# FACTORS INFLUENCING VISITORS' EVALUATION OF SERVICE QUALITY IN GIANT PANDA CONSERVATION CENTRE (GPCC), ZOO NEGARA

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#### ABSTRACT

Giant Panda Conservation Centre (GPCC) was built at the amount of RM 25 million, with the purpose to house giant pandas, which were loaned from China, a gesture to commemorate 40 years diplomatic of ties between China and Malaysia. However, service quality of GPCC has yet to be determined, even though the centre has received many visitors since its establishment in 2014. In addition, GPCC management has no direction to enhance its service quality. Therefore, this study was conducted to determine the visitors' satisfaction towards service quality at the GPCC, as well to uncover factors which influence it. The SERVPERF model was adopted in this study by using a four-point Likert Scale as the measurement. By using the Statistical Package for the Social Sciences (SPSS), the results showed that generally, visitors were satisfied with the service quality of GPCC. This was probably because GPCC provided their best service for visitors. Besides, regression analysis revealed that visitors' re-visit intentions, recommendation intentions, religion, age, and sources of information were factors that influenced visitors' satisfaction. In short, subsequent and effective steps should be taken by the management to enhance service quality in GPCC.

Keywords: Visitors' Satisfaction; SERVPERF; Giant Panda Loan Programme, Malaysia.

#### 1. INTRODUCTION

According to United Nations World Tourism Organization's (UNWTO, 2014) definition, "tourism is an activity of social, cultural, and economics, which involve the movement of people away from their ordinary surroundings to other places, destinations, or even other countries for various purposes". Over the years, tourism has been growing vigorously and has become one of the most significant

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global sectors. Besides, tourism is also plays a vital and principal role in stimulating economic growth and contributes revenue for most nations, through visitors' expenditures during their visits. According to the statistics by Tourism Malaysia, Malaysia's tourism industry generated RM 60.6 billion in 2012 with the tourist arrivals of 25.03 million, while in 2013, 25.72 million tourists contributed RM 65.4 billion to our country's revenue. Furthermore, in 2014, RM 72 billion was generated from the tourism industry tourist arrivals of 27.44 million. Malaysia is a country that is ethnically heterogeneous and is recognised as a veritable model of public policy within the region (Siow, Ramachandran, Shuib, A. & Mohammad Afandi, (2015).

Hence, tourism is undoubtlessly one of the most significant industries for our nation economic development. According to the Central Intelligence Agency, considerable services sector contributed 56.1% in revenue generation, to Malaysia's total Gross Domestic Product (GDP) in 2014 (Central Intelligence Agency, n.d.). For Malaysia's tourism industry, apart from the existing tourist attractions and destinations which contributed to the nation revenue, locals and tourists also saw the arrival of a new tourist attraction in 2014. A pair of adorable giant pandas, Fu Wa and Feng Yi from China arrived in Malaysia on 21st May 2014 and would be loaned to Malaysia for 10 years to commemorate the 40 years of diplomatic ties between China and Malaysia on 31st May 2014.

Consequently, the Giant Panda Conservation Centre (GPCC) was specially constructed in Zoo Negara (National Zoo) to house the two giant pandas. According to Shagar and Yu (The Star, 2013), Natural Resources and Environment (NRE) Former Minister, Datuk Seri Douglas Uggah Embas mentioned that the total spending of GPCC construction at RM 25 million. Subsequently, the exhibition area of GPCC was completed with the cultivation of giant pandas' favourite bamboo, and strong air-conditioning which kept the entire enclosure below 24°C, to emulate the original home of giant pandas at Sichuan province in China. Apart from that, the entire GPCC was complete with the necessary facilities and equipments to ensure the healthy, safety, and comfort of the giant pandas, providing them with the best care in their second home.

On the 18<sup>th</sup> August 2015, Liang Liang successfully gave birth to a cub named Nuan Nuan on 7<sup>th</sup> April 2016, which bore the meaning of warm and friendliness to best reflect the relationship between China and Malaysia (Cheng, 2016). Surprisingly, the birth of the panda cub, Nuan Nuan broke the record as the first cub in the world to be reproduced within 15 months of its parents', Xing Xing and Liang Liang, captivity. According to Arukesamy (2015), the Natural Resources and Environment (NRE) Minister, Datuk Seri Wan Junaidi Tuanku Jaafar said that although the panda cub was born in Malaysia, it still belonged to China and would be returned to China once it reached the age of two. Malaysia has to pay RM 2.5 million (USD 600,000) to China as in the agreement signed between the two countries, to care for the new cub while in the country in addition to paying maintenance cost of around RM 60,000 per month. Thus, the main revenue for the GPCC, the visitors' entrance fees is vital and carries a significant role in ensuring these expenses would be met.

According to Mr. Akmal Hadi bin Samsuddin (Personal Communication, October 08, 2015) a staff in GPCC, they had not received any complaints from visitors regarding the service quality at GPCC. This meant that visitors were generally satisfied. However, the satisfaction of visitors on the specific service quality attributes was yet to be determined. Besides, Harrison and Shaw (2004) mentioned that improving the service quality to enhance visitors' satisfaction was always a need. In fact, it would vital to ascertain the satisfaction level of visitors to determine the sustainability of tourism businesses (Gursoy, McCleary, and Lepsito, 2007). Therefore, this study endeavoured to determine the satisfaction level of visitors towards the service quality at GPCC.

With more certainty of visitors' satisfaction towards service quality at GPCC, the management could enhance the success of GPCC further, in providing optimum services to the visitors of the giant pandas in the next ten years. If visitors were satisfied with their visitation experiences at GPCC, they would have a high tendency to return to GPCC for repeat visitations and form a sense of loyalty to the centre. Furthermore, visitors would more likely recommend and share with their families and friends through positive word of mouth (WOM), which would help promote GPCC and attract new visitors too. Visitations of repeat visitors and new visitors would the principal source of revenue for GPCC. Although there have yet to receive any complaints regarding service quality at GPCC, this study is a means of Opportunity for Improvement (OFI) for the GPCC management, to provide the highest level of service quality for precious visitors.

#### 2. LITERATURE REVIEW

Many authors have been done their studies in this related field. Table 1 shows the regrouping of 25 works in relation to this study.

**Table 1**: Literature review from various authors

	Topics Covered	Authors			
A)	Service Quality	1, 2, 3, 4, 5, 6, 7, 8			
B)	Service Quality Model Adopted - SERVPERF	1, 5, 9, 10, 11, 12, 13, 14, 15			
C)	Visitors' Satisfaction	3, 7, 8, 16, 17, 18, 19, 20			
D)	Importance of Visitors' Satisfaction	21, 22, 23, 24, 25			

Notes: 1. Parasuraman, Zeithaml, and Berry (1985); 2. Tsitskari, Tsiotras, and Tsiotras (2006); 3. Deoskar (2011); 4. Wolak, Kalafatis, and Harris (1998); 5. Prakash and Mohanty (2013); 6. Lee, Lee, and Joo (2015); 7. Naik, Gantasala, and Prabhakar (2010); 8. Shahin and Janatyan (2011); 9. Parasuraman, Zeithaml, and Berry (1988); 10. Cronin and Taylor (1992); 11. Carman (1990); 12. Mazis, Ahtola, and Klippel (1975); 13. Tse and Wilton (1988); 14. Tian-Cole and Cromption (2003); 15. Cameran, Moizer, and Pettinicchio (2010); 16. Kozak and Rimmington (2000); 17. Wu and Li (2015); 18. Geva and Goldman (1991); 19. Said, Shuib, Ayob, and Yaakub (2013); 20. Kabir and Carlsson (2010); 21. Cheng and Wan (2012); 22. Tian-Cole, Crompton, and Willson (2002); 23. Zeithaml, Berry, and Parasuraman (1996); 24. Oliver (1993); 25. Harr (2008).

Service Quality. According to Parasuraman, Zeithaml, and Berry (1985), quality is about the "evaluation or assessment on the degree of superiority or distinction of products (goods or services) and it is indicated by the visitors' impression". Generally, according to Tsitskari, Tsiotras, and Tsiotras (2006), quality is defined as "the excellence of product from the perception of visitors". Therefore, "something is considered or perceived as good quality if it is performing extraordinarily" (Deoskar, 2011).

From the aspect of service, it is not like any ordinary product. It is "distinct from other tangible goods for its unique characteristics, which are intangibility, inseparability, variability, and perishability" (Wolak, Kalafatis, and Harris, 1998). Besides, Prakash and Mohanty (2013) define services as "all the activities involving economic with its production and consumption" occurring at the same time, in which the "outputs are not merely the physical products and value will be added by a few tangible properties such as the physical facilities, equipment, and staffs which are as well the vital and indispensable interest of the visitors".

However, "service quality is the general or inclusive of visitors' attitude that has a certain relationship to the service's superiority" (Prakash and Mohanty, 2013). In fact, throughout all industries, "service quality is significant and vital especially in the business world as it has great influences on the visitors'

post-purchase behaviours" (Lee, Lee, and Joo, 2015). On the other aspects, Naik, Gantasala, and Prabhakar (2010) and Shahin and Janatyan (2011) have validated that service quality is correlated positively to visitors' satisfaction. In other words, by boosting service quality, the visitors' satisfaction will be enhanced assuredly. Therefore, many researchers continue their efforts on this related studies since 1980s, to further comprehend and explore the vital concept of service quality and its measurement (Tsitskari et al., 2006).

Service Quality Model Adopted – SERVPERF. The two popular models for the service quality are SERVQUAL (Parasuraman et al., 1985, 1988) and SERVPERF (Cronin and Taylor, 1992). SERVQUAL model is the pioneer and include five dimensions to measure service quality, which are: tangibles, reliability, responsiveness, assurance, and empathy (Parasuraman et al., 1988). On the other hand, SERVPERF model by Cronin and Taylor (1992) is a performance-based model in which only perception attributes of the SERVQUAL model are adopted to measure service quality rather than the two sets of expectation and perception attributes which evaluate the gap between expectation and perception on a service performance.

Although SERVOUAL has been widely applied in many related studies across different industries, there are, as well, many evidences from researchers that claim SERVPERF is a better model to assess service quality. First of all, SERVPERF model is supported by the findings of Mazis, Ahtola, and Klippel (1975) that suggest that merely the performance perceptions should be used to measure service quality. In addition, Tse and Wilton (1988) say that satisfaction is not the gap scores between the expectation of visitors and their perception of performance, rather satisfaction is more an independent psychological state of visitors. According to Tian-Cole and Cromption (2003), satisfaction itself is a function of expectation and performance, hence, the SERVPERF model, which only measures the perception of visitors on the performance of service quality, is indeed sufficient and accurate. Besides, according to Cameran, Moizer, and Pettinicchio (2010), SERVPERF accords better to the definition of perceived service quality as an attitude and the general evaluation of the visitors after their visits. Besides, they also have the same opinion for the SERVPERF model, in which merely performance dimensions are optimum. In addition, Prakash and Mohanty (2013) claim that the performance-based SERVPERF is more efficient than SERVQUAL, as it only measures half of the items and comes out with better results for the service quality measurement. All in all, SERVPERF has been used and adopted in many subsequent studies henceforth (Carman, 1990).

Visitors' Satisfaction. According to Deoskar (2011), satisfaction "has always been related to contentment, pleasure, delight, and sense of fulfillment towards a product or service". Besides, visitors' satisfaction is also the "extent of the total visitors' evaluation of the dimensions or attributes on a particular tourist destination" (Kozak and Rimmington, 2000). In addition, according to Parasuraman et al. (1988), visitors' satisfaction is "the general attitude or the opinion about the service quality from the visitors' mind of perspectives". Furthermore, Geva and Goldman (1991) say that visitors' satisfaction is used by many companies or organizations to understand better the service quality or the performance of service providers. From the results, the particular service attributes that the respondents of the study have pointed out to be less satisfied should be paid more concern for improvements, in order to ensure the visitors' satisfaction of a tourist destination (Wu and Li, 2015). The success of policies achieving desired results depends on the close collaboration between different governmental entities and the institutional support at the highest level (Ling, Ramachandran, Shuib & Afandi, 2014)

Moreover, Said, Shuib, Ayob, and Yaakub (2013) also suggest that management should contribute their efforts on the identified attributes of service quality insignificancies, which would then sustain and gain the unceasing support from the community for the sake of its competiveness and sustainability. Furthermore, the certainty on the satisfaction level of visitors is vital because satisfaction would lead visitors to several significant consequential decisions from the experience (Kabir and Carlsson, 2010).

Importance of Visitors' Satisfaction. Visitors' satisfaction carries increasing emphasis in all industries, in which those studies look to ensure visitors' positive behavioral intentions towards tourist destinations after their visits (Cheng and Wan, 2012). Behavioral intention is referred to as "the indicator to determine whether the visitors will be loyal and repeat their visits" (Zeithaml, Berry, and Parasuraman, 1996). According to the findings of Tian-Cole, Crompton, and Willson (2002), compared to the visitors who only visit a destination once, visitors who return to the same destination repeatedly and become loyal visitors are satisfied from their previous visits. Apart from that, behavioral intentions also influence the word of mouth (WOM) recommendation of visitors (Oliver, 1993). More specifically, satisfied visitors are more likely to recommend to their friends and families via positive word of mouth (WOM), which carryies great effect on the promotion and marketing of a tourist destination. Furthermore, according to Harr (2008), the significance of visitors' satisfaction is acknowledged by the researchers and service providers, as it is highly correlated to competitive advantages and revenue generation of the respective industries and in this case, tourism and tourist destinations.

Throughout the years, different attributes have been used to measure satisfaction towards service quality in the respective industries or tourist destinations. Table 2 shows the attributes used by nine authors in their respective studies. Among the 11 attributes listed, the significant seven attributes used in this study are tangibles, reliability, responsiveness, assurance, empathy, education / learning, and consumable.

**Table 2**: Attributes used in various service quality studies

Attributes  Attributes												
No.	Authors	Tangibles	Reliability	Responsiveness	Assurance	Empathy	Social Responsibility	Education / Learning	Communication	Consumable	Professionalism	Waiting Time
1. Grobelna and Marciszewska (2013)		X	X	X	X	X						
2. Saravanan and Rao (2007)		X	X	X	X		X					
3. Crilley (2008)		X		X				X		X		
4. Weber and Roehl (2001)		X	X	X	X	X						
5. Ganguli and Roy (2013)		X	X	X	X	X			X			
6. Lee, Lee, and Park (2000)		X	X	X	X	X						
7. Tomas, Scott, and Crompton (2002)		X		X				X				
8. Amin et al. (2013)		X	X		X	X			X	X		
9. Wu and Li (2015)		X	X	X	X			X	X	X	X	X
Total		9	7	8	7	5	1	3	3	3	1	1

#### 3. METHODOLOGY

### 3.1. Study Area

Zoo Negara is located in Ampang, Selangor Darul Ehsan, which is five kilometres from Kuala Lumpur and covers an area of 44.5 hectares. Visitors can easily travel to the zoo by various modes of transportation, including public and private transports.

GPCC is the latest attraction at Zoo Negara to date. GPCC is a comprehensively designed and purposely constructed air-conditioned complex inside the Zoo Negara to house the giant pandas. The construction project of GPCC was completed by December 2013 and it was officially launched by the current Prime Minister of Malaysia, Datuk Seri Najib Razak on 25<sup>th</sup> June 2014, and accessed by the public on 28<sup>th</sup> June 2014 shortly after the quarantine period for the giant pandas. GPCC is located at one of the ends from the entrance of Zoo Negara. The entire GPCC is as large as 1.6 hectares, comprising the facilities and areas for giant pandas and visitors, with an information centre, waiting area, enclosure area, panda cub show room, toilet, souvenir shop (Zoovenir), café (Panda Café), rest area, and photo printing counter for the visitors. For the pandas, the centre provides an exercise area, holding den, food preparation room, laboratory, veterinary clinic, incubator room, nursery room, and a monitoring room for the giant pandas' wellness.

Data collection for this study was be conducted at the rest area and photo printing counter, after visitors had had their precious moments and experiences at GPCC; this was to ensure that the visitors were able to provide comprehensive information for the study.

### 3.2. Study Framework

A conceptual framework has been developed for this study as shown in the figure below.

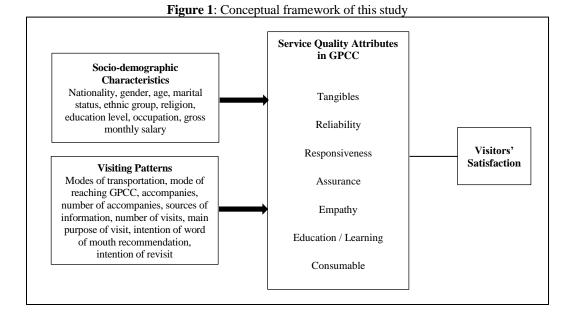


Figure 1 shows the potential relationship between the elements listed, which are socio-demographic characteristics, visiting patterns, service quality attributes in GPCC and the visitors' satisfaction. The left of the figure consists of the socio-demographic characteristics and visiting patterns along with several items. The middle part of the figure shows the service quality attributes that are suitable to be measured at GPCC, which are influenced by the socio-demographic characteristics and visiting patterns of visitors. The right side of the figure is the satisfaction of visitors, which is indicated by the service quality. As mentioned earlier, visitors' satisfaction is the general attitude or the opinion about service quality from visitors' perspectives (Parasuraman et al., 1988).

### 3.3. Scale of Measurement

To measure satisfaction level of visitors, during school holidays', towards the service quality provided at GPCC, Likert Scale was adopted. According to McLeod (2008), Likert Scale provides the strength that is provided from direct yes or no answers, rather the scale measures levels or degrees of respondents' satisfaction and opinion, as well as giving the option of "do not know" if the respondents do not have any opinion on particular items, or if they do not have any previous experience about the items (Crilley, 2008). The Likert Scale adopted in this study was as the following:

1=Very Dissatisfied; 2=Dissatisfied; 3=Satisfied; 4=Very Satisfied; 5=Do Not Know.

The satisfaction level of the school holidays' visitors was measured through the mean and percentage of the satisfaction responses from respondents. From the results, each of the items measured was considered as satisfied when the average satisfaction level from all the respondents on the item was more than 2.50 (mean value). However, for the overall satisfaction level of respondents towards the service quality in GPCC, the general formula used was as the following:

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Overall Satisfaction Index = \frac{\sum Xi}{n}, where X = \text{Likert Scale of the item } (1, 2, 3, 4) i = Item (1, 2, 3, \dots, 28) n = Total number of items (n = 28)
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On the other hand, categorical and continuous measurement scales were used to measure the independent variables of this study. The socio-demographic characteristics of the respondents, nationality, gender, marital status, ethnic group, religion, education level, and occupation of the respondents were measured by categorical scale, while a continuous scale was used to measure age and gross monthly salary of the respondents. Apart from that, all the items in visiting patterns of respondents were measured using the categorical scales, which included modes of transportation, method of reaching GPCC, accompaniment, sources of information, main purpose of visit, recommendation intention, and re-visit intention, with only two items, number of accompany and number of visit, measured using the continuous scale.

### 3.4. Sampling Technique

Judgmental Sampling was used for data collection of this study. Judgmental sampling, also known as purposive sampling and authoritative sampling, is one of the non-probability sampling techniques in which the enumerator selects the respondents for the study according to their professional judgment and knowledge. This would bring more accurate results if compared to the other sampling techniques (Explorable, 2009).

The data collection of this study was carried out during a long school holidays of Malaysia, in which visitors of GPCC were more varied in terms of socio-demographic characteristics. To be more specific, the data was collected for a number of days, between 17<sup>th</sup> December 2015 and 1<sup>st</sup> January 2016. The respondents selected for this study were visitors who were 18 years old or above, visited GPCC, and were able to provide responses to the questionnaires.

Judgmental sampling was used in this study because this sampling method was suitable for studies which targeted a specific groups of people. Apart from that, judgmental sampling was also low cost and less time consuming in selecting respondents, but brought more accurate results for the study (Explorable, 2009).

### 3.5. Data Analysis

After the data collection, data analysis was carried out by using the Statistical Package for the Social Sciences (SPSS) Version 20.0. The following were the two types of analyses done for this study:

#### a. Descriptive Analysis

Descriptive analysis is a statistical summarization of data collected which provides a comprehensive idea about the data set (Explorable, 2010). In this study, descriptive analysis has been used to calculate the mean and percentage of the socio-demographic information and visiting patterns of the visitors. Besides, this analysis has determined the satisfaction level of the visitors towards each of the items listed and each of the service quality attributes measured. From this analysis, the particular items or service quality attributes that are deemed as 'less satisfied' by the respondents are identified.

### b. Regression Analysis

Regression analysis estimates the causal relationships between the variables, which usually involves a dependent variable and one or more independent variables (Flom, 2012). In this study, linear regression analysis has been used to determine the factors influencing satisfaction of the visitors towards the service at GPCC. Among the sundry methods of regression analysis, Stepwise method has been used to estimate the regression function for this study. This is because according to Andale (2016), stepwise regression is capable of processing substantial amounts of potential independent variables and provides minute adjustments to the model, to uncover the best and most significant independent variables from the myriad independent variables. The linear regression model that has been used for this study according to Schneider, Hommel, and Blettner (2010) is as below:

$$Y = a + b_1X_1 + b_2X_2 + ... + b_n X_n$$

#### where

Y = Dependent variable (Outcome variable)

X<sub>i</sub> = Independent variables (Predictor variables)

a = Constant (y-intersect)

b<sub>i</sub> = Regression coefficient of the variable Xi

The dependent variable in this study was the overall satisfaction index of the service quality, measured by 28 items. Apart from that, the independent variables for this study were the visiting patterns and socio-demographic characteristics of visitors.

To test the significance of the independent variables, a confidence interval of 95% was used to interpret the results, and thus, the critical t-value for this study was 1.960. Therefore, those independent variables with the t-value > 1.960 and p-value < 0.05 were considered as statistically significant, which were then accepted as the influencing factors that contribute to the satisfaction of visitors towards service quality at GPCC.

#### 4. ANALYSIS AND INTERPRETATION

By using the Statistical Package for the Social Sciences (SPSS) Version Statistics 20.0, the results of the analysis are discussed below.

### 4.1. Visitors' socio-demographic background

According to Table 3, it indicates that GPCC attracts more local visitors than international visitors. To note, the local visitors in this study are mainly school holidays' visitors, which is distinct from the findings of Thoo (2015) whereby respondents are normal school days' visitors and are mostly from Selangor and Kuala Lumpur. In this study, there are about 55.2% of local visitors from all over Malaysia besides Selangor (closest state to Zoo Negara) and Kuala Lumpur, including Sarawak, Sabah, Penang, Johor, Terengganu, Kelantan, Perak, Melaka, Perlis, and Kedah.

Apart from that, more than 60% of the respondents are married. The higher in the number of married respondents can be attributed to families wanting to expose their children to rare animals like the giant pandas while they still have the opportunity. Besides, zoo is generally a suitable destination for families to spend their precious time together.

In terms of ethnicity and religion, more than 80% of the respondents were local visitors, with a high percentage of Malay as the ethnic biggest group, and is probably accorded to the fact that Malays are the largest ethnic group in Malaysia, followed by Chinese and Indian is the smallest group (Department of Statistics Malaysia Official Website, 2015). Thus, many visitors are also Muslim. However, there are also foreign visitors who are Muslims too, as many of them come from Saudi Arabia.

In regards to visitors' education level, 58% of the respondents have gone through tertiary education, which including bachelor degree, master of degree, doctor of philosophy. Hence, the findings indicate that most of the visitors of GPCC are educated and thus, show concern and place significance of wildlife conservation, especially for giant pandas.

**Table 3:** Descriptive statistics of the respondents for this study at GPCC (N=250)

Measure	Option	Frequency	Percentage (%)
Nationality	Malaysian	201	80.4
	Other Countries	49	19.6
Gender	Male	130	52.0
	Female	120	48.0
Age	18 - 25	63	25.2
	26 - 35	85	34.0
	36 - 45	78	31.2
	46 - 55	20	8.0
	56 and above	4	1.6
Marital Status	Single	87	34.8
	Married	163	65.2
Ethnic Group	Malay	114	45.6
-	Chinese	69	27.6
	Indian	17	6.8
	Others	50	20.0
Religion	Islam	145	58.0
-	Buddhist	53	21.2
	Hindu	19	7.6
	Christian	21	8.4
	Others	12	4.8
Education Level	Informal Education	1	0.4
	Primary School	8	3.2
	Secondary School	35	14.0
	STPM & Certificate	17	6.8
	Diploma	44	17.6
	Bachelor Degree	108	43.2
	Master of Degree	30	12.0
	Doctor of Philosophy	6	2.4
	Others	1	0.4
Occupation	Student	49	19.6
	Self-employment	38	15.2
	Government sector	58	23.2
	Private sector	90	36.0
	Retired	3	1.2
	Housewife	12	4.8
Gross Monthly Salary	RM 1 – RM 2000	24	15.1
	RM 2001 – RM 4000	50	31.4
	RM 4001 – RM 6000	38	23.9
	RM 6000 and above	47	29.6

# 4.2. Visitors' visit information

Table 4 shows that most of the respondents visit GPCC with their families. According to the official website of Saint Louis Zoo, families in this era are more conscious of the need to educate their children about nature and respect living things; furthermore, families can create meaningful experiences with their children when they visit the zoo together.

On the other hand, among all the various sources of information, mass media, including the Internet, television or radio, and magazines and newspapers account for 65.4% of total responses. Mass media contributes to 90.4% of responses as an information source, by respondents between the ages of 18-45; this group has relatively better access to information technology. Therefore, the high percentage shows that mass media is a good way for the visitors to get information about the GPCC and giant pandas.

**Table 4:** Visit information of the respondents for this study at GPCC (N=250)

Measure	Option	Frequency	Percentage (%)
Mode of	Public Transport	41	16.4
Transportation	Private Transport	209	83.6
Method of Reaching	Walk	190	76.0
GPCC	Tram Service	60	24.0
Accompaniment	Alone	3	1.2
	Couple	20	8.0
	Family	208	83.2
	In Peer Group	16	6.4
	By Package Tour	1	0.4
	Organized Group	2	0.8
Sources of Information	Travel Agent	10	2.1
	Internet	114	24.1
	Brochures	40	8.4
	TV / Radio	113	23.8
	Magazines & Newspaper	83	17.5
	Word of Mouth	60	12.7
	Visitor's Information	22	7.0
	Centre	33	7.0
	Environmental Clubs /	21	4.4
	Organization	21	4.4
Number of Visit	1	228	91.2
	2	18	7.2
	3	2	0.8
	4	1	0.4
	6	1	0.4
Main Purpose of Visit	Relaxation	36	14.4
	Recreation	46	18.4
	Spend Time with Family	104	41.6
	To See and Know More	57	22.8
	About Giant Panda	31	22.8
	Engaged in Class / Club /	3	1.2
	Association Visiting	3	1.2
	Learning Purpose	4	1.6
Recommendation	Yes	204	81.6
Intention	No	6	2.4
	Maybe	38	15.2
	Do Not Know	2	0.8
Re-visit Intention	Yes	139	55.6
	No	29	11.6
	Maybe	70	28.0
	Do Not Know	12	4.8

Apart from that, more than 90.0% of respondents are first timers to GPCC since since it opened in 2014. This is actually consistent with a study of Lim, Kim, Lee (2016) on the satisfaction of visitors in wellness tourism, uncovering that a majority of the visitors are mainly first timers. Return visitors of GPCC are most probably giant pandas enthusiasts and are also those who are satisfied with their previous giant pandas watching experience.

Surprisingly, 81.6% of the respondents intend to spread positive word of mouth (WOM) to their friends and family and 55.6% of the respondents are likely to re-visit GPCC again in the future. These groups of respondents are probably highly satisfied with their visit. Respondents who are uncertain with their intentions, mostly likely considered the distance of GPCC from their homes and their dissatisfaction during their visit.

### 4.3. Satisfaction of visitors towards service quality

According to the analysis of the data collected, the overall satisfaction index of the service quality is 3.18 from the total 4.00. This indicates that all in all, the visitors are satisfied with the service quality in GPCC. However, the satisfaction index of a study on the facilities in GPCC on normal school days is 3.35 out of 4.00 (Thoo, 2015). This is indeed higher than the satisfaction index in this service quality study, which corresponds to only school holiday visitors. It indicates that the satisfaction of visitors is lower during school holidays; perhaps because of possible human congestion since are relatively more visitors during school holidays.

On the aspect of attributes, overall, visitors are satisfied with all the attributes. Among the seven attributes tested, education or learning attribute obtains the highest satisfaction from visitors, with a mean score value of 3.30. This is probably because all the information boards display sufficient and accurate information for the visitors to better understand the giant pandas.

On the contrary, consumable attribute is ranked among the lowest in satisfaction, with a mean score of merely 2.66 out of 4.00. Based on the satisfaction mean score, visitors are still satisfied with this attribute, yet the satisfaction is low. The consumable attribute is related to food and drink sold at the Panda Café, including its prices. Hence, from the low satisfaction mean score of the respondents, this can be attributed to the insufficiency of food and drink sold and as well, the perceived high prices charged.

Among all the items measured, the highest mean score is the comfort of GPCC's environment, with a mean score of 3.46 out of 4.00. Among the 250 respondents, 94.8% of the respondents are satisfied and very satisfied with the comfort at GPCC environment. This justifies the millions spent on constructing the necessary facilities and equipment, along with the strong air-conditioners to ensure the wellbeing of the giant pandas, as well as the comfort of the visitors.

Apart from that, the item for reasonable price of food and drink sold is among the lowest mean score, with only 2.25 out of 4.00. This indicates that generally, the visitors are dissatisfied on this aspect, since it is lower than 2.50, which is the mean value for an item to be considered as satisfied. To be more specific, more than 60.0% of the respondents are dissatisfied and very dissatisfied with the price of the food and drink sold in Panda Café. From the conversations with respondents, many of them perceive that the food and drink sold are not worth the payable amount, even though GPCC is seen as a tourist attraction. The dissatisfaction of the visitors on the price of food and drink is probably means fewer meals are eaten at the Panda Café, which in turn affects the café's revenue generation.

### 4.4. Factors influencing satisfaction towards service quality

From the results of regression analysis, the  $R^2$  gained from the model was merely 0.164. In fact,  $R^2$  was the extent of the variation in variables that was described in the model and also the estimation of the relationship strength between the model tested and the variables described (Frost, 2013b). Hence, in this study, the independent variables of this model accounted merely 16.4% of all the variables that influenced satisfaction of visitors towards the service quality at GPCC. However, Frost (2013b) also said that it was normal for those models, which study human behaviour to have the  $R^2$  values of less than 50% because it was hard to predict.

Apart from that, the F-value gained from the model was 9.579. This value was higher than the critical F-value at 5% level (F  $_{5,249}$ ), which was 2.2141. Since F-value determined the statistical significance of the relationship between dependent variables and independent variables in the model, the higher F-value of the model gained in relative to the critical F-value indicated that the F test for this model was significant. Furthermore, from the regression analysis, the p-value of this model was 0.000. As a result, it was highly statistically significant at alpha level 0.05. However, the respective t-values and p-values for the items tested suggested that there were only five variables which were statistically significant in influencing the dependent variable, as shown in the table below. Therefore, there were merely five variables kept in the regression model due to their statistical significance in the model (Frost, 2013a).

**Table 5:** Results from regression analysis

Independent Variables	Unstandardiz B	t-value	p-value	
(Constant)	3.243	Std. Error .101	32,173	.000
(Constant)				
Re-visit Intention	.132	.046	2.885	.004
Recommendation Intention	.163	.059	2.779	.006
Buddhist	141	.052	-2.708	.007
Age	005	.002	-2.160	.032
Mass Media	104	.052	-1.982	.049

*Note*: Significant at t-value > 1.960 and p-value < 0.05 (5% alpha level); F= 9.579, R<sup>2</sup> = 0.164, Adjusted R<sup>2</sup> = 0.147

The five factors that influenced the satisfaction level of school holidays' visitors towards the service quality of GPCC were re-visit intention, recommendation intention, religion, age, and the types of information sources. In fact, there were two similar factors that were found to be significant in a study that done by Thoo (2015) on the visitors' satisfaction towards the facilities in GPCC, which were visitors' re-visit intention and the mass media as information sources.

The respective t-value of the independent variables indicated the relative importance of the independent variables in influencing satisfaction of visitors, which was the dependent variable in this study. To be more specific, the larger the t-values, the more significant the independent variables in contributing to the satisfaction level of visitors. Therefore, the regression results showed that the revisit intention (t = 2.885, p = 0.004) carried the most weight in contributing to the satisfaction level of visitors, followed by the recommendation intention (t = 2.779, p = 0.006), Buddhist as religion (t = -2.708, p = 0.007), age of visitors (t = -2.160, p = 0.032), and the least weighted was mass media as an information source (t = -1.982, t = 0.049).

The aspect of the relationship between the independent variables and dependent variable was indicated by the positive and negative beta coefficient of the t-values. In this study, the independent

variables, including the re-visit intention and recommendation intention, had positive relationships with the satisfaction of visitors. The positive relationship of satisfaction and visit is also found in Nurul Hikmah, Syamsul Herman, Zaiton & Ahmad (2013). In other words, visitors who had the intention to recommend GPCC to the others and visitors who had the intention in visiting GPCC again were more satisfied than the others visitors. In fact, Gil, Hudson, and Quintana (2006) also mentioned that return visitors had indicated the higher perceived service quality.

On the contrary, Buddhist as the religion, age, and mass media as the information sources were the independent variables that had negative relationships with the dependent variable of this study. This indicated that the visitors who were Buddhist were less satisfied, compared to visitors of other religions. This might be due to the belief taught in Buddhism to feel pity for the giant pandas, which were confined in an enclosed are that limited their movement.

For the 'age' variable, which was a continuous variable, elder visitors were found to be less satisfied compared to younger visitors. To be more specific, since the beta coefficient of age was -0.005, thus, the satisfaction level of the visitors decreased by 0.005 if the age of visitors increased by one year. A reason for this might be that older visitors had had more experiences in other in other conservation centres or zoos, which would lead them to lead to a less satisfied service quality in GPCC. This finding was consistent with those of Cheng and Wan (2012) in their study of service quality in Macao museums that showed that younger visitors were more satisfied compared to the elder visitors.

Similarly, visitors who accessed information on the GPCC through mass media, including Internet, television, radio, magazines, and newspapers, were found to be less satisfied. On the contrary, visitors who received information on GPCC from the travel agencies, brochures, word of mouth (WOM), visitors' information centres, and environmental clubs or organization were more satisfied towards the service quality of GPCC. Perhaps this could be due to the lack of universal embrace of mass media by all people, or that the satisfaction of the visitors was influenced by real-time information in mass media, especially negative feedbacks of the public which can cause others to be less satisfied.

### 5. CONCLUSIONS AND RECOMMENDATIONS

### 5.1. Conclusions

This study has presented the satisfaction of school holidays' visitors towards the service quality of GPCC, using the proposed service quality model, the SERVPERF model. This study has been conducted to identify the socio-demographic of the visitors who at GPCC, for the purpose of giant pandas watching, during the long school holiday period in December 2015. Results show that visitors during school holidays are more varied in their socio-demographics, in which many of them travelled far to visit the adorable giant pandas. This study has also demonstrated the satisfaction level of the school holidays visitors towards the service quality in GPCC. From the analysis, it indicates that generally, visitors are satisfied with the service quality of GPCC. However, there is only one item that visitors are dissatisfied with, and that is the price of the food and drink sold in the Panda Café. On other aspects, this study has also determined the factors that influence the satisfaction level of the visitors regarding the service quality of GPCC. Results from a regression analysis show that visitors' re-visit intention, visitors' recommendation intention, religion, age, and the types of information sources are the factors which are found to influence the satisfaction level of visitors.

All in all, this study has shed light on some implications for the GPCC management to consider, as they now have a better understanding on the satisfaction of school holidays' visitors on the service quality. In turn, management can take some appropriate and effective steps and efforts to improve and enhance the service quality of GPCC. Education or learning attribute and consumable attribute are significant in the service quality measurement, since both of the attributes are respectively, the highest and lowest satisfaction mean scores from the results. Therefore, these two attributes should be included in the SERVPERF model to assess service quality more comprehensively.

### 5.2. Recommendation for GPCC management

GPCC management is suggested to thoroughly comprehend the current service quality provisions at GPCC, according to the results of this study, and especially the significant factors that have been determined to affect service quality. In regards to the re-visit intentions, management should offer Individual Loyalty Reward Cards so visitors are able to collect stamps every time they visit, in order to get free visits after all the nine stamps are successfully collected. This is probably one of the ways in which management is able to show appreciation for their returns and to increase their satisfaction of visit. On the other hand, Group Purchase Discount (Buy 10 Get 1 Free) or Discount Voucher should be offered to the visitors in order to encourage them to spread the word of mouth (WOM) so more people to visit GPCC. Furthermore, management can display and enhance information regarding the significance of conservation and conservation centres for visitors and especially those who are Buddhist, to have a better understanding of conservation values of GPCC. Instead of perceiving a less satisfactory service quality due to feelings of pity for the giant pandas, hopefully, they would hopefully instead appreciate the values of GPCC and probably feel more satisfied with their visits.

Apart from that, GPCC management should always revise its service quality provisions regularly as latest or updated service quality knowledge is significant to enhance and ascertain visitors' satisfaction. Apart from that, well-planned training should also be provided for staff, to ensure their acquisition of the latest information and to standardize service provisions among all staff. Furthermore, all the information published through sundry sources and means, especially mass media, should reflect exact, accurate, and true information about the GPCC and giant pandas so that the visitors would not perceive service quality at GPCC as underwhelming.

There are also suggestions based on conversations with the respondents during the data collection on how to improve the service quality in GPCC. First of all, the information boards should be updated to include the panda cub's delivery process. Besides, technologies can also be employed to increase the variation in information display methods. Apart from that, video clips of the giant pandas and panda cub can be played at the entrance and waiting area as the entertainment for the visitors while they are waiting to enter the enclosure.

## 5.3. Recommendation for future studies

Due to time constraints, this study only collected data from 250 respondents, which is far fewer than the calculated sample size required of 384. Hence, a longer data collection period should be conducted to gain more data, in order to generate more comprehensive and thorough results for the study. Secondly, this study has merely included two factors that influence the perceptions of visitors, which are socio-demographic characteristics and visiting pattern that led to the low R<sup>2</sup> value gained for the model. Therefore, for future studies, it is recommended to include and investigate more factors that

influence the satisfaction of visitors, such as the congestion of the area, time of visit, length of time at GPCC, and feeding time of giant pandas to generate a higher R<sup>2</sup> value that can indicate stronger relationships between the model and the variables measured.

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