How Does Tourism Contribute to Happiness? Evidence of The Role of Hotels and Accommodation in Sumatera

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Article Information

Abstract

Happiness is the ultimate goal of a prosperous life that a person wants to achieve. There are many stigmas and opinions in measuring happiness, such as happiness seen from health, work, education, family harmony and many more. With so many ways to see and measure happiness, a happiness index was created to measure the welfare and happiness of people in a region or country.

This research aims to test and analyze the influence of tourism on happiness by using the number of hotels and accommodations, technology and information, health, consumption expenditure, education, and crime. The data used is secondary data, with a population of 10 provinces on the island of Sumatra. The analysis technique used is Panel Data Regression Analysis. The research results show that tourism, technology, health, and consumption expenditure positively affect the happiness index. In contrast, education and crime have a negative effect on the happiness index in 10 provinces on the island of Sumatra.
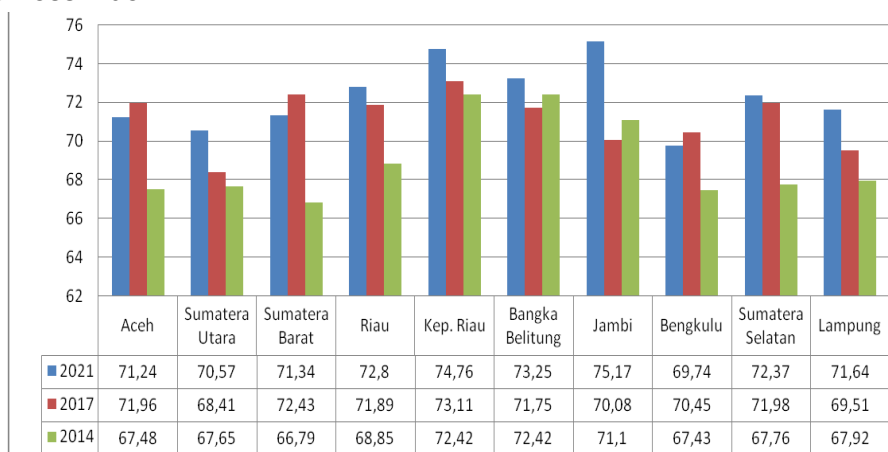
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INTRODUCTION

The level of community welfare in the midst of full economic limitations has become a global concern in the social dimension of development. Economic indicators used to measure development progress, such as economic growth and poverty alleviation, are still considered to be insufficient to describe the level of welfare. The level of community welfare can be measured through objective and subjective indicators. Welfare indicators can also measure success with subjective indicators, namely the happiness index.

According to Maylasari (2016), happiness is part of human welfare, which consists of social aspects that are usually related to development activities. On the other hand, Peterson et al. (2007) factors that affect happiness can be in the form of social, economic, and environmental factors such as money or material, social conditions, educational qualifications, age, health, climate, race, gender, marital status, and religion. There are ten dimensions of life to compile a happiness index, namely health, education, work, household income, family harmony, availability of leisure time, social, home and asset conditions, environmental conditions, and security conditions (Badan Pusat Statistik, 2015).

In Indonesia, one of the regional islands that needs to be made to increase the population's happiness is the island of Sumatra. This is because many provinces on the island of Sumatra still have a happiness index below the national average. In Figure 1, it can be seen that the happiness index was achieved in the provinces on the island of Sumatra during the period 2014-2021. During the 2017-2021 period, Aceh Province experienced a decrease of 0.72, West Sumatra Province decreased by 1.09, and Bengkulu Province decreased by 0.71. This can explain why the happiness of the population on the island of Sumatra is not evenly distributed in several provinces due to several factors so efforts are needed to increase the happiness of the population on the island of Sumatra and can give even greater attention so that it can achieve a higher happiness index.

	Aceh	Sumatera Utara	Sumatera Barat	Riau	Kep. Riau	Bangka Belitung	Jambi	Bengkulu	Sumatera Selatan	Lampung
2021	71,24	70,57	71,34	72,8	74,76	73,25	75,17	69,74	72,37	71,64
2017	71,96	68,41	72,43	71,89	73,11	71,75	70,08	70,45	71,98	69,51
2014	67,48	67,65	66,79	68,85	72,42	72,42	71,1	67,43	67,76	67,92

Source : Badan Pusat Statistik
Figure 1. Happiness Index on the Island of Sumatra

The island of Sumatra is an area in which there are many charming tourist attractions with natural and cultural potential that must be developed as a tourist destination. With these conditions, Sumatra has become one of the tourist destinations that is often visited by local and foreign tourists. In general, tourists can find information about the tourist destination they will go to through information on the website and social media. However, many regions do not have all the information that tourists need.

The pace of technological currents is advancing the accelerating era's transformation. The era of the Industrial Revolution 4.0 with the rapid development of the Internet of Things (IoT) encourages humans as entrepreneurs and consumers to compete to get convenience in providing widespread information. Of course, through the existence of technology that will support information for tourists who travel to the island of Sumatra, they will need more detailed information about the area that will be the tourist destination. This information includes the route, information about the destination, and the costs required to reach it.

Pénard et al. (2013) discussed happiness related to the Information and Communication

Technology system, namely the Internet, and the results showed that Internet users tended to be happier in living their lives than non-internet users. Several other studies also analyzed the level of happiness with the development of information technology. Graham & Nikolova (2013) said that the surge of information technology systems can increase happiness throughout the country. Still, at certain times, the level of happiness can decrease when access to information technology increases. Mochón (2018) states that technology can negatively or positively influence people's happiness levels but depends on how the technology is used and utilized. Excessive exposure to technology tends to increase people's stress and emotional levels.

Health is often an indicator of a person's happiness if a person is healthier and has a positive mind, it has an even more significant effect on happiness. Happiness also often comes from the utility of consuming a product. The consumption in question is consumed at that time and included in the past to achieve the expected results. Diener & Biswas-Diener (2002) assume that subjective happiness is defined as an individual's cognitive and emotional evaluation of their life.

Some studies show that education is the factor that affects happiness. According to Michalos (2008), education and happiness levels are associated with each other, and this cannot be seen directly. However, the combination of educational attainment and self-ability can positively and significantly impact happiness (Chen, 2012). This is also in line with Devanya in Purwanti (2022), who states that education positively and significantly influences one's happiness in Indonesia.

The next factor that affects happiness is security. Security and happiness have a one-way relationship, that is, the safer the living conditions, the higher the level of happiness. This explains that the residential environment always strives to improve safe environmental conditions, and the residential environment is a factor that supports the creation of a harmonious environment. According to Suardiman in Mustikawati et al. (2017), a society needs a sense of security so that the level of urgency that affects happiness can decrease.

RESEARCH METHODOLOGY

The island of Sumatra is the subject of this study. The dependent variable used is the Happiness Index with independent variables, namely the Number of Hotels and Accommodations, ICT, Life Expectancy, Expenditure Per Capita, Average Length of Schooling, and Crime Rate in each province on the island of Sumatra. The data source comes from the Central Statistics Agency of the Province on the island of Sumatra in 2014, 2017, and 2021.

In this study, a quantitative method with secondary data is used. According to Sugiyono (2018), quantitative data is a research methodology based on positivism (concrete data), which is research data presented as numbers that are used to relate to the subject being researched in order to produce something.

This study uses a panel data regression analysis approach. In this study, there is one bound variable and six independent variables, which are as follows:
1) Dependent Variable: Happiness Index (Y)
2) Independent Variables:
   a. Number of Hotel and Other Accommodation Businesses (X1)
   b. Information and Communication Technology Development Index (X2)
   c. Life Expectancy (X3)
   d. Expenditure Per Capita (X4)
   e. Average Length of School (X5)
   f. Number of Crimes (X6)

According to Menurut Greene (2003), balanced panel data is at the observation duration of the observation object equivalent to the panel data. Meanwhile, an unbalanced panel is if not all objects can be observed at the same time. The regression equation model can be formulated as follows:

$$Y = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + \beta_6 X_{6it} + e_{it}$$

To choose the best data panel model for the research, it must be tested by the Hausman Test and the Chow Test first.

- Common Effect Model (CEM)

  Bring all data together regardless of time or object. The common effect model assumes that each slope and *intercept* are equivalent for the entire *time series* and cross-section. To calculate this approach, the Ordinary Least Square (OLS) method can be used (Ghozi & Hermansyah, 2018).

- Fixed Effect Model (FEM)

  According to Gujarati (2003) To observe the heterogeneity of cross-sections in a panel data regression model, through the consent of the intercept data, there is a difference in each *cross-section* but still estimates a constant slope. According to Baltagi in (Ghozi & Hermansyah, 2018) fixed effect model approach method uses a Least Square Dummy Variable (LSDV).

- Hausman Test
  This method is useful as a way to find out which model is good for the fixed effect model and the random effect model. In this Hausman method, the hypothesis used is :
  H_0: Random Effect Model
  H_a: Fixed Effect Model
  Therefore, if the statistical value of the Hausman test is greater than the Chi-Square table, then H_0 is rejected so it can be said that an excellent model to use is the fixed effect model.

- Uji Chow
  In this method, it is used to determine the better model among the models Fixed Effect or model Pooled Least Square (PLS). In the Chow test, the hypothesis used is:
  H_0: Pooled Least Square Model
  H_a: Fixed Effect Model
  If the results of the Chow test have a probability value that is less than (α), so H_0 is rejected. The better model to use is the fixed effect model.

RESULTS AND DISCUSSION

This study uses a panel data regression model to explain the relationship between the Tourism, Technology, and Information Development Index, Health, Education, and Security to the Happiness Index on the Island of Sumatra. Table 1 shows that the value of the probability of the Hausman test is 0.6959, which is greater than (α) 5%, so it can be concluded that H0 is accepted, the random effect model is the best model in this test.

Table 1.
Model Estimation Results

Model Estimation Test	Prob.	Conclusion	
Hausman Test	0.6239	H_a accepted	REM
Chow Test	0.6959	H_a accepted	REM

Source: Data processed

Table 2 shows that the variables that significantly affect the level of the Happiness Index on the island of Sumatra is of them: Life Expectancy. Meanwhile, the variables Number of Hotels and Other Accommodations, Information and Communication Technology Development Index, Average Expenditure Per Capita, Average Length of Schooling, and Number of Criminals according to statistics, showed an insignificant influence at the level of 5% on the Happiness Index. The Life Expectancy Number affects the Happiness Index by 2.509124, meaning that when the Life Expectancy Number increases, it will increase the happiness index by around 2.5. In this study, the results align with the theory put forward by Todaro & Smith (2011) and several other research results that reveal that health significantly impacts happiness levels (Balqis Zhahira & Diah Utami, 2021).

Table 2.
Estimation Results with Random Effect Model (REM)

Variable	Coefficient	Prob.
Number of Hotel and Other Accommodation Businesses	0.007281	0.9943
Information and Communication Technology Development Index	1.512584	0.1440
Life Expectancy	2.509124	0.0196
Expenditure Per Capita	2.042623	0.0527
Average Length of School	-0.173443	0.8638
Number of Crimes	-0.235054	0.8162

Source: Data processed

The results of this research are in accordance with the results of the research Clara et al., (2019) who explained that community groups in Tomok Village, Simanindo District, Samosir Regency tend to be happier with tourism in Tomok Village. For the technology and information sector, the results are in line with the research Rusyda & Siagian (2023) who stated that ICT development has a positive and significant influence on the level of happiness. This can indicate that the increase in the value of the ICT development index in Indonesia will have an effect on the increase in the value of the happiness index.

For per capita consumption expenditure in line with the results of the study Budidharma (2016) which has a positive effect on a person's level of happiness and according to Easterlin (2003) this encourages consumption levels to achieve the expected level of happiness. As for the education sector, it is not the main factor in the Happiness Index on the island of Sumatra. In the research of Firmansyah & Sakti (2017) Asian people are considered happy if they have a high income and education.

The security factor represented by the variable number of crimes has a negative influence with a coefficient of -0.235054 on the Happiness Index on the island of Sumatra. This means that if crime on the island of Sumatra decreases, it will cause the Happiness Index on the island of Sumatra to increase. These results are in line with research of Soesilowati et al. (2018) who found that the Happiness Index in Semarang City was affected by a safe environment.

CONCLUSIONS AND RECOMMENDATION
Conclusion

A series of analyses in this study have been carried out and explained so that it can be concluded that from these results tourism has a positive effect on the happiness index on the island of Sumatra. The increase in the number of hotels and other accommodation businesses will encourage several factors that are bound such as being able to open jobs for the surrounding community to work in the tourism sector which will affect the economic income of the surrounding community obtained by these tourism activities. Another variable is the Technology and Information Development Index which has a positive influence so the increase in the Technology and Information Development Index will increase the Happiness Index on the island of Sumatra.

The health level sector, represented by the variable Life Expectancy Figure, shows that these results have an influence and have a positive and significant value on the Happiness Index on the island of Sumatra. So it indicates that if there is an increase in the Life Expectancy Rate, the Happiness Index will also increase and the results are in line with the research of Puji.T (2016) which shows that there is a positive influence if happiness in Indonesia is influenced by income, education level, health level, and social capital.

For Consumption Expenditure, which is represented by the average per capita expenditure variable, it shows that the results have a positive influence on the Happiness Index. This shows

that the increase in average per capita expenditure will also increase the Happiness Index on the island of Sumatra. The security variable represented by the Number of Crime variables negatively influences the Happiness Index on the island of Sumatra. This means that if the level of security decreases, the Happiness Index on the island of Sumatra will increase.

The implications that emerge from this study are that Tourism, Technology and Information Development, and Consumption Expenditure positively influence the Happiness Index on the island of Sumatra. As for Education and Security, it has a negative influence on the Happiness Index on the island of Sumatra. The health variable positively influences the Happiness Index on the island of Sumatra.

Recommendation

The suggestions in this study are one way to analyze development policy opportunities in the development of new economic sources in all economic sectors, including the local tourism sector which has a major impact on the Sumatran economy. And it is necessary to create a strategy to encourage development, and equity, and increase the happiness index. In an effort to encourage growth, all stakeholders must be involved by increasing employment opportunities and employment in the tourism sector. This method will increase welfare, which ultimately increases a person's expertise in accessing facilities, adequate health, education, and per capita expenditure to support the level of happiness and individual welfare. Local governments in every province on the island of Sumatra can increase regional economic growth by increasing tourism. Based on these conditions, the local government must actively pioneer and facilitate business institutions in the tourism sector so that economic development can be oriented towards creating wider jobs.

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