Identification Dominant Factors of Infrastructure Development in Tourist Natural Reserves

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Abstract

Tourism is defined as a location with attractions to attract visitors to come and visit it; therefore, the development of infrastructure in tourist attractions is also one of the reasons to attract people to visit it. Tourism, particularly in Indonesia, is one area in which the government is investing heavily. With the two review sites having the same type of tourism, this study aimed to identify the most dominant factors in the development of tourism infrastructure. The findings of this study identified a variable in taman safari with a dominating value among the six criteria examined, for tourism located in taman safari, the water factor with the variable water demand being the highest index with a value of 4.49, while for tourism located in Ragunan, the accommodation factor with the variable needs of the hotel gets an index value of 4.44.

1. Introduction

A tourism object is defined as a tourism destination which is an attractive place for tourists to visit. The potential development of tourism is one of methods to develop or advance tourism destination to attract more tourists visit to the place.

According to Muljadi (2012) a tourism destination must have a special attraction to fascinate tourists. Tourist objects that have a strong attraction like a magnet that can attract tourists to visit.

The infrastructure system can be defined as the facilities and infrastructure or basic structures, equipment, installations that were made and needed to carry out the functions of social and economic system of society (Grigg, 2000).

1.1 Objectives

This study aims to determine the dominant factors of infrastructure development in tourist destination.

2. Literature Review

2.1 Definition of Tourism

In Law no. 10 of 2009 concerning Tourism Chapter I Article 1 states that tour shall mean the travel activity carried out by a person or a group of people by visiting certain place for recreation, personal development, or study the uniqueness of the tour attractiveness visited in temporary period. Thus, the description of tourism has four elements, namely travel activities, carried out sincerely, temporary, the trip has partially or totally purpose to enjoy tourism objects and attractions.

2.2 Definition of Development

According to Nadler, development is learning activities that are held within a certain time period in order to increase the possibility of performance improvement.

2.3 Definition of Infrastructure

Infrastruktur menurut Grigg (1988) adalah sebuah sistem yang memberi layanan yang diperlukan seperti Transportation, bangunan, serta fasilitas umum yang lain.

3. Methods

In this study, data was obtained by distributing questionnWateres to tourists who were visiting both of tourist destinations. Primary data was obtained through questionnWateres that had been filled out and answered by tourists, while Secondary Data was obtained from journals, books, previous research and other data from the related tourism department and associations to complete the primary data. The factors and variables used in this study are listed in Table 1.

Table 1. Factors and Variables

Factors	Variable	Indicator
Water	A1	Sufficient water on site
	A2	Clean water available on site
	A3	Availability of sufficient toilets on site
Electricity	B1	Electric network
Transportation	C1	The location is easy to access to location
	C2	Availability of public transportation to the location
	C3	Quality of road to access and within the location
	C4	Availability of sufficient parking space for vehicles
Communication	D1	communication network at tourist sites
	D2	Information guide / signboard
Accommodation	E1	Availability of hotels near the location
	E2	Availability of hospitals near the site
Health, Safety, and Environment	F1	Availability of clinics within tourist sites
	F2	Availability of security guard posts on site
	F3	Availability of fire extinguishers
	F4	Availability of trash bins on site
	F5	Location of garbage disposal site
	F6	Special facilities for the disabled

4. Data Collection

There were 80 questionnWateres distributed in both review locations and 54 questionnWateres that had been filled were returned to researcher. Table 2 shows that the respondents ranged from <20 years to 50 years (from figure 1).

Table 2. Age of Research Respondents

Ages	Number of Respondent	Percentage (%)
< 20 years	9	16
21 – 25 years	22	41
26 – 30 years	7	13
31 – 35 years	11	20
36 – 40 years	1	2
40 – 45 years	2	4
46 – 50 years	2	4
Total	54	10

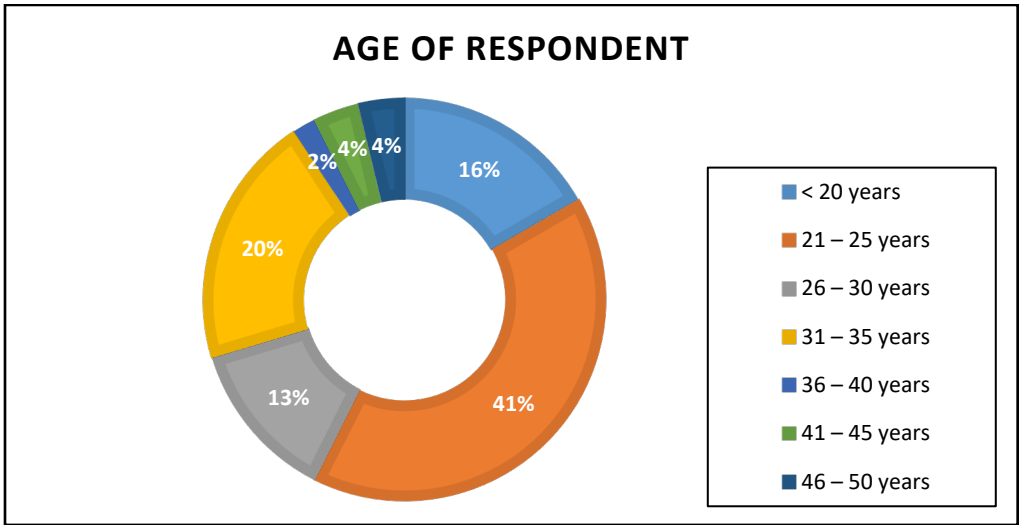

Figure 1. Respondent Background

5. Results and Discussion

5.1 Validity Test

Validity is a measure that shows validity levels of an instrument (Arikuntoro 2010). The scale could be used as a measurement of validity or by providing measurement results in accordance with the objectives for the measurement. The validity test results of both review locations are described as follows(table 3, 4):

Table 3. Taman Safari Validity Test

Variable	r Table	r Count	Result
A1	0,2681	0,689	Valid
A2	0,2681	0,729	Valid
A3	0,2681	0,599	Valid
B1	0,2681	1,000	Valid
C1	0,2681	0,697	Valid
C2	0,2681	0,509	Valid
C3	0,2681	0,449	Valid
C4	0,2681	0,512	Valid
D1	0,2681	0,864	Valid
D2	0,2681	0,836	Valid
E1	0,2681	0,930	Valid
E2	0,2681	0,923	Valid
F1	0,2681	0,582	Valid
F2	0,2681	0,790	Valid
F3	0,2681	0,654	Valid
F4	0,2681	0,817	Valid
F5	0,2681	0,655	Valid
F6	0,2681	0,486	Valid

Table 4. Ragunan Validity Test

Variable	r Table	r Count	Result
A1	0,2681	0,654	Valid
A2	0,2681	0,715	Valid
A3	0,2681	0,458	Valid
B1	0,2681	1,000	Valid
C1	0,2681	0,717	Valid
C2	0,2681	0,485	Valid
C3	0,2681	0,406	Valid
C4	0,2681	0,703	Valid
D1	0,2681	0,833	Valid
D2	0,2681	0,811	Valid
E1	0,2681	0,862	Valid
E2	0,2681	0,846	Valid
F1	0,2681	0,724	Valid
F2	0,2681	0,744	Valid
F3	0,2681	0,478	Valid
F4	0,2681	0,539	Valid
F5	0,2681	0,638	Valid
F6	0,2681	0,617	Valid

5.2 Reliability Test

Reliability is defined as an index that shows how far an instrument can be trusted or can be relied on. Reliability also shows the consistency of a measuring instrument in measuring similar symptoms or factors. The reliability test results of both review locations are described as follows (table 5, 6):

Table 5. Taman Safari Reliability Test

Factor	Croncbach's Alpha	Result
Water	0,707	Reliable
Electricity	1	Reliable
Transportation	0,62	Reliable
Communication	0,615	Reliable
Acommodation	0,835	Reliable
Health, Safety, and Environment	0,722	Reliable

Table 6. Ragunan Reliability Test

Factor	Croncbach's Alpha	Result
Water	0,743	Reliable
Electricity	1	Reliable
Transportation	0,622	Reliable
Communication	0,655	Reliable
Acommodation	0,628	Reliable
Health, Safety, and Environment	0,613	Reliable

5.3 Mean Index

Analysis of the data used in this study used the index mean method, this method calculates the average value of the respondents' answers which were arranged in the data tabulation. The results of these values were ranked, in order to observe the most dominant factor, which can be seen in the following table 7, 8.

Table 7. Taman Safari Mean Index

Variable	Mean Index	Rank
A1	4,49	1
F4	4,48	2
A3	4,35	3
D2	4,31	4
A2	4,28	5
C1	4,24	6
C3	4,15	7
F1	4,13	8
E1	3,83	9
B1	3,81	10
C4	3,67	11
F2	3,60	12
E2	3,59	13
F5	3,49	15
F3	3,27	16
D1	2,92	17
C2	2,89	14
F6	2,74	18

Table 8. Ragunan Mean Index Rank

Variable	Mean Index	Rank
E1	4,44	1
A2	4,43	2
D1	4,39	3
A1	4,24	4
F4	4,23	5
C3	4,22	6
F5	4,20	7
C1	4,19	8
D1	3,93	9
C2	3,78	10
C4	3,69	11
A3	3,44	12
B1	3,30	13
F2	3,25	14
E2	3,12	15
D2	2,88	16
F1	2,80	17
F6	2,67	18

Based on the table, the top five ranks were chosen as the dominant variables. In the first table show that there were top 5 variables obtained at Safari Park, namely A1 (Sufficient water at the location) in this variable the highest mean index was 4.49, F4 (Availability of trash bins on site) in this variable the mean index obtained was 4.48, A3 (Availability of adequate toilets at the location) in this variable the mean index obtained was 4.35, D2 (information guides/road signs) in this variable the mean index obtained was 4.31, variable A2 (clean water available at the location) obtained a value is 4.28.

the second location for the dominant factor obtained is in the following factors and variables. E1 (Availability of hotels near the location) in this variable the mean index obtained is 4,44, A2 (Clean water available on site) in this variable the mean index obtained is 4.43, D1 (Good communication network at the location tourist attractions) on this variable the index mean obtained is 4.39, A1 (Sufficient water needs at the location) at this variable the mean index obtained is 4,24, F4 (Availability of trash bins at the location) on this variable the mean index obtained is 4.23.

6. Conclusion

Based on the stages of research that had been carried out in order to determine the dominant factors in developing tourist infrastructure, it can be concluded from the top 5 variables that the most dominant factor in both tourism destinations was water with the variable water demand at first location, while the accommodation with the hotel availability variable being the highest index at second location.

but there is a non-dominant variable, namely special facilities for people with disabilities on factors (health, security, and environment). although the variables of these factors are not dominant, they can still be taken into consideration for development.

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Biographies

Darmawan Pontan is a Lecturer and Head of the Master's Program in Civil Engineering at Trisaki University, Jakarta, Indonesia. Co-Leaders of the Civil Engineering Consultant "Pontan & Partners". Graduated with an Ir (Engineering) and MT (Master of Engineering) degree from Trisakti University, Jakarta, Indonesia. Graduated with an SE (Bachelor of Economics) degree from the Open University, Indonesia. He holds an MM (Master of Management) degree from IMMI High School, Jakarta, Indonesia. Received a DR (Doctorate) from Tarumanagara University, Jakarta, Indonesia. He has published several journals and conference papers, and is interested in building maintenance and maintenance research including its relation to the green building environment. A member of HAKI (Association of Construction Experts), and a reviewer of the KONTEKS 15 conference.

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Reky Prayogo is a Civil Engineering graduate from Trisakti University, Jakarta, Indonesia. Member of the Trisakti University Civil Engineering Association and Public Relations Staff at NFJCE 2020. He was an intern at PT Totalindo Eka Persada project. Interested in research on infrastructure development related to tourist attractions.

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