hotels on local revenue in the tourism sub-sector, yielded an F-count of 9.0468. Calculating the Degree of Freedom for Numerator (dfn) = (k - 1) = (4 - 1) = 3 and Degree of Freedom for Denominator (dfd) = (n - k) = (45 - 4) = 41, the F-table value is 2.832747. Consequently, the F-count (9.0468) surpasses the F-table (2.8327).

Examining table 13, the F-statistical probability value is determined as 0.000102, indicating that the probability of F is lower than the significance level of 5% or 0.05. This signifies that the variables—Number of Tourist Visits, Number of Tourist Attractions, and Number of Non-Star Hotels—simultaneously influence the Regional Original Income of the Tourism Sub Sector in Yogyakarta.

The coefficient of determination, employed to gauge the model's capacity to elucidate variations in the independent variable explaining variations in the dependent variable, ranges between zero and one.

Table 14. Coefficient of Determination (R^2)

R-squared	0.398303
Adjusted R-squared	0.354276

Source: Data Analysis 2013-2021, EViews 12

Based on table 14, the Adjusted R-squared value is 0.3543 or 35.43% in percentage form. This value means that the variables number of tourist visits, number of tourist attractions, and number of non-star hotels have the ability of 35.43% to explain and influence the dependent variable, namely Original Local Government Revenue (PAD) in the tourism sub-sector. Meanwhile, 64.57% was influenced and explained by other variables and were not found in this study.

DISCUSSION

Statistical hypothesis testing reveals that the number of tourist visits has a significant and positive impact on the PAD of the tourism sub-sector in Yogyakarta between 2013 and 2021. The regression results in table 12 indicate that the probability associated with the number of tourist visits is 0.0004, with a coefficient value of 0.4121. This suggests that for every unit increase (or percent increase) in the number of tourist visits, the PAD value for the tourism sub-sector is expected to increase by 0.4121 units (or percent).

These findings are consistent with prior research conducted by Asmisari et al. (2021), which similarly demonstrates that the number of tourist visits positively and significantly affects the PAD in the tourism sub-sector. Moreover, studies by Sari & Dewi (2023), Inayati & Wirasandi (2020), and Ahmad (2022) yield analogous results, indicating a significant and positive relationship between the number of tourists and PAD. It's noteworthy that tourist visits and attractions can influence the revenue generated from tourist attractions. Additionally, the levy, a source of PAD for the tourism sub-sector, is typically paid by the managers of tourist sites to the local government.

According to the regression results in table 12, the probability associated with the number of tourist attractions is 0.9661. This implies that the number of tourist attractions does not have a significant effect on the PAD of the tourism sub-sector in Yogyakarta between 2013 and 2021.

These findings differ from those of previous studies conducted by Inayati & Wirasandi (2020) and Sari & Dewi (2023), which indicated that tourist attractions influence PAD in Central Lombok Regency and various Regencies/Cities of Bali Province. However, this research aligns with Ahmad's study (2022), which concluded that tourist attractions do not impact PAD in Yogyakarta. It suggests that the number of tourist attractions in a region may not consistently affect the PAD of the tourism sub-sector. This could be due to various factors such as the absence of entrance fees at certain attractions or the presence of illegal levies imposed by individuals at some sites. Additionally, an increase in tourist attractions without corresponding improvements in tourist facilities may deter visitors from visiting or revisiting these sites.

On the other hand, this research concurs with studies by Sari & Dewi (2023) and Nurainina & Asmara (2022), which found that the number of hotels positively and significantly affects PAD. However, Asmisari et al. (2021) reported that the number of hotels does not significantly influence PAD in the tourism sub-sector. The increase in hotel numbers typically leads to the imposition of business establishment levies and hotel taxes, thereby impacting PAD for the tourism sub-sector.

CONCLUSION

The analysis and discussions conducted in this research shed light on several significant findings regarding the tourism sub-sector in the Regency/City of the Special Region of Yogyakarta from 2013 to 2021. Firstly, it is evident that the variable representing the number of tourist visits has a considerable impact, indicating a positive correlation with Regional Original Income. This suggests that an increase in tourist visits has substantially contributed to the economic performance of the tourism sub-sector throughout the specified period. The influx of tourists has likely boosted revenue streams from various tourism-related activities, such as accommodations, dining, and local attractions.

Conversely, the variable related to the number of tourist attractions does not demonstrate any discernible effect on Regional Original Income. Despite the presence of numerous tourist attractions within the region, their influence on economic outcomes appears to be minimal. This finding raises questions about the effectiveness of existing tourist attractions in driving economic growth within the tourism sub-sector. It also highlights the need for further investigation into factors that may hinder the monetization of these attractions or their ability to attract visitors.

On the other hand, the variable representing the number of non-star hotels emerges as a significant factor, exhibiting a positive relationship with Regional Original Income. This suggests that the presence and growth of non-star hotels have played a notable role in enhancing the economic performance of the tourism sub-sector in the region over the studied years. The proliferation of non-star hotels likely signifies increased accommodation options for tourists, thereby contributing to higher tourist spending and overall economic activity in the region.

In summary, these findings underscore the multifaceted nature of the tourism sub-sector and the various factors that influence its economic performance. While tourist visits and non-star hotels have proven to be significant drivers of economic growth, the impact of tourist attractions appears to be less pronounced. Moving forward, policymakers and stakeholders in the tourism industry may need to reassess strategies for leveraging existing attractions and maximizing their economic potential to further enhance the region's tourism sub-sector.

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DECLARATION OF CONFLICTING INTERESTS
The author states that the data published in this research does not have a conflict of interest for any party.

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