

# Applying WILSERV in Measuring Visitor Satisfaction at Sepilok Orangutan Rehabilitation Centre (SORC)

A. H. Hendry, H. S. Mogindol

**Abstract**—There is an increasing worldwide demand on the field of interaction with wildlife tourism. Studies pertaining to the service quality within the sphere of interaction with wildlife tourism are plentiful. However, studies on service quality in wildlife attractions, especially on semi-captured wildlife tourism are still limited. The Sepilok Orangutan Rehabilitation Centre (SORC) in Sandakan, Sabah, Malaysia is one good example of a semi-captured wildlife attraction and a renowned attraction in Sabah. This study presents a gap analysis by measuring the perception and expectation of service quality at SORC through the use of a modified SERVQUAL, referred to as WILSERV. A survey questionnaire was devised and administered to 190 visitors who visited SORC. The study revealed that all the means of the six dimensions for perceived perceptions were lower than the expectations. The highest gap was from the dimension of reliability (-0.21), followed by tangible (-0.17), responsiveness (-0.11), assurance, (-0.11), empathy (-0.11) and wild-tangible (-0.05). Similarly, the study also showed that all six dimensions for perceived perceptions means were lower than the expectations for both local and foreign visitors.

**Keywords**—Gap analysis, service quality, WILSERV, wildlife tourism.

## I. INTRODUCTION

THE tourism industry has placed a great emphasis on tourism products which focuses on the natural and cultural resources of the region. In particular, tourism based on interaction with wildlife has been increasing and demanded worldwide [1]. As for the global market size of wildlife tourism, 12 million trips annually have been estimated and is growing at a rate of about 10% a year [2]. Sabah is gifted with natural forest habitats and abounding with floras and faunas. Wildlife tourism is one of the main tourism products in Sabah. SORC, being a premier wildlife tourism attraction in Sabah was initially established to ease human-wildlife conflict in Sabah and to care for young orangutans orphaned because of loss of habitat due to logging and deforestation, and also those who have been illegally caught and kept as pets [3]. SORC is a semi-captured wildlife attraction located in the district of Sandakan and received 103,330 visitors in 2014 (Sabah Parks/Wildlife Department/Sabah Agriculture Park).

## II. PROBLEM STATEMENT

Measuring and managing visitor satisfaction is paramount to all tourism businesses [4]. Visitor satisfaction is the central factor in managing the competitive advantages and visitor flow in a visitor's destination. Therefore, service quality has

become increasingly important to many tourism service providers, including wildlife tourism attractions.

## III. RESEARCH OBJECTIVE

The aim of this study is to examine the service gap at SORC. Specifically, the objectives of the study are; (a) to identify the visitors' demographic and trip characteristic profiles at SORC, (b) to determine the service gap at SORC via the use of WILSERV technique, and (c) to compare between local and foreign visitors service gap at SORC.

## IV. SCOPE OF THE STUDY

This study was conducted at SORC, Sandakan, Sabah which is located at East Coast of Borneo Island [5]. SORC is surrounded by the Kabili-Sepilok Forest, a virgin jungle reserve rich in tropical rainforest and mangrove swamp. This study focused on the service quality on the semi-captive wildlife in SORC. In this study, WILSERV was created to measure the service quality at SORC. This study will contribute to the literature and the organization.

## V. LITERATURE REVIEW

### A. Wildlife Tourism

Wildlife tourism covers two types of natural area tourism, that includes adventure travel and nature based [6]. A study from [7], [8], developed a conceptual framework for wildlife tourism whfgich focused on three dimensions of wildlife human interaction. It included hunting and fishing (consumptive use), zoos and aquaria (low-consumptive) and wildlife observation and photography (non-consumptive) [9]. Wildlife tourism can also be viewed from the site and enclosure perspective where it can be viewed as closed or captured enclosure (e.g. zoo and aquaria), in the wild (e.g. free roaming in a national park or wildlife park), and semi-captured enclosure (e.g. wildlife rehabilitation center such as SORC) [10]. On another note, the size and scale of wildlife tourism were divided differently, from large zoos and aquaria, which are normally aligned with mass tourism, to small privately administrated tours that specialized in wildlife tours [11]. Currently, many wildlife tourism is progressively being handled as part of a sustainable political viewpoint for preserved area managers and conservation agencies as a means of contributing practical results in order to supply extended preservation for some areas [12], [13]. The tourism industry compliments wildlife tourism and ecotourism as a new interesting product to market while environmental and conservation groups intend to observe wildlife tourism more

Hendry, A. H. and Mogindol, H. S. are with the Universiti Teknologi MARA (UiTM), Shah Alam, 40450, Selangor, Malaysia (e-mail: hryann91@gmail.com, spencer\_mogindol@yahoo.com).

as a means of conservation and security [14].

### B. Visitor Satisfaction

Visitor satisfaction is one of the most generally investigate subject in the hospitality and tourism field due to it plays an essential role in the survival and future of every tourism products and services [15], [16]. Most of the practitioners from the 1980's and 1990's found that a satisfaction was actually more a judgment or evaluation than an attitude and is a complicated construct with various associated measurement problem [17], [18]. Previous research has operationalized satisfaction at both the overall satisfaction and attribute satisfaction levels [19]. In addition, definition for satisfaction is explained as "a segment develops a product or service elements or itself, contributes a satisfying level of utilization-relevant fulfilment" Oliver (1997: p.13) or as a general evaluation of a acquisition [19].

The overall result on the research or the total of the relation together with importance and the level of satisfaction via experienced were summarized with all the attributes [20]. Thus, tourist satisfaction is important because it influences consumption during the visit and the future loyalty of tourists [21], [22]. More specifically, tourists who are satisfied with their previous travel experience tend to be more willing to revisit the destination and recommend the destination to friends or relatives [23], [24].

### C. WILSERV

The SERVQUAL [25] model proposes that the service quality focuses on the distinction between expectation and perceived achievement on the quality element. The gap of service quality result is determined as service quality equivalent to perceived performance less than expectation. In short, service quality has dissimilarity in between customer expectation of service as well as perceived performance. As presumption, the greater the expectation than performance, resulting less perceived quality than satisfactory and eventually customer dissatisfaction occurs. SERVQUAL is widely used in tourism studies [26]-[28] and other researchers used it to study wildlife tourism [29], [30]. WILSERV is created for this study in order to suit the purpose of wildlife tourism service and visitor satisfaction. WILSERV is adapted from SERVQUAL and ECOSERV [31], [32]. WILSERV has six dimensions where the five initial dimensions (tangibility, reliability, responsiveness, assurance and empathy) were adapted from SERVQUAL and the sixth dimension is referred to as wild-tangible [33], [34]. Wild-tangible was adapted from ECOSERV's eco-tangible (an additional dimension) that highlighted importance of the physical facilities that were environmentally friendly as well as minimized environmental degradation [35].

## VI. METHODOLOGY

The target group in this study focused on foreign and local visitors who visited SORC aged 18 years and above. The survey instrument was adapted from previous study. The questionnaire consists of three sections whereby section A

contains demographic questions, section B looks at trip characteristics and section C consists of two separate sub-sections (containing 24 items) to assess the respondents' expectations and perceptions. The service quality items are measured using the five-point likert scale based on the range of (1) strongly disagree to (5) strongly agree. A pre-test was conducted at Lok Kawi Wildlife Park (LKWP) in February 2017 to check the validity of the survey questionnaire. Data collection was commenced by distributing questionnaires to foreign and local visitors in March 2017. It was distributed inside the viewing centre, main entrance/lobby and exit, nearby lodging and at the restaurant of SORC.

TABLE I  
DEMOGRAPHIC PROFILE FOR SORC (N=190)

Demographic Background	Frequency	Percentage (%)	
<b>Gender</b>	Male	77	40.5
	Female	113	59.5
<b>Age</b>	18-25 Years	64	33.7
	26-33 Years	65	34.2
	34-41 Years	23	12.1
	42-49 Years	8	4.2
	50 and above	30	15.8
<b>Origin</b>	Africa	2	1.1
	Eastern Europe	1	0.5
	European Union	61	32.1
	North America	4	2.1
	Oceania	1	0.5
	Malaysian	116	61.1
	Others	5	2.6
<b>Highest Level of Education</b>	Primary School	1	0.5
	Secondary/college	42	22.1
	Vocational/Technical	8	4.2
	Undergraduate	112	58.9
	Postgraduate	27	14.2
<b>Occupation</b>	Housewife	8	4.2
	Clerical/supervisory	5	2.6
	Self-employed	29	15.3
	Executive/Managerial	21	11.1
	Professional	46	24.2
	Retired	20	10.5
	Private Company	20	10.5
<b>Frequency of visit to SORC</b>	Others	41	21.6
	Once	144	75.8
	Twice	22	11.6
	3 to 5 times	15	7.9
<b>Visiting with whom</b>	6 times and above	9	4.7
	Travelling alone	15	7.9
	With friends and/or relatives	136	71.6
	Tour groups	30	15.8
	Others	9	4.7
<b>Mode of transport</b>	Bus	32	16.8
	Taxi	9	4.7
	Rented car	27	14.2
	Hitched Hike	12	6.3
	Tour bus	54	28.4
	Others	56	29.5

A total of 200 survey questionnaires were distributed equally to all local and foreign visitors who visited SORC and after screening process, only 190 responses were usable for analysis. Cronbach's alpha test was used to ensure reliability of the instrument and descriptive tests were used for data analysis.

## VII. RESULT AND DISCUSSION

### A. Demographic Profile

From the data collected at SORC, a total of 190 respondents of foreign and local visitors completed the survey, giving a

response rate of 95%. The demographic information included the following characteristic of participants; gender, age, origin, highest education level and occupation. The trip characteristic information included; frequency of visit to the centre, visiting with whom and mode of transportation (see Table I).

### B. Gap between Expectation and Perception of Service Quality (WILSERV) Dimension

Table II presents the gap of the 24 items of WILSERV for SORC. Out of the 24 items, 22 items recorded negative gap scores.

TABLE II  
GAP BETWEEN EXPECTATION AND PERCEPTION OF SERVICE QUALITY (WILSERV) DIMENSION

No	Question	Mean of Expectation	Mean of Perception	Gap Scores
<b>Tangibility</b>				
1	The center should offer an interesting visual associated with the service.	4.17	3.87	-0.30
2	The center should offer good physical facilities (parking and platform).	4.07	4.04	-0.03
3	Staff uniform should be neat and presentable.	3.93	4.01	+0.08
4	Viewing platform should be uncrowded.	4.07	3.66	-0.41
5	Information counter should have relevant information about the center.	4.23	4.04	-0.19
<b>Average mean</b>		4.09	3.92	-0.17
<b>Reliability</b>		0.809		
<b>Reliability</b>				
6	Staff should be good in dealing complaints from visitors.	4.11	3.87	-0.24
7	Staff should be knowledgeable enough to respond to visitors' questions.	4.23	4.02	-0.21
8	Staff should be proficient.	4.17	4.04	-0.13
9	Staff should provide its services at a time it promises to do so.	4.21	3.96	-0.25
<b>Average mean</b>		4.18	3.97	-0.21
<b>Reliability</b>		0.811		
<b>Responsiveness</b>				
10	Queries should be dealt with efficiently and promptly.	4.08	3.97	-0.11
11	Staff should be responding to visitor request.	4.05	3.94	-0.11
12	Staff should always willing to assist visitors.	4.08	4.03	-0.05
13	Visible action should be taken when problems arise	4.14	3.99	-0.15
<b>Average mean</b>		4.09	3.98	-0.11
<b>Reliability</b>		0.840		
<b>Assurance</b>				
14	The center should have good security measures.	4.17	4.05	-0.12
15	Staff should be friendly and courteous.	4.17	4.13	-0.04
16	Staff should be trustworthy.	4.31	4.09	-0.22
17	Visiting hours should be convenient to all visitors.	4.07	4.01	-0.06
<b>Average mean</b>		4.18	4.07	-0.11
<b>Reliability</b>		0.807		
<b>Empathy</b>				
18	The center must be clean and well maintained.	4.24	4.16	-0.08
19	The center able to accommodate visitors with disabilities.	4.18	3.91	-0.27
20	The center should be easily accessible by public transport.	4.11	3.89	-0.22
21	Staff should be willing to give visitor individual attention.	3.90	3.96	+0.06
<b>Average mean</b>		4.11	4.00	-0.11
<b>Reliability</b>		0.820		
<b>Wild-Tangible</b>				
22	The facilities able to accommodate wildlife animals.	4.15	4.10	-0.05
23	The facilities able to assist in the care and protection of the wild animals.	4.17	4.11	-0.06
24	The center's facilities are environmentally safe for wild animals and visitors.	4.12	4.11	-0.01
<b>Average mean</b>		4.15	4.10	-0.05
<b>Reliability</b>		0.869		

The five items which recorded the highest negative gap scores are, "viewing platform should not be crowded" (- 0.41), "the center should offer interesting visual associated with the service" (- 0.30), "the centre should be able to accommodate visitors with disabilities" (- 0.27), "staff should provide its services at a time it promises to do so" (- 0.25), and "staff should be good in dealing with complaints from visitors" (- 0.24). In addition, all six dimensions of WILSERV indicated negative mean scores ranging from -0.05 to -0.21. The negative gap scores between the expectation and perception may indicate that visitors were dissatisfied with the services given by SORC. However, there are two items which indicate positive gap scores, namely "staff uniform should be neat and presentable" (+0.03) and "staff should be willing to give visitors individual attention" (+ 0.06). This indicates that SOCR performed well with regards to their staff attire and the ability of their staff to attend to their guests. In addition, all dimensions recorded acceptable reliability values of more than 0.8.

#### C. Average Mean Score in Expectation, Perception and Service Quality Gap Score

Table III shows the gap between the average mean of expectation and perception of the WILSERV items in SORC. It can be seen that the highest gap goes to "reliability" with the gap score of - 0.21. This indicates that visitors are dissatisfied with the "reliability" items served by SORC. This is followed by "tangible" with the gap score of -0.17; "responsiveness", "assurance" and "empathy" share the gap score value of - 0.11 while the last item with the least dissatisfaction is "wild-tangible" with the value of -0.05.

TABLE III  
AVERAGE MEAN SCORE'S EXPECTATIONS, PERCEPTION AND GAP SCORE FOR SERVICE QUALITY (N=190)

Variable	Item	Average mean expectation	Average mean perception	Gap Score
Tangibility	5	4.09	3.92	-0.17
Reliability	4	4.18	3.97	-0.21
Responsiveness	4	4.09	3.98	-0.11
Assurance	4	4.18	4.07	-0.11
Empathy	4	4.11	4.00	-0.11
Wild-Tangible	3	4.15	4.10	-0.05
<b>Overall Satisfaction</b>		<b>4.13</b>	<b>4.01</b>	<b>-0.13</b>

#### D. Mean Gap between Local and Foreign Visitors

In accordance to answer objective three, Table IV summarizes the mean gap scores between these two groups; foreign and local visitors visiting SORC. Referring to Table IV, the result shows the trend of negative gap scores on service quality in both foreign and local visitors. As an overall service quality conclusion, local (- 0.14) visitors showed slightly more dissatisfaction compared to foreign visitors (- 0.13) towards the services and facilities provided. Foreign and local respondents reviewed that SORC received negative value in both expected and perceived outcomes of all service quality (WILSERV) dimensions except for wild-tangible where the mean gap score for foreign visitors was 0.0. As a result, SORC has not reached both group's expectation in providing good

facilities and services towards all its visitors, however these items still can be improved for the betterment of SORC in the future.

TABLE IV  
MEAN GAP SCORES BETWEEN LOCAL AND FOREIGN VISITORS VISITING SORC

Group	Dimensions	Mean expected service score	Mean perceived service score	Mean gap score
Foreign	Tangibility	4.02	3.80	-0.22
	Reliability	4.14	3.90	-0.24
	Responsiveness	4.04	3.92	-0.12
	Assurance	4.14	4.07	-0.07
	Empathy	4.01	3.90	-0.11
	Wild-Tangible	4.15	4.15	0.00
<b>Average mean</b>		<b>4.08</b>	<b>3.96</b>	<b>-0.13</b>
Local	Tangibility	4.17	4.07	-0.10
	Reliability	4.33	4.04	-0.29
	Responsiveness	4.14	4.08	-0.06
	Assurance	4.23	4.06	-0.17
	Empathy	4.21	4.05	-0.16
	Wild-Tangible	4.14	4.06	-0.08
<b>Average mean</b>		<b>4.20</b>	<b>4.06</b>	<b>-0.14</b>

#### VIII. CONCLUSION

This study proposes the improvement in the areas which focus on the six-basic dimension of service quality which will lead to the ultimate service quality for the satisfaction of visitors from SORC. Since "tangibility" dimension (SORC) has the highest negative gap score value, the management must take serious action to improve it. On the "tangibility" dimension "viewing platform should be not be crowded", a review must be done on this item by the management to overcome this issue as SORC receives hundreds of visitors in a day.

#### ACKNOWLEDGMENT

First of all, the author would like to express her gratitude to the Sabah Wildlife Department (SWD) who allowed her to conduct her research at SORC. She also would like to thank Mrs. Sylvia Alsisto (SORC Wildlife officer) who provided helpful insights and expertise as well as all SORC staffs' for providing knowledge and assistance during sampling which greatly assisted this research. Special thanks also to colleagues, friends, and lecturers for their support throughout the completion of this research.

#### REFERENCES

- [1] Reynolds, Paul C., and Dick Braithwaite. "Towards a conceptual framework for wildlife tourism." *Tourism management* 22.1 (2001): 31-42.
- [2] ICCWC. "The International Consortium on Combating Wildlife Crime. Information Note", (online), available at: <http://www.cites.org/eng/prog/iccwc.php> (25-03-2014). Impacts, management and planning (pp. 187-210). Altona, Victoria: Common Ground information technology usage: A theoretical model and longitudinal test. *MIS Quarterly*, 28(2) (2011):229-254.
- [3] Orangutan Appeal UK. Retrieved from <http://Orangutan-Appeal.org.uk>, Oregon State University Press, Corvallis, Oregon, (n.d.)
- [4] Sirakaya, E., Texas A & M University. Department of Recreation, Park & Tourism Sciences. "E-review of tourism research. College Station,

- TX," *Dept. of Recreation, Park and Tourism Sciences, Texas A & M University*, 2003
- [5] Sabah Tourism Board. Retrieved from <http://www.sabahtourism.com/destination/sandakan-town+&cd=1&hl=en&ct=clnk> (2016).
- [6] Newsome, David, Ross Kingston Dowling, and Susan A. Moore. *Wildlife tourism*. Vol. 24. Channel View Publications, 2005.
- [7] Duffus, David A., and Philip Dearden. "Non-consumptive wildlife-oriented recreation: A conceptual framework." *Biological Conservation* 53.3 (1990): 213-231
- [8] Paul C., and Dick Braithwaite. "Towards a conceptual framework for wildlife tourism." *Tourism management* 22.1 (2001): 31-42.
- [9] Akama, John S., and Damiannah Mukethe Kieti. "Measuring tourist satisfaction with Kenya's wildlife safari: a case study of Tsavo West National Park." *Tourism management* 24.1 (2003): 73-81.
- [10] Ceballos-Lascurain, Hector. *Tourism, ecotourism, and protected areas: The state of nature-based tourism around the world and guidelines for its development*. Iucn, 1996.
- [11] Beeton, Sue. "Rural tourism in Australia—has the gaze altered? Tracking rural images through film and tourism promotion." *International journal of tourism research* 6.3 (2004): 125-135.
- [12] Wearing, S., and J. Neil. "Ecotourism: Impacts, Potentials and Possibilities. Reed Educational and Professional Publishing Ltd." (1999).
- [13] Williams, C & Buswell, J, *Service quality in leisure and tourism*, CABI Publishing, Oxon, UK. (2003).
- [14] McLaren, D. "Rethinking Tourism and Ecotravel", West Hartford: Kumarian Press (1998)
- [15] Gursoy, Dogan, Ken W. McCleary, and Lawrence R. Lepsito. "Propensity to complain: Effects of personality and behavioral factors." *Journal of Hospitality & Tourism Research* 31.3 (2007): 358-386.
- [16] Porter, Lyman W. "A study of perceived need satisfactions in bottom and middle management jobs." *Journal of applied Psychology* 45.1 (1961): 1.
- [17] Yüksel, Atila, and Mike Rimmington. "Customer-satisfaction measurement." *The Cornell Hotel and Restaurant Administration Quarterly* 39.6 (1998): 60-70.
- [18] Qu, Hailin, and Elsa Wong Yee Ping. "A service performance model of Hong Kong cruise travelers' motivation factors and satisfaction." *Tourism management* 20.2 (1999): 237-244.
- [19] Oliver, Richard L. "Theoretical bases of consumer satisfaction research: Review, critique, and future direction." *Theoretical developments in marketing* (1980): 206-210.
- [20] Fornell, Claes. "A national customer satisfaction barometer: The Swedish experience." *the Journal of Marketing* (1992): 6-21.
- [21] Ajzen, Icek, and Martin Fishbein. "Understanding attitudes and predicting social behaviour." (1980).
- [22] Huh, Jin, Muzaffer Uysal, and Ken McCleary. "Cultural/heritage destinations: Tourist satisfaction and market segmentation." *Journal of Hospitality & Leisure Marketing* 14.3 (2006): 81-99.
- [23] Kozak, Metin, and Mike Rimmington. "Tourist satisfaction with Mallorca, Spain, as an off-season holiday destination." *Journal of travel research* 38.3 (2000): 260-269.
- [24] Kim, A. K., & Brown, G. (2012). Understanding the relationships between perceived travel experiences, overall satisfaction, and destination loyalty. *An International Journal of Tourism and Hospitality Research*, 23 (3), 328-347.
- [25] Lee, Joohyun, and Cheryl Beeler. "An investigation of predictors of satisfaction and future intention: links to motivation, involvement, and service quality in a local festival." *Event Management* 13.1 (2009): 17-29.
- [26] Parasuraman, Anantharanthan, Valarie A. Zeithaml, and Leonard L. Berry. "A conceptual model of service quality and its implications for future research." *the Journal of Marketing* (1985):41-50.
- [27] Markovic, Suzana, and Sanja Raspor. "Measuring perceived service quality using SERVQUAL: a case study of the Croatian hotel industry." *Management* 5.3 (2010): 195-209.
- [28] Marković, Suzana, and Sanja Raspor Janković. "Exploring the relationship between service quality and customer satisfaction in Croatian hotel industry." *Tourism and Hospitality Management* 19.2 (2013): 149-164.
- [29] Patrício, Vera, Rogério P. Leal, and Zulema L. Pereira. "Applicability of SERVQUAL in restaurants: an exploratory study in a Portuguese resort." (2006).
- [30] Han, Xiliang, and Laetitia Radder. "Measurement and consequences of US tourists' perceptions of service quality: a South African hunting safari case study." *The International Business & Economics Research Journal* 10.5 (2011): 33.
- [31] Ryan, Chris, and Jan Saward. "The zoo as ecotourism attraction—visitor reactions, perceptions and management implications: The case of Hamilton Zoo, New Zealand." *Journal of sustainable Tourism* 12.3 (2004): 245-266.
- [32] Yarrow, G. "Habitat requirements of wildlife: food, water, cover and space" [http://www.clemson.edu/extension/natural\\_resources/wildlife/publications/pdfs/fs14\\_habitat\\_requirements.pdf](http://www.clemson.edu/extension/natural_resources/wildlife/publications/pdfs/fs14_habitat_requirements.pdf). Visited on 15.09 (2009): 2014.
- [33] Okello, Moses Makonjio, Danielle E. D'Amour, and Stephanie Grace Manka. "Tourism attractions and satisfaction of Amboseli National Park, Kenya." *Tourism Analysis* 13.4 (2008): 373-386.
- [34] Vavra, Terry G. *Improving your measurement of customer satisfaction: A guide to creating, conducting, analyzing, and reporting customer satisfaction measurement programs*. ASQ quality press, 1997.
- [35] Khan, Maryam. "ECOSERV: Ecotourists' quality expectations." *Annals of tourism research* 30.1 (2003): 109-124

**Hendry, A. H.** was born in Kota Kinabalu, Sabah, Malaysia in 1991. She received a Diploma in Tourism Management from Universiti Teknologi MARA (UiTM) Sabah in 2013 and a Bachelor in Science (HONS) Tourism Management from Universiti Teknologi MARA (UiTM) Sabah in 2015. Currently, she is a Master in Science Tourism Management (Research) student at Universiti Teknologi MARA (UiTM) Shah Alam, Selangor.

Previously, in 2015, she joined the Wildlife Rescue Unit (WRU) in Lok Kawi Wildlife Park, as a Personal Assistant cum Admin until July 2016. Her interest in conserving wildlife to maintain the ecological balance in nature inspired her to conduct this research on wildlife tourism.