Using IPA Model for Ensuring Sustainable Development in the Rural Tourism Destination

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ABSTRACT

The IPA is a useful model to analyze the level of importance and performance of various key factors from the point of view of consumers. It is used to overcome the problems in managing visitor satisfaction in the tourism villages at Kulon Progo, Yogyakarta. The study involves the seven dimensions with a total of 25 attributes including accommodation and restaurants, accessibility, quality of life, tourism services, entertainment facilities, heritage and cultural services, and ecological services. 150 visitors in Pulepayung, Kedung Pedhut, and Sungai Mudal were involved in this study. The result shows 13 items in the second quadrant can be managed to satisfy the tourists while two items in the first quadrant must be improved to meet the visitor expectations. However, it is found nine attributes in the third and one in the fourth quadrant. The destination managers can use for improving the tourist satisfaction on the tourism village destinations.

Keywords: IPA, accommodation and restaurants, accessibility, quality of life, tourism services, entertainment facilities, heritage, and cultural services, and ecological services

1. INTRODUCTION

Tourism is one of the potential sectors to improve national income. This sector contributed 4.11%, 4.13%, and 4.25% to GDP in 2015-2017 [1], so it is expected that these contributions will increase in the next period. In line with the tourism development, thus the tourism village model is as an approach for harmonizing with sustainable rural development. This approach empowers local people to explore local wisdom, society life, heritage, and natural resources as a tourist attraction. This project can improve the economy and prosperity of rural communities.

The same policy also applies at Kulon Progo Regency, Daerah Istimewa Yogyakarta (DIY) province. Through tourism, the village can lift the rural economy’s progress. There are ten tourist villages e.g., Banjaroyo, Nglinggo, Kalibiru, Purwosari, Banjarsari, Sermo, Sidoharjo, Sidorejo, Jatimulyo, and Purvoharjo. Hence, the regional government of Kulon Progo places tourism villages as a strategy for campaigning nature conservation and local wisdom and heritage preservation. Efforts are needed to maintain the rate of the visitor so that enhancing social welfare in the countryside.

Geographically, the Kulon Progo area is divided into three conditions: (1) the northern part of the plateau and Menoreh Hills at an altitude of 500-1000 meters above sea level. (2) The middle part is in the form of hills at an altitude of 100-500 meters above sea level. (3) the southern part of the lowlands at an altitude of 0-100 meters above sea level. There are many chances for village tourism. Moreover, the northern is connected with the National Tourism Strategic Area in the Borobudur Temple (Central Java) destination. Therefore, along with the designation of priority for Borobudur as ten of the new Bali [2], so it creates some odds as a buffer destination for tourism villages at Kulon Progo. However, Fig. 1 shows a decreasing number of visitors in the tourism villages. Historical data from Tourism Statistics of DIY recorded the volatility number of visitors in 2012-2018 [3]–[9]. It is lower than in the early of establishing some tourism villages. Hence, it is necessary to identify various attributes expected by tourists when visiting in tourism village at Kulon Progo. This decline is an indicator of changes in tourist interest in rural tourism destinations or it is possible to switch to the other natural tourism destinations at the other regions in the DIY province. For these reasons, the importance-performance analysis (IPA) is used to detect the level of tourist satisfaction during visits to rural tourism destinations.

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This indicates a problem in the development of rural tourism, so a solution is needed to recover the level of tourist arrivals at the destination. As a service sector, it relates to the attraction, accessibility, amenities, ancillary services, activities, and available tourism packages [10]. For these reasons, the dimensions of IPA have been developed in managing tourism villages including accommodation and restaurants, accessibility, quality of life, tourism services, entertainment facilities, heritage and cultural services, and ecological services [11], [12]. Aligning with [11]–[18], IPA is designed for overcoming problems in tourism villages. The ecological services complete the IPA-based sustainability model so that it is suitable for sustainable rural development. The result serves as information for the tourism board, tourism village managers, and tourism agencies for improving visitor satisfaction.

2. METHOD

Fig. 2 depicts the stages of the research method. First, the population consists of visitors on three locations namely: Pulepayung, Kedung Pedut, and Sungai Mudal. The sample selection technique uses a probability sampling method involving 150 tourists. Data collection is done through observation, interviews, questionnaires, documentation, literature studies, and news from online media. The observation was made to obtain information about the location and visitor crowded. Interviews were conducted with destination managers to discuss the history, concepts, community roles, cultural involvement, and local wisdom for destination development.

Second, the variable consists of importance-performance with operationalization involving seven dimensions such as accommodation and restaurants, accessibility, quality of life, tourism services, entertainment facilities, heritage and cultural services, and ecological services [11], [12], [16]. Further, the data processing techniques using IPA and involving paired sample tests and correlation analysis. The results are mapped in a Cartesian diagram consisting of four quadrants namely: (1) concentrate here, (2) keep up the good work, (3) low priority, and (4) possible overkill. The next explanation is seen in Fig. 3.

Finally, the results for recommendations and suggestions for the management of tourism villages so that they can meet the expectations of the visitors. Further, the explanation of attributes as follows:

1. **Accommodation and restaurants**
   - Available restaurant & lodging information
   - Lodging comfortable & clean
   - The restaurant provides a varied menu
   - The restaurant serves typical food/dinks

2. **Accessibility**
   - Accessed by public transportation
   - Accessed by private vehicles
   - Easy & adequate parking

3. **Quality of life**
   - Available health services
   - Available location of the gathering point if there is a disaster
   - There is an evacuation route or disaster warning
   - Set the density or capacity of visitors

4. **Tourism services**
   - Service officers/tour guides
   - Information of locations/attractions
   - Internet connection/telecommunications

5. **Entertainment facilities**
   - Natural beauty
   - Shopping facilities
   - Available specifically souvenirs
   - Available parks/lounges

6. **Heritage and cultural services**
   - Introducing local wisdom or community traditions for tourists
   - Organizing local cultural attractions
   - Introducing ancestral heritage to tourists
Further, Kedung Pedhut Waterfall is located in Kembang hamlet, Jatimulyo village, Girimulyo sub-district. An area of two hectares is managed by Pokdarwis along with youth organization. This destination was inaugurated in 2015 with the attraction of waterfalls, tubing, and flying fox. Traditional arts are preserved and held in tourist areas. Moreover, the specific traditions are maintained as a local attraction for tourists. There are some homestays managed by the community. The micro-scale of food processing and palm sugar businesses provide local products for souvenirs. The number of Pokdarwis personnel at the site reaches 42 people so that the location can provide employment odds and income for local people.

Lastly, Mudal River Park is located in Jatimulyo village, Girimulyo sub-district. This tourism area was inaugurated in 2015 with management given to Pokdarwis of Jatimuylxo village. It provides an available place for praying, food stalls, gazebo, Wi-Fi, parking, camping ground, flying fox, and river tubing. However, the area is relatively new so that needs guidance to managers and communities for improving local potential. If it is viewed from the side of creativity, the efforts of the tourism office in raising the local economy and creativity should be appreciated and inspire other regions in encouraging the community to develop their local potential.

3.2. Destination profiles
The profile of destinations are as follows: Pulepayung is located in Soropati hamlet, Hargotirto village, Kokap sub-district. The main livelihoods of the people are plantations and animal husbandry with the main commodities of the plantation are cocoa, pepper, cloves, coffee, avocado, mango, rambutan, and spices, while the main animal husbandry is Etawa goat. The togetherness of the Makaryo Farmers Group, local communities, and CSR can realize Pulepayung as a natural tourism destination. Various tourism attractions are provided including photography spots, playgrounds, milking goats, and local cultural performances. In November 2019, Pulepayung was the first champion in the award of “Pesona Indonesia” with a categorized of new destinations from the Ministry of Tourism and Creative Economy.

Table 1. The Rating of IPA Adjustment

| No | Importance | Performance | Score | No | Importance | Performance | Score |
|----|------------|-------------|-------|----|------------|-------------|-------|
| 1  | 205        | 171         | 83.577| 13 | 221        | 186         | 84.187|
| 2  | 201        | 172         | 85.406| 14 | 235        | 133         | 56.516|
| 3  | 203        | 165         | 80.984| 15 | 230        | 207         | 89.855|
| 4  | 207        | 173         | 83.601| 16 | 185        | 142         | 76.937|
| 5  | 214        | 168         | 78.349| 17 | 182        | 134         | 73.675|
| 6  | 222        | 174         | 78.378| 18 | 220        | 195         | 88.485|
| 7  | 225        | 180         | 79.970| 19 | 210        | 165         | 78.730|
| 8  | 224        | 162         | 72.470| 20 | 189        | 140         | 74.120|
| 9  | 227        | 182         | 80.147| 21 | 195        | 156         | 79.693|
| 10 | 224        | 181         | 80.684| 22 | 223        | 189         | 84.776|
| 11 | 220        | 185         | 84.115| 23 | 233        | 189         | 81.259|
| 12 | 214        | 183         | 85.226| 24 | 233        | 187         | 80.286|
Table 1 shows the rating of IPA adjustment for calculating the comparison score of performance to the score of importance. Partially, the study proves the highest score of 89.86% in the attribute of 15th. It signs the natural beauty most appropriate with tourists’ expectations. The second highest is in the attribute of 18th which indicates the available parks/lounges also an as good consideration for visitors. Contrarily, the lowest score in the attribute of 14th which shows the visitors’ expectation in connecting speedily with the internet during on the location. However, this performance slightly meets visitor expectations.

An overall score is 80.15% by calculating \{(4.313 \times 5.381) \times 100\%\} which illustrates that tourist expectations are still higher than the performance of the tourism destinations.

This scoring measures the rating of tourist satisfaction. These indicate that their expectation toward tourism destination performance is greater than real performance. Therefore, rural tourism destinations need improvement to meets with tourist expectations.

Fig. 3 depicts the spreading of attributes on the matrix of IPA. Seen the most distribution in the second quadrant. The overall mapping of these results are as follows:

| Quadrants     | Position       | Attributes                                                                 | Code |
|---------------|----------------|----------------------------------------------------------------------------|------|
| Quadrant I:   | High Importance| Available health services                                                  | GB8  |
| Concentrate   | Low Performance| Internet connection                                                        | GB14 |
| Here          |                | Accessed by private vehicles                                               | GB6  |
|                |                | Easy & adequate parking                                                    | GB7  |
|                |                | Available location of the gathering point                                  | GB9  |
|                |                | There is an evacuation route/disaster warning                              | GB10 |
| Quadrant II:  | High Importance| Set the density or capacity of visitors                                   | GB11 |
| Keep Up       | Low Performance| Service officers/tour guides                                               | GB12 |
| the Good Work |                | Information of locations/attractions                                        | GB13 |
|                |                | Natural beauty                                                             | GB15 |
|                |                | Available parks/lounges                                                    | GB18 |
|                |                | Prioritizing environmental conservation                                     | GB22 |
|                |                | Giving an orderly warning of garbage disposal                              | GB23 |
|                |                | Providing a place or sorting bin like trash                                 | GB24 |

Managers must pay attention to the availability of health services and strengthen internet connections. Both are in the concentrate here quadrant so that visitors expect the high performance of these attributes. (2) There are 13 attributes in the keep up the good work quadrant so that performances must be maintained to meet visitor expectations. These attributes come from six dimensions such as accommodation and restaurants, accessibility of tourism services, entertainment facilities, quality of life, and environmental services. (3) Besides, there are nine attributes in the low priority quadrant so that does not need to be developed at this time. (4) Meanwhile, the attribute of the restaurant serves typical foods/drinks in the possible overkill quadrant so that it is currently considered to be sufficient enough by tourism village managers. Detailed explanations in Table 2.

Aligning with Fig. 3 the manager of tourism villages must maintain on 13 attributes for improving visitor satisfaction. The implementation of these attributes is assessed to produce good performances whereas visitors own high expectations on these attributes. For instance: accessibility is suitable for the expectations of tourists, especially can be accessed by private vehicles and easy or adequate parking. The construction of facilities and infrastructure at Kulon Progo has succeeded in building road access to roads in rural areas, making it easier for visitors to arrive at their destination. Also, adequate parking has been prepared by most tourist destinations to increase safety and comfort towards the tourist area. However, there are many winding access roads and must be organized in such a way as to enter the tourism location. For these reasons, guides and special vehicles (jeep cars) are provided to enjoy the destinations. This description can be seen on the way to Kelibiru, Sermo, Pulepayung, and Nglinggo Tea Plantation. These benefits make rural tourism an attractive option to develop rural areas [20] and for minimizing environmental and cultural damages [21].
Regarding the quality of life, some attributes have met customer expectations such as (1) meeting points are available when there is a disaster, (2) setting evacuation routes or disaster warnings, and (3) arranging visitor density or capacity. In line with the awareness of the development of sustainable tourism that it must minimize the risks experienced by tourists caused by natural factors. Even so, the presence of tourists must also minimize the risks to the preservation of nature. For these reasons, the facilities related to the quality of life must be prioritized to visitors outside the insurance aspect at the tourist site. Moreover, the tourism services are partly in line with customer expectations such as tour guide/tour service and tourist location information. Most destinations prepare tour guides that are friendly, polite, and accompany tourists well at photography spots and other facilities. Whereas location information has been managed through social media, websites, and information technology.

Regarding entertainment facilities, some attributes are in line with customer expectations such as (1) the beauty or beauty of nature, and (2) there is a park or a place to relax. Geographically, the nature of Menoreh gives a different panorama compared to the Merapi Mountain, Prambanan temple, beach and karst areas at Gunung Kidul, and dune of Parang Tritis beach at Bantul. Moreover, Kulon Progo has a tea garden at an altitude of 1000 meters above sea level and mangrove forests that do not exist in other destinations in Yogyakarta. Therefore, these assets need to be preserved for sustainability in the future.

Further, the performance of environmental services matches the customer expectation, including (1) prioritizing environmental conservation, (2) giving an orderly warning of garbage disposal, (3) providing waste sorting tanks, and (4) cleanliness of public facilities. The visitor perception supports the concept of nature tourism so that ecological sustainability becomes in line with economic growth.

However, the attributes of heritage and cultural services have not been given full attention by visitors, including (1) introducing local wisdom or community traditions, (2) organizing local cultural attractions, and (3) introducing cultural heritage to tourists. There are in the third quadrant, thus it takes time to elevate the wisdom of local culture as an asset in developing nature tourism destinations. Seen in Table 2, there are still several items included in the third quadrant so that the attribute can be maintained in its progress. Tourists perceive these attributes at the level of importance that tends to below. In line with these results, the attribute is considered to have not reached an optimal level of performance. For example, the availability of restaurants and lodges is sufficient in quantity. Current priorities are more focused on improving the quality of service to visitors. The majority of visitors do not stay at the tourist destination, so the supply of homestay is considered sufficient for now. However, for the needs of souvenirs, it is necessary to develop creativity to become unique to the tourism villages and to boost income for the owner of micro, small, medium enterprises (MSMEs) around the destinations.

At the same time, two attributes need to be improved to match the expectations of tourists. There are consists of providing health services and strengthening internet or telecommunications connections. It is relevant to the report of OECD [2]. Along with the interest of tourists in selfies and updates through social media, the role of the internet becomes important so that these aspects need to be increased to meet the expectations of tourists. Likewise, health service becomes important to be provided to anticipate fatigue, or at least it can be utilized for nursing rooms for toddlers.

| Quadrant III: Low Importance | GB1 Available restaurant & lodging information | GB2 Lodging comfortable & clean | GB3 The restaurant provides a varied menu | GB5 Accessed by public transportation | GB16 Shopping facilities | GB17 Available specifically souvenirs | GB19 Introducing local wisdom/community traditions | GB20 Organizing local cultural attractions | GB21 Introducing ancestral heritage to tourists |
|----------------------------|---------------------------------------------|--------------------------------|-------------------------------------------|----------------------------------|-----------------------|----------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|
| Quadrant IV: Possible overkill | GB4 The restaurant serves typical foods/drinks | GB22 Available restaurant & lodging information | GB23 Lodging comfortable & clean | GB24 The restaurant provides a varied menu | GB25 Accessed by public transportation | GB26 Shopping facilities | GB27 Available specifically souvenirs | GB28 Introducing local wisdom/community traditions | GB29 Organizing local cultural attractions | GB30 Introducing ancestral heritage to tourists |
3.4. Discussion
In some cases, the spreading of attributes is by [15] which studied IPA in Kediri heritage tourism, Indonesia. Some attributes are also by [11] for the evaluation of tourist satisfaction in Campania, Italy. Besides that, in line with [13] for international tourists in Penang Island, Malaysia, [14] in cultural heritage tourism at Trijuginarayan, India. By these results, the manager can maintain the destinations. Nevertheless, a tourism village is necessary the destination marketing. Nowadays, the role of destination marketing organizations (DMOs) in enhancing the market strategy of rural destinations is being needed. The tourism board requires to organize the DMOs to market effectively the destinations. Thus, as a role as well as DMOs owners and officers.

The manager in the destination before anticipate risk for visitors and communities. The manager should apply the protocol of COVID-19 to protect for current natural resources to meet the needs of the first quadrant. It is hoped that the natural tourism destination can overcome the spread of the Coronavirus so that it does not become a new cluster in the spread of COVID-19 in tourist destinations. Thus, maintaining the green zones at the Kulon Progo countrysides.

4. CONCLUSION
There are 13 attributes according to visitor expectations so that performance needs to be maintained. Some attributes have not been noticed by visitors regarding the dimensions of cultural and heritage service. Therefore, coordination with the tourism board is needed and introducing cultural heritage icons as part of sustainable tourism development. Besides, it is necessary to determine the priority of destination development, especially the first quadrant. It is in line with the engagement of tourists in social media. The speed of connection with social media such as WhatsApp, Facebook, and Instagram will improve the promotion of the destinations. By paying attention to various aspects expected by tourists will encourage their satisfaction so that they will be loyal to traveling in some tourism villages at Kulon Progo, Yogyakarta.

The study has two suggestions for the next development. Firstly: in aligning with the growth of information and communication technology (ICT), thus the destinations require to be fostered their performance through a model of digital tourism village. Collaboration with the digital financial inclusion institution can benefit improve potential and enhance the branding of digitally of the tourism villages so that this institution has a role as well as DMOs. The management system of tourism village and MSME in the area can be developed through a digital approach. For example, being able to collaborate with the institution of technological (or abbreviated as “fintech”) such as "Dana" for creating a digital village pioneer in tourism village destination at Kulon Progo county. Previously, this institution has experience in promoting branding in the
platform of a digital village in one of the tourism destinations in the DIY province. Secondly: in preparing new normal conditions, the officers and managers of the tourism villages must adjust the new normal habits. The destination must ensure the COVID-19 protocol guide is installed at some tourist spots and other locations at the destination. Moreover, if possible payment can be made through a digital system so that it will make sure the safety of visitors on the location. Hence, visitors will be more enjoyable and having trust in traveling at these rural tourism destinations to create income for the communities. In line with the programs of sustainable development, these are partly planning to foster and ensure the sustainability issues of rural economic development.

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