Visitors satisfaction monitoring using important perform analysis in Pindul Geoheritage-Indonesia

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Abstract. The purpose of this study is to evaluate visitors’ satisfaction with the image, attractions, and facilities provided by site management in Pindul geoheritage. Pindul geoheritage is considered successful, sustainable and get some recognition from the national and international organization. The significance of examining visitor perceptions and satisfaction is essential for understanding what positively influences people to travel to geoheritage and why some aspects are more important than others. This study is an explanatory study with a combination of qualitative and quantitative methods. The Important Perform Analysis (IPA) is used in this study for analysis. The result of the research is there is a difference in terms of overall visitor satisfaction during the visit the geoheritage between Yogyakarta and outside Yogyakarta visitors and through the importance and satisfaction analysis shows that the beautiful landscape was the most influencing aspect in attracting the visitor.

1. Introduction

The Pindul geoheritage (PG) is one of the vital geoheritage in the UNESCO Global Geopark Gunung Sewu (UGGGS) for recreation and tourism. The Pindul geoheritage extends over 762.80 ha and is part of UGGGS of 1,802 km². According to PG Management, The PG was established with three missions. The first mission is to develop PG as a conservation area for natural resources and specific landscapes. The second mission is to develop the recreation area for the public by emphasizing the harmony of nature and culture. And the third mission is self-supporting, means that the PG tries to survive in running the PG with two above missions without any subsidize from the government.

From the three missions of the geopark, it is clear that in spite of conserving nature and specific landscapes, the NG management developed the PG for tourism and recreational sites for the public. And one of the aims related to the recreational mission is creating a satisfied customer, the visitor to the PG.

In order to achieve this goal, quality in service is shown in hospitality, readiness to help and customer-friendliness as well as in the product that the PG offer.

The uniqueness of UGGGS categorized into three categories namely the unique morphology, and archeological uniqueness, and also biological uniqueness. The importance of Gunung Sewu ecosystem from the karst aspect can be seen in [1] that UGGGS has many uniqueness namely karst morphology is known as conical type (conical karst), the existence of ancient solo Bengawan valley, the history of human presence in prehistoric times in Asia, the history of settlement in Gunung Sewu.

In accordance with quality in service and tourism experience, there is one important aspect that has to be considered by the PG management in managing natural PG s and protected areas. This aspect is
concerned with Visitor Management. Visitor management often focuses on two major questions: (i) what can be done to enhance the quality of the visitor’s experience? and, (ii) how can the impacts of visitors be managed to acceptable levels and for desirable outcomes? The first question needs to be addressed from a PG tourism perspective: visitors expect high-quality recreational engagements [2]. It does mean that planners and managers are aware of visitor expectations and where appropriate and consistent with the protected area goals, attempt to meet them. In this context, visitor management are a client-oriented approach to planning and service delivery that considers the visitor’s need, expectations and satisfaction. Protected area managers need to understand their existing and potential visitors and what they want and do.

The second question must be addressed because many PGs are established to protect or preserve important cultural or natural values; visitors entering such places may have a negative impact on those values, so management is needed to reduce those impacts. Management is also necessary to enhance the desirable impacts of visitors, such as community support, cultural appreciation and revenue generation.

As mentioned above, PG is a place for nature conservation and recreation for people of all ages. At PG, visitors are offered various activities – such as experiencing nature, art, architecture and environmental education – and where people can walk or bike in a beautiful landscape. It is important to consider that in order to attract visitors and maintain repeat visitation, PG management should assess if the quality of experience meets the motivation and expectation of visitors. PG management should assess visitor satisfaction with their visit to PG, willingness to return and to recommend their friend to visit PG.

As reported before, that a number of visitor to PG tends to slightly increasing. This trend indicates that there may be a lack in the quality of experience of visitors or in other words, a gap between visitor expectations with the provision of tourism product in the PG. Therefore, it is a challenge for this research to identify certain aspects which still need to be improved in order to meet with visitor expectation and satisfaction.

In sum, this study will identify the visitor’s motivation and expectation to visit the PG, and visitor’s perception towards the importance and satisfaction of the facilities, attractions, and experience of visiting the PG. The result of this research will give recommendations for management to cope with problems arising in a visitor management context.

2. Methods

2.1. Data collection
This study is an exploration/ explanatory study with a combination of qualitative and quantitative methods. The qualitative method is applied to get information from PG Management and other key persons through in-depth interviews. The quantitative method is applied by using questionnaire to get opinion from visitor about the expectation and satisfaction towards the image and quality of experience and resources. The elaboration of the method can be described as follows:

2.1.1. Review literature
The purpose of the literature review is to gain background knowledge related to the certain theory – in this case “visitor management” and “destination image” – which will be analyzed in PG context. Searching information through literature in a library, as well as internet, will be conducted in this stage. At the same time researchers will collect promotional materials of NG to gain preliminary depictions about the image of NG as represented in the brochure, guide book, internet, and et cetera.

2.1.2. Conduct in-depth interviews
An in-depth interview is conducted to get information from PG management and other key informants about the concept and other information related to the development and management of the PG. To include in this information is the goals and missions of the PG development, the development plan of the NG, et cetera. Researchers consider that this interview is very important to have certain knowledge
of the concept development and management of PG established from an internal perception (in this case NG management). In order to get valuable and relevant information links to the subject of research, in-depth interview has been conducted with individuals involved in PG.

A survey is a quantitative method applied to get opinions from visitors about the expectation and satisfaction towards the image and quality of experience and resources. The questionnaire survey is to collect information from the visitors by asking the question on:

- Socio-economic characteristics: age, gender, occupation, income, education
- Perceived image (destination image) of the PG before and after the visit
- Motivation and expectation to visit the PG
- Perception on the importance and performance of facilities and attractions in the PG
- Perceived quality of experience after visiting the PG

The theoretical population is visitors inside the PG, both DIY and non-DIY visitors. The sampling technique which is used in this research is continuous flow sampling. In order to get valuable opinion from the respondents, the questionnaires were distributed to the respondents at the time when visitors are considered that they have finished exploring several attractions in the PG. Researchers determined several places which are considered to be the main concentration of visitor’s flow. There are several places inside the PG which are suitable to get the respondents. The amount of sample for reliable analysis is 227 respondents. The Analysis using frequencies, descriptive, and some hypothesis testing (t-test, analysis of variance)

2.2. Limitations

The limitations of time that the survey only conducted for two weeks. It didn’t describe the exact opinion of visitors for the whole year. In addition, the other limitation is related to the weather conditions, that during the survey time the researchers experienced several rainy days. It influenced the limited number of visitors who visit the PG as well as uncomfortable situations for researcher to approach visitors to fill out the questionnaire.

3. Results and Discussion

Results of the analysis are reported in this part to address the research questions posed. Tables and figures are used to present the data followed by a discussion of the major findings. The order of research questions presented outlines the order of results reported (descriptive profile, importance/performance analysis, satisfaction indicators, bivariate relationship between the measures of satisfaction, and an examination of indicators of family unity among the sample.

1) Description of Visitor Profile

In the survey questionnaire of this research, the purpose of this part was to collect background information of visitors who came to visit the PG and participated in the survey. There were 41% DIY visitors and 59% outside DIY visitors. The key point for comparison, according to information from the survey, the visitors from outside DIY is more than visitors from DIY. There is a different rate between DIY visitors and outside DIY visitors in this research account for 18%. The number of female visitors is a bit lesser (44%) compared to 56% of male visitors. This figure explained that the PG attracted male more than female.

In this research, we find that young people aged between 20 – 29 take the highest rate 30%, second is visitor with age between 40 – 49 (20.1%), third is old people with age between 50 – 59 (18.4%), the forth is visitor with age between 30 – 39 (17%), and the other as age under 20 account for 7.8%, and age older than 60 accounts for 6.7%. The key point for comparison, That there are younger visitors coming to the PG compare to previous research. The highest rate of visitor’s education level fall into university group (45.3%), second is high school group (21%), the third group is postgraduate (13%), secondary school group account for (12.3%), groups as elementary school group account for 1.4%, and
another account for 6.7%. The key point for comparison, most visitors coming to the PG are highly educated people.

Visitor’s occupation belongs to student (SMP-SMA) (43%), student university (30%), private (8%), PNS (6%), and office worker group account for 16.2%. The others as entrepreneur visitors (3.2%), factory worker group (2.8), international worker group (2.1%), retired visitor group account for 8.1%, and not working group is 4.9%. The key point for comparison, most visitors coming to the PG have a job that matches the education level above.

Visitors are visiting the PG with family account for 33%, with friends group account for 52%, alone visitor group account for 10%, and another is 4% (maybe they visit the PG with lover). The key point for comparison, most of visitors coming to the PG in group of at least two persons. Visit frequency was dominated by once time visit (70%), 2-4 times (23%), and more 5 times (7%). The key point for comparison, most of visitors coming to the PG is the first time and there was a potential repeater of visitor.

| Table 1. Profil Respondent |
|----------------------------|
| **Origin**                  |
| N  | %    |
| DIY  | 92 | 41 |
| Non DIY  | 135 | 59 |
| Total  | 227 | 100 |
| **Gender**                  |
| Male  | 126 | 56 |
| Female  | 101 | 44 |
| Total  | 227 | 100 |
| **Age**                     |
| < 20  | 74 | 33 |
| 20-29  | 66 | 29 |
| 30-39  | 45 | 20 |
| 40-49  | 21 | 9 |
| 50-59  | 14 | 6 |
| > 60  | 7 | 3 |
| Total  | 227 | 100 |
| **Education**               |
| Elementary  | 6 | 3 |
| Junior Higher Student  | 35 | 15 |
| Senior Higher Student  | 68 | 30 |
| Diploma  | 45 | 20 |
| Bachelor  | 49 | 22 |
| Postgraduate  | 24 | 11 |
| Total  | 227 | 100 |
| **Occupation**              |
| Student (SMP-SMA)  | 98 | 43 |
| Student University  | 67 | 30 |
| Private  | 19 | 8 |
| PNS  | 13 | 6 |
| Army/Police  | 7 | 3 |
| Retired  | 6 | 3 |
| Unemployment  | 17 | 7 |
| Total  | 227 | 100 |

**With whom visit**
|                |       |
|----------------|-------|
| Family         | 76    |
| Friend         | 118   |
| Alone          | 23    |
| Others         | 10    |
| **Total**      | **227**|

**Visit Frequency**

|                |       |
|----------------|-------|
| Once time      | 159   |
| 2-4 x          | 53    |
| More 5x        | 15    |
| **Total**      | **227**|

Source: Primary data
*) Visitor profile (n = 227)

2) Visitor Motivation and Expectation To Visit The PG

![Visitor Motivation Graph](image)

**Figure 1. Visitor Motivation**

Based on the figure above, the motivation of tourists visiting Pindul is adventure activities (38%), then followed by having fun (27%), interact and to be close to nature (20%), escaping from daily routine (19%), learn about nature and landscaping (5%), The rest of motivation in small number of percentage. Thus it can be concluded that the main motivations for visiting Pindul are adventure activities, having fun, interact and to be close to nature, and escape from daily routine.

![Activities Graph](image)
Figure 2. Visitor Activities

Based on the figure above shows a variety of activities undertaken by tourist respondents. In Pindul, as many as 53% of respondents did cave tubing pindul, 34% of respondents did river tubing oya river, 20% did photography, the rest did caving at gelatik cave, sightseeing, local culture and etc. Thus cave tubing pindul, and tubing oya river are the most activities carried out by respondents in Pindul. Mostly the respondents also did Thus cave tubing pindul, and tubing oya river on the same day.

Figure 3. Pindul Image

After a visit to Pindul, the perception of the respondents' image, in general, has increased. As many as 94% of respondents stated that Pindul respondents' image perception was cave, it is increasing from 65 % before the visit. The image of Pindul respondents' image perception about underground river before the visit was 45% and after visit become 55%. The image of Pindul respondents' image perception about adventurous place before the visit was 45% and after visit become 53%. The image of Pindul respondents' image perception about the underground river before the visit was 45% and after visit become 55%. The image of Pindul respondents' image perception about environmental education before the visit was 10% and after visit become 34%. Thus it becomes increasingly clear to respondents after a visit that the percentage of respondents stating the increase of percentage. The highest increase in percentage is the perception about cave.

Figure 4. Percentage of Facility and attraction compatibility with the image

Based on the figure above, it shows that 85% of the respondents stated that there was a match between the facilities and attractions with the image of Pindul, and that stated that it was not as much as 15% of respondents.
Figure 5. Differences in respondents' image perceptions based on the area of origin of the visit in Pindul

Based on the figure above, the images received by tourist respondents based on the area of origin of the visit from DIY and not DIY who visit the Pindul geosite are different percentages for all image categories. Based on the figure, there also seems to be a difference in respondents' perceptions according to the origin of the respondent related to the image received by the respondent in the categories of cave, underground river, environment education, adventurous and beautiful landscape. For tourist respondents, Pindul has the strongest image as cave nature with respondents origin from DIY 85%, outside DIY 65%. For the category of underground river images, respondents from DIY stated as much as 69%, and outside DIY as much as 47%. For the category of adventurous place, respondents from DIY stated as much as 69%, and outside DIY as much as 57%. For the category of environment education, respondents from DIY stated as much as 58%, and outside DIY as much as 32%. However, through the Chi-square test, significant differences were only found in the image of adventure sites between respondents who came from DIY and outside DIY. Here respondents from outside DIY have a stronger perception than respondents from DIY. The difference in destination satisfaction between DIY and non-DIY visitors.

To examine the difference in destination satisfaction between visitors from DIY and outside DIY an independent sample T-test was conducted.

Table 2. Independent sample T-test on the difference in destination satisfaction between DIY and non-DIY visitors

| Location | Origin | N   | Mean | t    | Sig. |
|----------|--------|-----|------|------|------|
| Pindul   | DIY    | 202 | 7.82 | 2.088| .002 |
|          | Outside DIY | 86  | 7.58 | 1.875|      |

*) significant at 0.05

Visitors perspective on the overall satisfaction of destination indicated that mean of DIY visitors (mean = 7.82) is higher than that of outside DIY visitors (mean = 7.58), which may indicated that DIY visitors are more satisfied towards the whole experience during their visit to the PG. Nevertheless, the results above have to be examined one more step to know whether the differences significant enough for us to have further concern about the satisfaction of DIY and outside DIY visitors? By running
The independent samples T-test (as shown in T-value column), we could detect that significant difference between DIY visitors and outside DIY visitors is as indicated by $T$-test value $= 2.088$. The significant value is $0.002$ which is lower than $0.05$, so we reject the null hypothesis, and conclude that there is a difference in the overall satisfaction between DIY and outside DIY visitors.

3) Importance – Performance Analysis

Based on figure 6, that some of the attractions and facilities in Quadrant A indicate the level of importance or high expectations of tourists with low levels of satisfaction (high importance & low performance), so there is still a need to improve performance by managers so that tourist satisfaction and experience increases. This quadrant is located on the top left, which means the top priority is performance improvement (Performance Improvement). This quadrant includes an indicator of satisfaction that is considered important by service users, but in reality the performance of the indicator is not in line with the expectations of service users. The performance of the indicator is lower than the expectations of service users for the indicator. The indicators contained in this quadrant must be further improved in order to meet the expectations of stakeholders/service users. The trick is to make continuous improvements to the indicators that are still low in performance so that the performance in this quadrant will increase. Quadrant A is a priority area for managers to improve their performance. This is because tourists have the perception that some of the attractions and facilities in the quadrant are very important and tourists have high expectations, but after visiting, tourists get a low level of satisfaction and experience. Some attractions and facilities in Quadrant A are Cave Tubing Pindul, River Tubing Oya, Sign to Pindul, information center, Restoran, Parking area.

For quadrant B which is a quadrant of achievement where the attractions and facilities in quadrant B have a high level of importance, accompanied by a high level of satisfaction and experience (high importance & high performance). This shows that the manager already has a high performance, so it still needs to be maintained by the manager. This quadrant is located in the upper right, which means that performance can meet the expectations of service users and try to maintain that performance. This quadrant contains an indicator of satisfaction that is considered important by service users and its performance is considered to be in accordance with what is felt by service users so that the level of satisfaction is relatively high. Indicators of satisfaction of stakeholders/service users included in this quadrant must be maintained because all these satisfaction indicators make the product/service superior in the eyes of stakeholders/service users. Some of the attractions and facilities in Quadrant B are stall and souvenir shops.
Figure 6. Importance – Satisfaction Analysis of facilities and attraction in the PG

For quadrant, C is a quadrant that is "Low Priority" (low importance & low performance). This quadrant is located on the lower left, which means a low priority. This quadrant contains an indicator of expectations that are considered less important by tourists and a low indicator of performance/satisfaction. Efforts to improve performance or satisfaction included in this quadrant can be reconsidered because their effect on the expectations and benefits felt by tourists as service users is very small. Some of the attractions and facilities in Quadrant C are flora fauna.

For quadrant, D is a quadrant that "tends to be excessive" (low importance & high performance). This quadrant is located on the lower right, which means excessive-performance while tourists as service users consider it less important. Attractions and facilities in Quadrant D is natural landscape and unofficial local guide. This quadrant contains indicators of satisfaction that are considered less important by tourists. That is, tourists want what are the facilities and attractions related to natural landscaping, do not require various types of construction of additional facilities that can damage the authenticity of the natural landscape.

A study conducted by [3] using six attributes that lie in quadrant A, these attributes need to be a priority to improve because they are considered important by the respondents but still has low-performance perception. These attributes are the availability of directions, destination information on the internet, cleanliness, clear and complete information about the tourism destination, environmental conservation, and culinary attractiveness. The other six attributes lie in quadrant B (high expectations and high-performance perceptions), so then these attributes should be maintained to keep the tourist satisfaction. The other 12 attributes lie in Quadrant C (low expectations and low-performance perceptions) and quadrant D. Since the tourists give only slight expectations to them, then these
attributes may give less priority to improve. Relate to satisfaction of visitor, Attributes with lower ratings of importance in the “low priority” and “potential overkill” quadrants do not contribute to overall satisfaction, regardless of performance, while the opposite is true for attributes in the “keep up the good work” quadrant with higher ratings of importance and performance, thus confirming the validity of this assumption [4].

4. Conclusion
Motivation and expectation; regarding to motivation, we can conclude that the main motivations for visiting Pindul are adventure activities, having fun, interact and to be close to nature, and escape from daily routine. While in relation to the activities, the cave tubing pindul, and tubing oya river are the most activities carried out by respondents in Pindul. The perceived image on visitor’s motivation to the PG, suggests that respondents origin from outside DIY have a stronger perception than respondents from DIY. About level of satisfaction by visitors, finding suggests that there is a difference in terms of overall visitor satisfaction during visiting the PG between visitor origin from DIY and outside DIY visitors. Analysis of the importance of facilities and attraction in the PG showed that Quadrant A is a priority area for managers to improve their performance. This is because tourists have the perception that some of the attractions and facilities in the quadrant are very important and tourists have high expectations, but after visiting tourists get a low level of satisfaction and experience. Some attractions and facilities in Quadrant A are Cave Tubing Pindul, River Tubing Oya, Sign to Pindul, information center, Restoran, Parking area. This quadrant B contains an indicator of satisfaction that is considered important by service users and its performance is considered to be in accordance with what is felt by service users, so that the level of satisfaction is relatively high. Indicators of satisfaction of stakeholders/service users included in this quadrant must be maintained because all these satisfaction indicators make the product/service superior in the eyes of stakeholders/service users. Some of the attractions and facilities in Quadrant B are stall and souvenir shops.

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