

Investigating Service Quality Provided by Resort Operators: The Case of Lake Kenyir in Malaysia

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Abstract: The main objective of this article is to determine whether tourists regard the product and services provided in an ecotourism area with a certain level of satisfaction. Specifically, this study focuses on tourists' expectations and experiences from their visits to one selected ecotourism area, Kenyir Lake in Malaysia. Whether these visitors are satisfied with the quality of service delivered to them by the resort operators was investigated. Methodically speaking, this study modifies the SERVQUAL model and develops a refined service quality model that includes a sustainable dimension to better explain the context of this study. A survey was conducted with tourists who had stayed for at least one night at any of the six resorts that were operating in the study area. The result shows that the level of the service quality is low and inevitably leading to tourists' dissatisfaction. The result suggests that it is important to improve the sustainability, facilities and infrastructure, reliability of services, staff responsiveness, security and personal attention to the visitors (customers) to increase the service quality of the resorts within the vicinity of Lake Kenyir.

Key words: Service quality • SERVQUAL • Ecotourism • Sustainable dimension • Tourism industry

INTRODUCTION

Ecotourism can be defined in many ways. However, ecotourism is usually perceived as a responsible visit to a pristine natural area with educational components [1] that conserve the environment [2] and provide benefits to the hosts [3]. In recent years, ecotourism has been considered to be the fastest-growing market segment of the tourism industry in most countries [4]. Ecotourism has become popular as a result of sustainable awareness created across the globe [5]. Additionally, it is well accepted because of its balanced goal of conserving the environment and benefiting the hosts while at the same time, providing a pleasurable experience to the tourists fulfilling the needs of the tourists [6].

Ecotourism not only generates government revenue through business and other general taxes but also through industry-specific channels, such as payment of occupancy and departure taxes, generates fiscal costs (e.g., the funding of infrastructure) [7], generates much-needed foreign currency both locally and nationally and provides a strong incentive to combine natural sites in a way that would conserve them [8]. The major effect of ecotourism development is that not only that existing protected areas are conserved more effectively

but also that new areas receive protection because of the higher incentives to provide it (ibid).

However, most research on ecotourism has primarily focused on the definitions of ecotourism [9-11], its concepts [12-13], the underlying principles [14-16] and the characteristics of ecotourism resorts [17] and without much emphasis on the quality of the services provided by the resort operators. Among these limited studies is a study by Bruyere *et al.* [18], which investigates tourism benefits and management issues in a protected area in Kenya from the perspectives of stakeholders. However, their study concentrates on just two stakeholders, the employees of business and the local people in the area and excludes the perceptions of the tourists who are directly affected by the product or service delivered to them. Also, Akama and Kieti [19] analyzed the quality of the service and product at a wildlife park in Kenya and they refined the SERVQUAL model of Parasuraman *et al.* [20] and added new items that were related to the park quality attributes to suit the study's context. They revealed that the service quality of the park was good and that tourists were satisfied in the sense that their experiences have exceeded their expectations. In addition, Khan [21] investigated the tourists' quality expectations in an ecotourism area. Rather than adding new items to

the original SERVQUAL model, he went one step further by introducing a new dimension called eco-tangibles. It was found that tourists ranked environmentally friendly services and products as the most important criterion pertinent to the quality of the service in question.

In addition, there is lack of research on the assessment of service quality in ecotourism areas in the context of developing countries, particularly in southeast Asia. Because most ecotourism studies are from developed countries, they provide models that are less applicable to the developing countries' context [11]. On the other hand, studies with regard to the service quality of ecotourism area in developing countries tend to concentrate on Africa or the Far East regions (see [18-19] specifically Kenya and Africa, as well as China [11, 22] in the Far East).

With all these research in mind, the present study aims to fill in the gap. Because of the crucial influence of service quality on tourists' satisfaction and the well-being of the ecotourism industry in general, more cautious study is needed in southeast Asia. In particular, there is a need to come out with a refined model to evaluate the service quality that is applicable to the ecotourism area in this part of the world. As such, the present study contributes to the existing knowledge by testing the relevance of sustainable items and other dimensions in the SERVQUAL model introduced by previous researchers in a context not yet investigated, that is, the ecotourism context in southeast Asia. In terms of its practical contributions, the present study helps to indicate the extent of the operators' performance to meet the tourists' requirements. Second, by analyzing tourists' expectations and perceptions, the results of this study will serve as a guideline for operators to prioritize the many expectations of these stakeholders based on the latter's own opinions. Additionally, the result of the study can be used as a tool to enable the operators to increase their productivity in the sense that it may be helpful evidence in the existence of any quality gaps between what is expected and what is actually provided or delivered.

The paper proceeds as follows: first, it discusses the service quality and the SERVQUAL Model; then, the paper continues with the background of the study area, the research methodology, the data analysis, the result and the anticipated conclusion.

Service Quality and SERVQUAL Model: Service quality is, by definition, the degree of discrepancy between customers' normative expectations for service and their perceptions of service performance [23]. The definition of

service quality was further developed as the overall evaluation of a specific service firm that results from comparing that firm's performance with the customer's general expectations of how the firm in that industry should perform [23]. In addition, Briggs *et al.* [24] mentioned that 'service quality' is an overall evaluation of the destination, whereas 'satisfaction' is concerned with the overall evaluation of the experience at the destination [25]. In tourism industries, providing high-quality service and ensuring customers' satisfaction are the most important factors of success [26]. The quality of the services and the satisfaction (felt by the tourists) encourage long-term relationships with tourists and will bring about loyalty to the destination where the satisfactory services are able to be provided.

The literature has identified several models used in measuring service quality and among these popular models is SERVQUAL. This model compares the level of perception against expectation. The nature of evaluating service quality stems from comparing service expectations with actual performance perceptions [20]. In other words, it is the result of the comparison that customers make between their expectations about a service and their perceptions of the way service has been performed after experiencing such service [23]. As such, to measure service quality, it can be done by subtracting the expectation scores from perception scores [27]. These two scores can also be weighed to take account of the relative importance of each quality dimension (*ibid*). Hui *et al.* [28] argued that if the perceived service is greater than the expected service, it can be deduced that the service quality is more than satisfactory. However, they stressed that if the perceived service is lower than the expected service, then it can be assumed that the service quality is less than satisfactory. Nonetheless, if the perceived service and the expected service are equal, then the service quality is just satisfactory [5].

In the SERVQUAL model, Parasuraman *et al.* [20] narrowed down the original 10 dimensions into five dimensions. These dimensions are tangibility, reliability, responsiveness, assurance and empathy. Tangibility is the dimension that sums up the aspects of physical facilities, equipment, personnel and communication materials. Reliability is considered to be the capability of the firm to precisely carry out the services as promised. Responsiveness is regarded as the employees' keenness to help customers and offer timely service. Assurance is the knowledge and courtesy of employees and their ability to establish trust and confidence. Finally, empathy means caring and giving special attention to every customer.

In addition to these five dimensions, sustainability has been identified as one of the most important factors in tourism [29] and one of the key factors that attract tourists to a tourism destination [5]. According to the World Tourism Organization [30], tourists who have become more concerned about the environment are demanding on environmental protection. These tourists are willing to pay extra sums of money just to enjoy the environment [31]. Moreover, the definition of ecotourism, in itself denotes the need to conserve the environment and provide benefits to the locals [3, 5]. More specifically, Dinan and Sargeant [32] have emphasized that sustainability in tourism means safeguarding the environment and the local people while satisfying the tourists and ensuring growth in the industry. However, as suggested by Lynn and Brown [33], the positive impact of ecotourism can only be realized if proper management and monitoring are in place to avoid losses in biological diversity and the exploitation of the local host. He *et al.* [22] investigated the types of people who benefit from the conservation effort of an ecotourism destination in Wolong, China, noting the unequal distribution of economic benefits among stakeholders (the business, tourists and local communities). While acknowledging the success of the conservation effort in terms of improved infrastructure and accommodation facilities, they found that the local people were neglected, where the majority of those who were involved in the area were external operators and laborers, whereas the goods were imported from the outside. Thus, the lesson learned is that sustainable attributes that provide a win-win situation to all stakeholders should not be ignored in measuring the service quality of any ecotourism destination.

Therefore, apart from the five dimensions of service quality put forward by Parasuraman *et al.* [20] the present study, which focuses on the service quality of an ecotourism destination, the SERVQUAL model must be modified to ensure its suitability for the context highlighted here. Following Akama and Kieti [19],

Khan [21] and He *et al.* [22], the sustainable dimension is also included. Figure 1 shows the framework of the present study.

Based on the above framework, two hypotheses have been established for the present study. These are as follows:

- The better quality of the product and the service received, the higher the level of satisfaction among the visitors.
- The lower quality of the product and the service received, the lower the satisfaction level of the visitors.

Researchers have argued that the quality of the product and the service provided by the resort operators are proved to exhibit some kind of influence on the tourists' satisfaction. When a tourist experiences, or uses, a particular product or service, the quality of the product and the service are naturally compared to what the tourist expects or anticipates. When their perception outdoes their expectation, the tourists are regarded as 'satisfied' with the quality of the product as well as with the quality of the service accommodated for them. Meanwhile, if their perception fails to live up to their expectations, the visitors are seen as 'unsatisfied' with the product's quality and the service that is rendered to them.

Study Area - Lake Kenyir: This study was conducted in Lake Kenyir, one of the ecotourism areas in Malaysia and the largest man-made lake in South East Asia [5]. The lake was constructed for the purpose of generating hydroelectric power, which is able to supply electricity to all of Malaysia. The construction of the dam started in 1978 and was completed in 1985 [34]. The main feature of the Kenyir Hydro Electric Project is a rock-filled dam with 400 megawatts of generating plant. The islands on Lake Kenyir are the tips of highlands and hilltops, which are not submerged during the flooding. There are 30 rivers feeding the lake, 25 waterfalls and at least 25 known

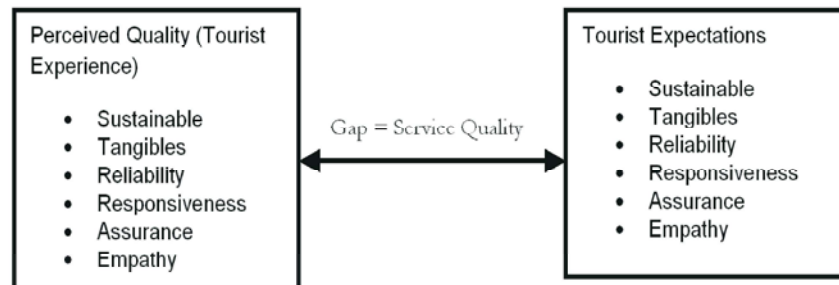


Fig. 1: The framework of the study

species of fish [35]. Therefore, Lake Kenyir is known as an angler's haven for fishing. Additionally, the lake makes a fascinating tourist spot with its offering of waterfalls, limestone caves and a lush tropical forest, which is home to more than 8,000 species of flowers, 2,500 species of plants and trees and 300 species of fungus. In addition, there are 800 butterflies, 370 species of orchids, 1,000 species of birds and 200 species of other animals (ibid).

MATERIALS AND METHODS

Population and Sample: The population of this study lies in the tourists who visit Kenyir Lake and reside in any of the resorts for at least a night. The information on the total number of visitors checking in the resorts is collected three days before the field work is implemented. The information is obtained from the resorts' office through phone calls and is then verified from the park management office during the field work. Out of the nine resorts identified in the Lake area, only five resorts claim to have had a number of visitors checking in and the total number of these visitors in this study is 236. Because the population-cum-respondents is not large in size, the study covers the entire population. Table 1 shows the number of visitors to Kenyir Lake during the field work.

Measurement: A standardized questionnaire is designed to include two major sections. Section 1 consists of 12 items asking about the general information of the respondent. Section 2 of the questionnaire concerns with tourists' expectations and experiences of products and services provided in Lake Kenyir. Because of its similarity to the present study, attributes used by Akama and Kieti [19], who modified the original SERVQUAL model (tangibility, reliability, responsiveness, assurance and empathy) are adopted. In addition, four extra attributes referring to recycling, nature-based activities, change to the local environment and the use of local resources put forward by Khan [21] and He *et al.* [22] were added to the list and named as sustainable attributes. In total, 27 items are used in this study to measure service quality.

A four-point scale is used to ascertain tourists' expectations and experiences; 1 - very dissatisfied, 2 - dissatisfied, 3 - satisfied and 4- very satisfied. The reason for using such a scale is to force the respondents to make a decision regarding their expectation and experience [36]. A four-point scale is also used because it would avoid a neutral answer, which is evident in the normal five-point scale [37].

Table 1: Population of Visitors in Lake Kenyir during Field Work

No.	Name of Resort	Number of Visitors
1.	Lake Kenyir Resort and SPA	50
2.	Petang Island Resort	50
3.	Federal Government Rest house	60
4.	Kenyir Sanctuary Resort	53
5.	Kelah Rakit Resort	23
Total		236

The questionnaire was pilot-tested in June 2009 to ensure that the questions were well understood, that vague questions could have been avoided and that the wording of the questions needed to be rephrased. The final questionnaire was prepared in two languages, English and Malay and took the participant approximately seven minutes to complete.

Data Collection: The actual survey was conducted in the second week of July 2009 in all the five resorts in Lake Kenyir. The questionnaire was distributed by a team of five field researchers. These field researchers were briefly trained on how to approach the respondents and on the procedures concerned with conducting face-to-face surveys. Confidentiality was assured by conducting the survey in privacy. Each respondent was asked using the language he or she preferred (either Malay or English). Only those who have stayed for at least one night in any of the Lake Kenyir resorts were selected. The reason for including only tourists who have stayed in a resort for at least one night and not just any random visitors to Lake Kenyir is to make sure that respondents were able to provide valid information related to the product and services offered by these resorts. All in all, from the 157 tourists responded from the survey, 127 responses were usable for the analysis, yielding a response rate of 81 percent.

Data Analysis Method: The data were analyzed by using two stage analyses. First, all scaled items were submitted to a reliability test. The aim of the reliability test is to verify the internal consistency among the items [38]. A greater degree in consistency in responses among items for each factor leads to a higher Cronbach's alpha. According to Nunnally and Bernstein [39], a value for Cronbach's alpha coefficient greater than 0.60 is considered acceptable. A value for Cronbach's alpha coefficient that is greater than 0.60 is generally agreed upon as the lower limit for new measures [40]. As the next step, descriptive statistics were run to obtain the profile of the respondents. This technique is particularly useful

to make some general observations about the data and transform the raw data into a form that describes a set of factors under consideration. The respondent profiles were analyzed using a frequency distribution, which include gender, race, age, education level and income. Next, the paired *t*-test was performed to provide mean scores of tourists' expectations and experiences for each item, followed by a calculation of mean scores for the service quality for each item.

RESULTS

Respondent's Profile: A total of 93 percent of the respondents are between 18 to 49 years old and the other 7 percent are more than 50 years of age. A total of 68.2 percent of the respondents are male and 93.6 percent are Malaysian, with the remaining nationalities from Netherland, Germany, Singapore, Sudan and Vietnam. A total of 73.9 percent have attended higher education and 61.7 percent are from the middle-income group. About 62 percent of the respondents decided to stay for 3 nights and 39 percent of the respondents stated that they came to this area for recreation and the other 20 percent came to Lake Kenyir 'to learn about nature'. There were also a considerable number of tourists who had been to the lake before (37%) and from this percentage, about 47 percent of the tourists have visited Lake Kenyir two or three times.

Reliability Test: Before proceeding with the analysis, a reliability test of all dimensions was conducted to test the reliability and internal consistency of all items and dimensions used. The Cronbach's alpha for all dimensions is between 0.73 and 0.83 for Tourist Expectation and between 0.65 and 0.78 for Tourist Experience, respectively, which are higher than the

acceptable threshold (0.6) suggested by Nunnally and Bernstein [39], indicating that the items used were reliable and consistent. Table 2 shows the Cronbach's alpha value for each dimension and the sources.

Finally, the service quality score was calculated using the formula proposed by Parasuraman *et al.* [20]: Service Quality Score = Experience Score - Expectation Score. To enable this calculation, a paired *t*-test was carried out to the 27 items. The analysis was done at the 5 percent level of significance, where $p < 0.05$ and $p < 0.01$ was considered significant and highly significant, respectively. Table 3 shows the results for each dimension and item.

Table 3 shows that, in general, the mean score of the respondents' experiences is 2.96 (standard deviation =0.08) compared to a mean score of 3.13 (standard deviation of 0.07) for their expectations. This gives a gap of -0.17, which means that the service quality is low in the sense that the tourists' expectation is higher than their experience. Specifically, the results in Table 3 shows that in all six dimensions used in the study (sustainability, tangibility, reliability, responsiveness, assurance and empathy), the scores for service quality are negative, indicating that the tourist's expectation supersedes their experience. The results show that the service quality that the tourists received during their stay in Lake Kenyir is poor, leading the tourists to be dissatisfied.

The results also show the factors that affect this. This is shown by items that are significant ($p < 0.05$) and highly significant ($p < 0.01$). In terms of dimension, sustainable dimension is highly significant ($p < 0.05$) as an influence of service quality, whereas the remaining dimensions are significant ($p < 0.01$) in influencing service quality. The result indicates that all dimensions need to be improved to increase the quality of the products and services in Lake Kenyir.

Table 2: Results of Reliability Test: Cronbach's Alpha

Dimensions	Number of items	Coefficient Cronbach's Alpha		Sources
		Expectation	Experience	
Sustainable	7	0.77	0.65	[19-22]
Tangible	5	0.73	0.66	[19-20]
Reliability	3	0.80	0.78	[19-20]
Responsiveness	3	0.76	0.67	[19-20]
Assurance	4	0.81	0.69	[19-20]
Empathy	5	0.83	0.72	[19-20]

Table 3: Overall score of Service Quality in Lake Kenyir

Attributes	Expectation Mean (SD)	Experience Mean (SD)	Gap	t- value	p-value
1. Sustainable					
1.1 Visual attraction and the appeal of natural attractions.	3.43(0.54)	3.34(0.56)	-0.09	1.32	0.19
1.3 Non-crowded and unspoiled park	3.39(0.66)	3.30(0.65)	-0.09	1.39	0.17
1.2 Used natural/local resources as equipment and facilities.	3.07(0.72)	2.94(0.65)	-0.13	2.01	0.05
1.4 Emphasized tourist to recycle and reuse product	2.87(0.76)	2.63(0.77)	-0.24	3.15	0.00*
1.5 Development integrated with local environment/culture	3.05(0.61)	2.89(0.66)	-0.16	2.40	0.02*
1.6 Nature-based activities (jungle tracking, kayaking/ bird watching)	3.38(0.60)	3.26(0.66)	-0.12	1.88	0.06
1.7 Minimal change to existing landform and vegetation	3.08(0.68)	2.88(0.65)	-0.20	3.39	0.00**
Value for Sustainability	3.18(0.22)	3.03(0.27)	-0.15	6.89	0.00**
2. Tangible					
2.1 The physical facilities and equipment are visually aligned and in good condition.	3.07(0.63)	2.88(0.63)	-0.19	2.47	0.02*
2.2 Information center gives relevant information.	3.07(0.63)	2.96(0.68)	-0.11	1.86	0.07
2.3 Adequate transport systems.	3.11(0.68)	2.78(0.76)	-0.33	4.53	0.00**
2.4 Accessibility of physical facilities and natural resources	3.06(0.58)	2.92(0.62)	-0.14	2.15	0.03*
2.5 Neat appearance of the resort's staff	2.95(0.65)	2.82(0.69)	-0.13	1.91	0.06
Value for Tangibility	3.05(0.06)	2.87(0.07)	-0.18	4.53	0.01*
3. Reliability					
3.1 Staff giving prompt services	3.06(0.59)	2.87(0.71)	-0.19	2.83	0.01*
3.2 Staff providing service at the promised time.	2.98(0.64)	2.73(0.69)	-0.25	3.66	0.00**
3.3 Staff providing accurate and correct information.	3.09(0.57)	2.86(0.58)	-0.23	4.00	0.00**
Value for Reliability	3.04(0.06)	2.82(0.08)	-0.22	12.66	0.06
4. Responsiveness					
4.1 Willing to assist tourist	3.19(0.58)	3.05(0.62)	-0.14	2.60	0.01*
4.2 Staff never too busy to respond to tourist's question(s)	3.18(0.65)	3.00(0.67)	-0.18	3.04	0.00**
4.3 Staff inform tourist of the exact services and products offered	3.16(0.57)	2.96(0.61)	-0.20	3.33	0.00**
Value for Responsiveness	3.18(0.02)	3.00(0.05)	-0.18	9.83	0.01*
5. Assurance					
5.1 Tourist feels safe and secure.	3.27(0.59)	3.12(0.64)	-0.15	2.62	0.01*
5.2 Staff consistently courteous with tourist.	3.21(0.56)	3.11(0.61)	-0.10	1.61	0.11
5.3 Staff has the knowledge to answer questions.	3.20(0.58)	3.02(0.60)	-0.18	2.93	0.00**
5.4 Adequate safety facilities.	3.12(0.63)	2.97(0.60)	-0.15	2.29	0.02*
Value for Assurance	3.20(0.06)	3.06(0.07)	-0.14	8.74	0.03*
6. Empathy					
6.1 Staff give the tourist personal attention.	3.01(0.58)	2.80(0.63)	-0.21	3.00	0.00**
6.2 Staff is understanding of the tourist's specific needs.	3.10(0.62)	2.94(0.65)	-0.16	2.40	0.02*
6.3 Convenient locations of facilities and equipment.	3.21(0.59)	3.01(0.66)	-0.20	3.33	0.00**
6.4 Comfortable facilities	3.14(0.62)	2.98(0.66)	-0.16	2.09	0.04*
6.5 Adequate water supply	3.19(0.62)	3.10(0.69)	-0.09	1.39	0.17
Value for Empathy	3.13(0.08)	2.96(0.11)	-0.17	7.77	0.01*
Overall Value	3.13(0.07)	2.96(0.08)	-0.17	15.14	0.00**

A negative gap indicated that, the tourists' experiences were not meeting his or her expectations. A positive gap showed that the tourist's expectations exceeded the tourist's experiences. The interpretation of the result was done at the 5 percent level of significance,

* P<0.05 was considered to be significant, ** P<0.01 was considered to be highly significant

In terms of items, the results show that items 1.4, 1.7, 2.3, 3.2, 3.3, 4.2, 4.3, 5.3, 6.1 and 6.3 are highly significant, whereas items 1.5, 2.1, 2.4, 3.1, 4.1, 5.1, 5.4, 6.2 and 6.4 are significant influences of service quality in Lake Kenyir. Therefore, these items, which range from the issue of recycling, being compatible with local environment and culture, making minimal changes to the existing landform,

supplying adequate facilities and transport system as well as accessibility, timely service and accurate information and not to mention the areas of the responsiveness of staff, personal attention and security, all of these crucial criteria should be the focus of the strategic policy in the future to improve the planning and management of the resorts and the area promoted for tourism.

CONCLUSION

The study provides a better understanding of the quality of service in an ecotourism area in southeast Asia. Specifically, a survey was conducted on tourists who stayed for at least one night in Lake Kenyir, Malaysia. The original SERVQUAL model was refined and a new dimension named the sustainable dimension was included into the model. The adapted items were proposed and verified by Akama and Kieti [19], Khan [21] and He *et al.* [22]. As such, the paper responds to Parasuraman *et al.* [41], who stressed that it is impossible for the SERVQUAL model developed by the author to be applicable to all research contexts; due to this, some modification needs to be done on the model to suit the nature of the industry or business in question.

The results of the present study showed that the level of service quality in Lake Kenyir was low, leading to the dissatisfaction felt by the tourists. The service quality scores indicate that tourists at the ecotourism area expected more than what they actually experienced or received. The result did not support the findings of Akama and Kieti's [19] study, which revealed that the service quality of the Kenya's Tsavo West National Park was credible and that tourists were satisfied. However, the result was similar to that presented by Khan [21], who found that a dimension that relates to sustainability was considered the most important by the tourists.

In addition, the results provide greater insight into the key dimensions, which suggest overall that good service quality does bring about tourists' satisfaction. Our study proved that all dimensions are either highly significant or significant in leaving an impact on the level of service quality. Therefore, there is a dire need for the resort operators, park managers, policy implementers and policy makers at both the state government and the federal government to improve the quality of the product and services offered in Lake Kenyir.

Like any other study, this study has limitations. The first limitation is that it is very difficult to collect the tourists' experiences before and after using the service or product. Because of this difficulty, data on tourist expectations and perceptions were collected at the same time. Although the problem did not affect the entire exercise of the survey, it nonetheless could have been the reason why the gap between the experience and expectation scores was very little. Future studies carrying the intention of using the same method should note this difficulty. Second of all, our study only covers one ecotourism area, namely, Lake Kenyir in Malaysia, when

in fact there are five lake-based ecotourism areas in Peninsular Malaysia. A study that covers all these areas will provide a thorough investigation of the level of service quality in these areas and allow a robust analysis from, if not more confirmed findings as a result of, using the refined SERVQUAL model.

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