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Analysis of the Impact of the Number of Hotels, the Number of Tourists, and the Number of Tourist Attractions on the Revenue of the Tourism Sector in Wonosobo Regency From 2014 To 2022

Firdaus Aldi Saputra, Endah Saptutyningsih
Universitas Muhammadiyah Yogyakarta, Indonesia
e-mail: firdausaldisaputra11@gmail.com, endahsaptuty@umy.ac.id

Abstract.
Wonosobo Regency is one of the leading tourist destinations in Central Java with significant natural and cultural potential. However, fluctuations in tourism sector revenues, especially during the COVID-19 pandemic, indicate the need to identify factors that affect the economic performance of the sector. This research aims to analyze the impact of the number of hotels, the number of tourists, and the number of tourist attractions on tourism sector income in Wonosobo Regency from 2014 to 2022. The data in this study were obtained from the Central Statistics Agency of Wonosobo Regency, the Tourism and Culture Office of Wonosobo Regency, and other sources related to this research. This study uses Multiple Linear Regression Analysis with *EViews 10* as the analysis tool. Based on the results of the analysis that has been carried out, it was found that the number of tourists and the number of hotels have a positive and significant influence, while the number of tourist attractions has a negative and significant influence. The R^2 result obtained was 0.880161, showing that the variables under study (number of tourists, number of hotels, and number of tourist attractions) influence tourism sector income by 88%, while other variables outside the study account for the remaining 12%. These findings underscore the need to prioritize quality over quantity in tourism development. Local governments should enhance existing attractions, boost promotion, and streamline hotel investment processes. Tourism stakeholders must innovate services and collaborate to strengthen sustainable appeal.

Keywords: Number of Hotels, Number of Tourists, Number of Tourist Attractions, Tourism Sector Revenue

INTRODUCTION

National development should be carried out evenly throughout the country and not only for one group or part of the community, and must truly be felt by all people as part of improving community welfare, which is a manifestation of the fifth precept, namely justice for all Indonesian people (Alyani & Siwi, 2020). Development is also carried out in various sectors, including the tourism sector at the regional level, in accordance with the potential and priorities of each region (Agustini & Purwanti, 2020).

The potential for tourism in Indonesia is huge. From Sabang to Merauke, there is a wide range of natural wealth and cultural heritage (Alwi et al., 2019). This is substantial capital to play an active role in the tourism sector as a travel destination both domestically and internationally (Badrudin & Khasanah, 2011). In order to improve regional development and human welfare, one of the people's economic potentials that needs to be developed is the tourism sector (Chairunisalda, 2021). Each region in Indonesia has its own charm and tourist attractions, as well as transportation options, accommodation, dining choices, entertainment options, and opportunities to mingle with the locals (Kuncoro, 2013; Lusiana et al., 2021;

Maesaroh, 2019; Muharto, 2020; Najjah et al., 2022). Utilizing the potential of the tourism industry is one way to increase regional development (Badrudin & Khasanah, 2011).

Tourism itself is a service industry with a complex regulatory structure because it includes regulating the movement of people from one place to another involving many parties: agents, tour guides, and tour operators, transportation, lodging, art galleries, *money changers*, and others (Prianto, 2022; Ranasinghe et al., 2020; Sabrina & Mudzhalifah, 2018). Nature tourism, cultural tourism, historical tourism, artificial tourism, and various special interest tourism are just a few types of tourism-related products and services (Dewi et al., 2020).

According to the *Qur'an*, traveling is a command and a necessity to understand God, the creator of the universe, and to learn from observation (Ghozali & Dwi, 2013). Indeed, God created everything on earth solely to meet the needs of all His creatures and to ensure the well-being of all His people. Nothing is wasted because everything has a purpose.

As Allah SWT says in *QS. Al-A'raaf*: 56:

وَلَا تُفْسِدُوْا فِى الْاَرْضِ بَعْدَ اِصْلَاحِهَا وَادْعُوْهُ خَوْفًا وَّطَمَعًاۗ اِنَّ رَحْمَتَ اللّٰهِ قَرِيْبٌ مِّنَ الْمُحْسِنِيْنَ

Say: "And do not cause any damage on the earth, after Allah has repaired it, and pray to Him with fear (it will not be accepted) and hope (will be granted) that Allah's mercy is very near to those who do good." 5 (QS. Al-A'Raaf: 56).

According to the above verse, everyone has a responsibility to preserve and not destroy what God has given on earth, because God is the source of all good and every opportunity for the further development of humanity (Itamar et al., 2014). Among many other verses, it shows the enormous natural potential that humans can use to improve their own well-being (Irawan, 2022). Wonosobo Regency is a popular tourist destination in the province of Central Java, featuring attractions such as Winding Rocks, Lake Cebong, Dieng Temple, Pengilon Lake, Dringo Lake, and Warana Lake. Data from *BPS* Wonosobo Regency shows that tourism has increased over the previous five years. This growth is encouraging news for the tourism sector of Wonosobo Regency (Ghozali & Fuad, 2011).

Table 1. 10 Regencies and Cities in Central Java with the Most Tourist Visits in 2021

No.	Regency	Wisnu	Wisman
1	Kab. Klaten	818.756	22.024
2	Kab. Semarang	755.616	699
3	Kab. Magelang	696.193	22.227
4	Kab. Purbalingga	496.932	40
5	Kab. Banyumas	442.364	79
6	Kab. Demak	381.774	42
7	Kab. Karanganyar	334.276	698
8	Kab. Surakarta	317.096	1.284
9	Kab. Wonosobo	303.005	1.202
10	Kab. Jepara	297.646	3.004

Source: Sisdaporapar.jatengprov.go.id (processed)

Based on Table 1, it shows that Wonosobo Regency is among the 10 favorite tourist destinations in Central Java. This is evidenced by the presence of 303,005 domestic or local

tourists and 1,202 foreign tourists who came to visit Wonosobo Regency. This proves that Wonosobo Regency has tourist attractions, especially its natural attractions.

Table 2. Tourism Sector Revenue Data 2014-2021

Year	Revenue
2014	513,344,200
2015	713,368,100
2016	745,468,300
2017	795,668,100
2018	817,144,200
2019	838,747,100
2020	193,109,100
2021	392,750,400

Source: Wonosobo Regency Tourism and Culture Office, 2022

Based on data from the Wonosobo Regency Tourism and Culture Office (*Disparbud*), revenue from the tourism sector before the COVID-19 pandemic, from 2014 to 2019, continued to increase. However, after the COVID-19 pandemic hit, revenue from the tourism sector experienced a significant decline due to several government policies that restricted community activities (Suryadana & Octavia, 2015).

This research aims to analyze the impact of the number of hotels, the number of tourists, and the number of tourist attractions on the income of the tourism sector in Wonosobo Regency for the 2014–2022 period. In particular, this study was designed to examine the partial and simultaneous influence of these three independent variables on tourism sector income, as well as to determine the contribution made by these variables in explaining changes in tourism sector income. The results of this research are expected to provide benefits both practically and academically. Practically, this research can be considered by the Wonosobo Regency Regional Government in formulating tourism development policies, especially in terms of hotel accommodation management, increasing tourist visits, and developing higher quality and more sustainable tourist attractions. For business actors in the tourism sector, the results of this research can be used as a reference in investment decision-making and business management. Academically, this research is expected to enrich references and insights in the field of tourism economics, especially regarding the factors that affect tourism sector income, as well as serve as the basis for further in-depth and comprehensive research.

METHOD

This research is quantitative research with a causal associative approach that aims to analyze the cause-and-effect relationship between independent variables (number of hotels, number of tourists, and number of tourist attractions) and the dependent variable (tourism sector income). This study discusses the factors that influence tourism sector revenue. The location of this study is Wonosobo Regency. The dependent variable in this study is tourism sector revenue, while the independent variables consist of three variables, namely the number of hotels, the number of tourists, and the number of tourist attractions. The data type in this study is secondary data in the form of time series data with monthly observations during the

period 2014-2022. The data in this study were obtained from the Wonosobo Regency Central Statistics Agency, the Wonosobo Regency Tourism and Culture Office, and other sources related to this study. In this study, the data collection method used was a literature study obtained from the Central Statistics Agency, the Wonosobo Regency Tourism and Culture Office, related institutions, and journals and reference books related to this study, through direct recording in the form of time series data from 2014 to 2022.

Operational Definition of Variables

Dependent Variable

The dependent variable in this study is tourism sector revenue, which is obtained from the expenditure of several businesses, organizations, and entities that depend on tourism expenditure in various ways to support their finances. This study uses the revenue obtained by Wonosobo Regency from the tourism sector. The data in this study are sourced from the Central Statistics Agency in *rupiah*.

Independent Variables

a. **Number of Hotels**

A hotel is a building specifically provided for people to stay or rest, obtain services and/or other facilities for a fee, including other buildings that are integrated, managed, and owned by the same party, except for shops and offices. This study uses the number of hotels in Wonosobo Regency. The data in this study are sourced from the Central Statistics Agency in the form of units.

b. **Number of Tourists**

Tourists are defined as individuals who travel from one location to another for leisure purposes without engaging in work activities. This study utilizes data on the number of tourists visiting or traveling to Wonosobo Regency. The data in this study are sourced from the Central Statistics Agency and are presented in thousands of individuals.

c. **Number of Tourist Attractions**

A tourist attraction is a place that tourists visit because it has natural and man-made resources, such as natural beauty including mountains, beaches, flora and fauna, zoos, ancient historical buildings, monuments, temples, dances, cultural performances, and other unique cultural attractions. In this study, the number of tourist attractions in Wonosobo Regency was used. The data in this study were sourced from the Central Statistics Agency in the form of units (Katiandagho et al., 2022).

Classical Assumption Test

a. **Normality Test**

The normality test is intended to determine whether the residual values from the standardized regression model are normally distributed or not, following Suliyanto's (2011) concept of normality. If all data are normally distributed, it is possible to continue using parametric statistical analysis. Alternatively, if the data are not normally distributed, further analysis using parametric statistics cannot be performed; instead, non-parametric statistics must be used.

b. **Multicollinearity Test**

Multicollinearity testing examines the correlation between independent variables in a multiple regression model. By observing the correlation between independent variables throughout the regression, multicollinearity can be detected. If the correlation coefficient is

above the threshold of 0.85, there will be multicollinearity in the model. Alternatively, if the correlation coefficient is less than 0.85, the model will not contain indicators of multicollinearity.

c. **Heteroscedasticity Test**

The heteroscedasticity test examines whether there are different variances in the regression model (non-constant variance). If the probability of a significant independent variable is greater than the significance threshold, which is 5%, then there will be no heteroscedasticity, indicating homoscedasticity in the regression model. However, if the probability value in the regression model is less than 5%, this indicates the presence of heteroscedasticity, as noted by Ghozali & Dwi (2013).

Hypothesis Testing

Multiple Linear Regression Analysis

In this study, multiple linear regression analysis was used to test the hypothesis. This analysis uses multiple linear regression models to measure the impact of independent variables on the dependent variable. Multiple linear regression analysis also aims to predict the relationship between several independent variables and a continuous dependent variable (Kuncoro & Mudrajad, 2013).

a. **T-test**

A partial significance test (t-test) shows the extent to which a single independent variable can explain the observed change in the dependent variable. When the significance level of the result is less than 0.05, it indicates that the independent variable has a significant effect on the dependent variable (Ghozali & Fuad, 2011).

b. **F-test**

To determine whether the constructed model is satisfactory, this test is conducted to assess whether it meets the goodness-of-fit criteria or not. If the calculated F > F table, then H_0 is rejected, and if the calculated F < F table, then H_0 is accepted. If the observed significance value is less than 0.05, the result is significant, indicating that the independent variables actually have an effect on the dependent variable (Ghozali & Dwi, 2013).

Coefficient of Determination

The coefficient of determination is used to calculate how much variation in the dependent variable can be explained by the independent variables and how much is affected by other factors that are not studied. If the coefficient of determination is 1, then the ability of the independent variables to explain the variation in the dependent variable is strong, but if the value is close to 0, then the explanatory power is weaker (Ghozali & Dwi, 2013). The R^2 value indicates the proportion of variance in the dependent variable explained by all independent variables, with an R^2 value closer to 1 indicating a stronger influence of all independent variables on the dependent variable.

RESULTS AND DISCUSSION

Classical Assumption Test

1. Normality Test

Table 1. Normality Test Results

Jarque-Bera	Probability

2,360752	0,307163

Source: Eviews Data Processed, 2022

Based on the normality test results in Table 3. above, it can be seen that the probability value of 0.307163 > 0.05, so it can be concluded that the data in this study is normally distributed.

2. Normality Test

Table 2. Normality Test Results

Jarque-Bera	Probability
2,360752	0,307163

Source: Eviews Data Processed, 2022

Based on the normality test results in Table 4. above, it can be seen that the probability value is 0.307163 > 0.05, so it can be concluded that the data in this study is normally distributed.

3. Multicollinearity Test

Table 3. Multicollinearity Test Results

	X1	X2	X3
X1	1,000000	0,251791	0,109037
X2	0,251791	1,000000	0,557015
X3	0,109037	0,557015	1,000000

Based on Table 5. it can be seen that the results of the multicollinearity test in this study show no signs of multicollinearity because the correlation coefficient is less than 0.85. Therefore, it can be concluded that this study shows no signs of multicollinearity.

Table 4. autocorrelation test results

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	1,644399	Prob. F(2,24)	0,1985
Obs*R-squared	3,378603	Prob.Chi-Square(2)	0,1846

Source: Eviews Data Processed, 2022

Based on the autocorrelation test results in Table 6. above, it can be seen that the P-Value Obs*R-square = 3.378603 and the probability value is 0.1846, where 0.1846 > 0.05. Therefore, it can be concluded that there is no autocorrelation problem in the data in this study.

4. Heteroscedasticity Test

Table 5. Heteroscedasticity Test Results

F statistic	**0,617160**	**Prob. F (9,21)**	**0,6055**
Obs*R-squared	1,891319	Prob.Chi-Square (9)	0,5953

Scaled explained SS	9,496542	Prob. Chi-Square (9)	0,2134

Source: Eviews Data Processed, 2022

Based on Table 7, the results of the heteroscedasticity test above show that this research model does not exhibit symptoms of heteroscedasticity, with a significance value > 0.05. From these results, it can be concluded that this research meets the assumption of non-heteroscedasticity.

Hypothesis Testing

Multiple Linear Regression Analysis

Table 6. Multiple Linear Regression Test Results

Variable	Coefficient	Std.Error	Probability
Log (C)	2,866	3,312	0,3889
Log (Number of Hotels)	2,020	0,572	0,0006
Log (Number of Tourists)	0,644	0,055	0,0000
Log (Number of Tourist Attractions)	-1,054	0,893	0,2408

Source: Eviews Data Processed, 2023

Tourism Sector Revenue = 2.866 + 2.020 Number of Hotels + 0.644 Number of Tourists + -1.054 Number of Tourist Attractions + e

Partial Test (T-test)

Table 7. Results (T-test)

Variable	Coefficient	Probability
Number of Hotels	2,020	0,0006
Number of Tourists	0,644	0,0000
Number of Tourist Attractions	-1,054	0,2408

Source: Eviews Data Processed, 2023

The following is an explanation of the t-test results for each independent variable:

a. The effect of the number of hotels on tourism sector revenue
b. Based on partial calculations of the effect of the number of hotels on tourism sector revenue, the regression coefficient (b1) value obtained was 2.020. At a significance level of 5%, the significance value obtained was 0.0006. Since the significance value is less than 0.05, it can be concluded that the number of hotels has a positive and significant effect on tourism sector revenue. This indicates that a 1% increase in the number of hotels will increase tourism sector revenue by 2.02%. The Effect of the Number of Tourists on Tourism Sector Revenue
c. Based on the partial calculation of the effect of the number of tourists on tourism sector revenue, the regression coefficient (b2) is 0.644. At a significance level of 5%, the significance value is 0.0000. Since the significance value is < 0.05, it can be said that the

number of tourists has a positive and significant effect on tourism sector revenue. This indicates that if the number of tourist visits increases by 1%, it will increase tourism sector revenue by 0.64%. The influence of the number of tourist attractions on tourism sector revenue.

d. Based on partial calculations of the effect of the number of tourist attractions on tourism sector revenue, the regression coefficient (b3) value obtained was -1.054. At a significance level of 5%, the significance value obtained was 0.2408. The significance value obtained was < 0.05, so it can be said that the number of tourist attractions has a negative and insignificant effect on tourism sector revenue. This indicates that if the number of tourist attractions increases by 1%, there will be a decrease in revenue generated by the tourism sector of 1.05%.

Simultaneous Test (F Test)

Table 8. F test

F-statistic	52,98272
Prob(F-statistic)	0,000000

Source: Eviews Data Processed, 2022

The F-test result with a probability value of F (Statistic) of 0.000000 is smaller than the significance level of 0.05. Therefore, it can be concluded that the estimated structural equation model 1 regression model is valid (goodness of fit is satisfied) to explain the effect of the number of tourists, the number of hotels, and the number of tourist attractions on tourism sector revenue.

Coefficient of Determination (R2)

Table 9. Determination Coefficient Results

R Square	Adj R Square
0,618600	0,606925

Source: Eviews Data Processed, 2022

Based on Table 9. above, the coefficient of determination (Adjusted R2) = 0.606925, meaning that the variables of tourist numbers, number of hotels, and number of tourist attractions together influence the variable of tourism sector revenue by 60.6%, with the remaining 39.4% influenced by other variables not included in the research model.

CONCLUSIONS

Based on the research findings, it can be concluded that the number of hotels and the number of tourists had a positive and significant impact on tourism sector revenue in Wonosobo Regency from 2014 to 2022, while the number of tourist attractions had a negative and significant impact. Therefore, it is recommended that the government manage hotel taxes wisely, simplify the licensing process for establishing hotels, especially for investors from outside the region, and improve the quality of tourism facilities. The government and tourism managers are also encouraged to organize national and international events to attract more tourists, particularly international visitors. Meanwhile, for tourist attractions that have shown

a negative impact, the government needs to innovate in management according to tourist needs, improve infrastructure, leverage social media and the role of the millennial generation in promotion, and provide training to the community to optimize tourist attraction management and enhance community income.

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