

# TOURIST SATISFACTION AND LOYALTY: A STRUCTURAL EQUATION MODEL (SEM) ANALYSIS

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## Abstract

*This study attempts to analyze the relationship between tourist satisfaction and loyalty to the tourist destination of Taman Laut Pulau Kapas, a tourism destination. As to observe that relationship, 193 tourists have been interviewed. The interviews were carried out to get tourists' responses relating to their satisfaction to the various aspects of tourism products, services, vacation trips, etc. A sum of 46 satisfaction detail is adduced to the tourists. The tourist's demographic information, probability of revisiting and promoting the tourism destination upon returning from holiday are also attempted to be obtained. Here, the revisiting and promoting are indication to tourist loyalty on their holiday destination. Information from interviews will be analyzed using the Structural Equation Model (SEM) with computer package of Analysis Moment of Structural (AMOS 5.0). Survey result of all the 46 satisfaction details are grouped into four (4) groups/major variables, namely satisfaction on the whole trip, product diversification, support facilities and security. There is positive relationship between tourist satisfaction and the above mentioned variables. However, satisfaction and tourist loyalty for the Taman Laut Pulau Kapas case are found to be negatively related. Study also finds that the latent variables in this model have high Cronbach Alpha values which are at 0.88 and 0.81 respectively, and these prove that variables in the latent variables are suitable. Survey results also find that the correspondence decision value model, namely the chi square Goodness-of-Fit is not significant [ $\chi^2$  (N=300, df=8) = 12.107  $p>0.05$ ], NFI correspondence's index value, RFI, IFI, TLI and CFI exceed 0.90, and the RMSEA value is slightly smaller than 0.06 (RMSEA=0.051). Thus, the results confirm the measurement model reliability in structural equation model is as suggested by researchers.*

**Keywords:** *Tourist Satisfaction; Tourist Loyalty; Taman Laut Pulau Kapas; SEM.*

## Introduction

Development of the tourism industry brings a lot of positive impacts to the economic development of the country. Contribution of this industry have been rising for every year and for Malaysian case such as reported in the Tenth Malaysia Plan (RMK-10), tourism industry is the third biggest sector that contributes to the country's GDP after manufacturing and construction sector. This sector also creates job opportunities and contributes to the country's balance of payment. For Malaysia, between the years 2006-2009, tourism industry has increased as much as 47.1 percent from 36.3 billion to RM53.4 billion; and tourism arrival grew by 34.9 percent from 17.5 million to 23.6 million in tourist arrival. This industry has also creates 1.7 million jobs or almost 16 percent of total employment in year 2008.

The development of tourism industry including in Malaysia could not be denied. According to World Tourism Organization (WTO) this industry will sustain, continuously expanding and will become the most important industry, parallel to other economic sectors and greatly contributes to Gross Domestic Product (GDP). Now, businesses related to tourism sector are becoming as important as the oil export business, manufacturing and automobile industries. It is becoming the most important source of income to many developing countries (NSM) including Malaysia. Realizing the importance of this tourism sector, Malaysian government has set several targets as to increase the tourism sector contribution to the national economy. For instance, in the Tenth Malaysia Plan, Malaysia is aiming to be in the top 10 in ranking in terms of tourism income recipient; and to increase the sector's contribution to as high as 2.1 times, contributes RM115 billion of tourism receipt and creates 2 million jobs in year 2010.

In achieving the said targets, several strategies will be implemented among others are to improving on existing tourism products through focused tourism cluster development which will benefit the existing and new tourism products. New tourism product development will involve the privates; and also collaboration between the public and private sectors in improving the quality of tourism products offered. Indirectly, this will create more opportunities to operators in the tourism sector. The government will be conducting promotions and advertisement; and establishing Malaysian tourism offices overseas by focusing on major markets such as Russia, India, China and Middle East.

However, the importance of tourism contribution in the economy depends on the quality of tourism service offered in a country. Providing quality tourism service is essential in increasing the number of tourists and eventually benefits the country. Sophisticated and high-tech communication will directly promote a country's tourism development. Tourist can easily research on their tourism destinations when they arrive at the country of their destination. Thus, quality tourism service and providing good tourism sites will attract more tourists to visit the said locations.

At the same time, information pertaining to the needs and taste of tourists is an important aspect that needs to be known as to ease the tourism operators in their preparation for the tourists during their visits. The information will ease the operators in providing the tourists' required facilities who come from abroad as well as the domestic tourists. The focused of this study is to analyse the domestic tourist satisfaction and loyalty in visiting the Taman Laut Pulau Kapas (TLPK). With this information, tourism operators can have better preparation in the future as to fulfil the tourists' needs and eventually improve the nation's tourism industry development.

## **Literature Review**

There have been numerous discussions related to tourist satisfaction and loyalty. The discussion on tourist satisfaction is important as to see the extent of tourist satisfaction on the places they visit. High satisfaction level will guarantee repeated visits and indirectly they will recommend to their friends and families (Martina G et al, 2006).

Positive tourist satisfaction is related to tourist loyalty. When a tourist is satisfied with his/her visit to a destination, then he/she will make repeated visits (Yooshik and Uysal, 2005; Martina (2006). The destination image also influences tourist satisfaction and loyalty to a destination visited, for example, beautiful and good quality destination image will attract the tourist in visiting the said destination (Igacio, 2008).

Tourist satisfaction is not limited to the beauty of the visited destination, but also on service quality such as the quality of food prepared where dissatisfaction on food service will result in dissatisfaction to the tourist's general experience, and eventually leads to tourist refusal in revisiting the said destination (Kevin, et. al, 2000; Rita, et. al, 2008; Zukifli, et. al, 2009; Hakaru,2010; Yeong , et. al, 2010). Related studies on tourism satisfaction on shopping have also been conducted. Researchers find that operators must provide relevant products that fit the tourist taste, suitable to the visited country's major attractions. Additionally, effective communication is also needed in ensuring tourist satisfaction on services rendered. This will not only benefit the operators, but the country as well. This is because if tourists are satisfied with their visits, the probability on revisiting is high or they will recommend to their families or friends to visit the said tourism destination for shopping (Melody et. al, 2007; Atila and Fisun, 2007, Norlida et. all, 2007, 2008, 2011).

Besides that, cultural aspect is also found to be one of the important factors in tourist satisfaction (John et. al, 2000). However, it is not significant to all tourists as reported by Hoda Master and Bruce (2000); where for the case of Taiwanese tourists, cultural factor is not quite significant in influencing their satisfaction. This shows that some tourists are interested in other cultures, but others are not drawn to cultural attractions.

In terms of methodology, there are various methods/tests that can be employed in analysing tourist satisfaction. The gap and t-paired tests for example, can observe the difference in estimated satisfaction before the tourist arrives at the tourism destination; and compared to the tourist real satisfaction when the tourist arrives at his/her destination (James and Rob, 2003; John and Damiannah, 2003; Kevin, et. al, 2000). The T-statistics hotelling technique can also be used in observing the difference in tourist estimated satisfaction level; and the tourist real satisfaction perception (Tak, et. al,2007). Besides, the Structural Equation Model (SEM) and Confirmatory Factor Analysis (CFA) are also used in evaluating tourist satisfaction on a tourism destination (Petrica, et. al, 2006; Chistina, 2008; Joaquin and Magdalena, 2009; Rita, et. al, 2008; Atila, 2010; Seoho, et. al, 2010; Yookshik, and Uysal, 2005; Ching-Fu and Fu-Shian, 2010; Jehn-Yih and Ching, 2009; Vesna, et. al, 2009). Clustered analysis can also be employed in evaluating tourist satisfaction level, as per study done by Tahir and Meltem (2008), where the researchers categorised the tourists into 'fun and happy' and 'satisfied and loyal' categories.

## **Objectives**

In general, this study intends to observe the relationship between tourist satisfaction and loyalty. More specific, the observations of the study are to:

1. Develop a model of tourist satisfaction and loyalty relationship.
2. Measure the strength of each variable, namely the whole trip, product diversification, support facilities and security on satisfaction and revisiting variable and promotion on loyalty.
3. Analyse the type of relationship between tourist satisfaction and loyalty.

## **Methodology**

This section will discuss on the methodology of data collecting and model used in evaluating the tourist satisfaction and loyalty which are obtained through surveys conducted at the Taman Laut Pulau Kapas. Data is obtained through surveys done on each tourist who visits this marine park. The survey has two sections. The first section consists of the tourist's demographic; and the

second section consists of tourist's perception on various satisfaction variables related to product diversity, support facilities, security, support service (hospitality) and others while they are at the TLPK. These variables are chosen based on past researches and related theories. Tourist evaluation is based on the Likert scale from "Highly Unsatisfied (1)" to "Highly Satisfied (6)". In analysing the relationship between tourist satisfaction and loyalty, the Structural Equation Model (SEM) is employed. The relationship between those two and each their variable is as depicted in Figure 1.

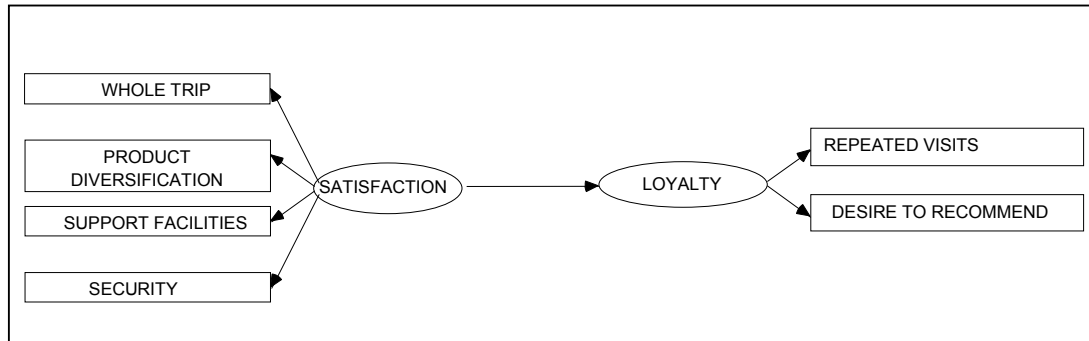


Figure 1. Tourist Satisfaction Model

With the SEM, satisfaction and loyalty are depicted as latent variables while other variables such as whole trip, product diversification, support facilities, security, repeated visits and promotion/desire to recommend as observe variables, please refer to Figure 1. This model is developed based on the following study's hypotheses:

- H<sub>0</sub>: Measurement model in hypothesis model match with study data  
 H<sub>1</sub>: Measurement model in hypothesis model does not match with study data

In determining the Goodness-of-fit for the generated structured model, criterion suggested (Bentler,1990; Bentler & Bonnett, 1980; Hair et al., 1998) that several types of goodness-of-fit indices need to be fulfilled such as the Chi-square,  $\chi^2$  s analysis (the lower the better), *Root Mean Square Residual*, RMSR [ $< .08$ ], *Root Mean Square Error of Approximation*, RMSEA [ $< .08$ ], *Adjusted Goodness-of-fit Index*, AGFI [ $> .90$ ], *Tucker-Lewis Index*, TLI [ $> .90$ ]), *Normed Fit Index*, NFI [ $> .90$ ], *Relative fit Index*, RFI, *Incremental fix index*, IFI [ $> .90$ ] and *Comparative Fit Index*, CFI [ $> .90$ ].

Table 1

*Latent Variables, Observe Variables, Scale*

Latent variable	Observe Variable	Scale
Tourist Satisfaction	Trip Product diversification Support facilities Security	Highly Unsatisfied (1) to Highly Satisfied (6)
Loyalty	Repeated Visit Desire to recommend	Highly Unsatisfied (1) to Highly Satisfied (6)

## Empirical Analysis

Research result will be discussed in two sections, namely tourist's demographic; and the second section will discuss on result of study obtained from the Structural Equation Model (SEM).

### Tourist Demographic

Study finds that there is no obvious difference in the tourist gender visiting TLPK where 56% of the tourists are male and the rest are female tourists (44.0 percent). Majority of the tourists (more than 90%) aged 40 and below. In terms of marital status, most are singles at 67%, married at 30.6% and widow/divorce at 2.0%.

It is found that there are two categories of education level where most of the tourists have diploma/degree and PhD/Masters at 75.6%, and the balance 24.4% are still schooling from secondary school and below. In terms of income, most are earning between RM1,000 and below at 22.8%, followed by those whose earnings are in the range of RM1001-RM2000 at 10.9%, and those whose earnings are in the range of RM2001-RM3000 at 19.7%, refer to Table 2.

Table 2

*Tourist Demographic at Taman Laut Pulau Kapas (TLPK)*

	TLPK n = 193
<b>Gender (%)</b>	
Male	56.0
Female	44.0
<b>Age (%)</b>	
< 21	35.8
21 – 30	38.3
31 – 40	17.6
41 – 50	6.7
51 – 60	0.5
>60	
<b>Marital Status (%)</b>	
Single	67.4
Married	30.6
Widow/Divorcee (Female)	1.0
Widower/Divorcee (Male)	1.0
<b>Education Level (%)</b>	
Not schooling	2.1
Primary school	.5
Secondary school	21.8
Diploma/degree	69.9
PhD/Masters	5.7
<b>Income (%)</b>	
< 1000	22.8
1001 – 2000	10.9
2001 – 3000	19.7
3001 – 4000	11.4
4001 – 5000	3.1
5001 – 6000	3.1
> 6000	2.6

Source. Kapas Island Survey, 2011

## Structural Equation Model (SEM)

The result of confirmatory factor analysis, which is the likelihood estimates indicates that the C.R value for the regression between the tourist satisfaction latent variables and the four indicative variables (whole trip, product diversification, support facilities and security) are out of range at  $\pm 1.96$ . Thus, all the four variables are significant predictor/independent variables for the tourist satisfaction latent variable at  $p < .05$ . The same result is also obtained for the loyalty latent variable with its two indicator variables (repeated visits and desire to recommend) are out of range at  $\pm 1.96$ .

This shows that both variables are significant predictor/independent variables for the tourist loyalty latent variable at  $p < .05$ . Based on this analysis result, researchers failed to reject the null hypothesis. Study result finds that the model formed by latent variables and their indicator variables matched with study data. This result confirms that the latent variables for the measurement model in the structural equation model can significantly be represented by its indicator variables.

The Square Multiple Correlation result shows that there is 0.77 or 77.0 percent in variance for loyalty, 1.46 or 100 percent variance in repeated visits, 0.326 or 32 percent variance in recommending to friends and families, 0.612 or 61 percent in whole trip, 0.597 or 59 percent variance in product diversification, 0.773 or 77.3 percent variance in support facilities, 0.704 or 70 percent variance in security can be predicted by the hypothesis model.

Besides that, the model fitness result, namely the insignificant Goodness-of-fit Chi-Square [ $\chi^2$  (N=300, df=8) = 12.107  $p > 0.05$ ]; value of fitness indices, the NFI, RFI, IFI, TLI and CFI exceed 0.90; and the value of RMSEA which is smaller than 0.06 (RMSEA=0.051) confirm that reliability of the measurement model in the structural equation model proposed by researchers. Based on analysis result, researchers failed to reject the  $H_0$  hypothesis. All the Goodness-of-fit indices results are shown in Table 3.

Table 3

### *Goodness-of-fit indices for structural model estimation*

<i>Absolute fit measures</i>	<i>Incremental fit measures</i>
Chi-square = 12.107 $p > 0.05$	AFGI <sup>2</sup> = 0.947
RMSEA <sup>1</sup> = 0.051	NFI <sup>3</sup> = 0.980
	TLI <sup>4</sup> = 0.987
	IFI <sup>5</sup> = 0.993
	CFI <sup>6</sup> = 0.993

Source. Kapas Island survey, 2011

Table 4 shows the measurement result of reliability level of the variables in this model where the latent variables are represented by tourist satisfaction and loyalty. They show high value of reliability for the tourist satisfaction latent variable that is made up of whole trip, product diversification, support facilities and security is valued at 0.889; while for the tourist satisfaction latent variable consisting of repeated visit and desire to recommend is valued at 0.810. These show that both latent variables used in the development of satisfaction model is significantly higher than the suggested value, which is more than 0.7 (Scharma, 1996).

Table 4

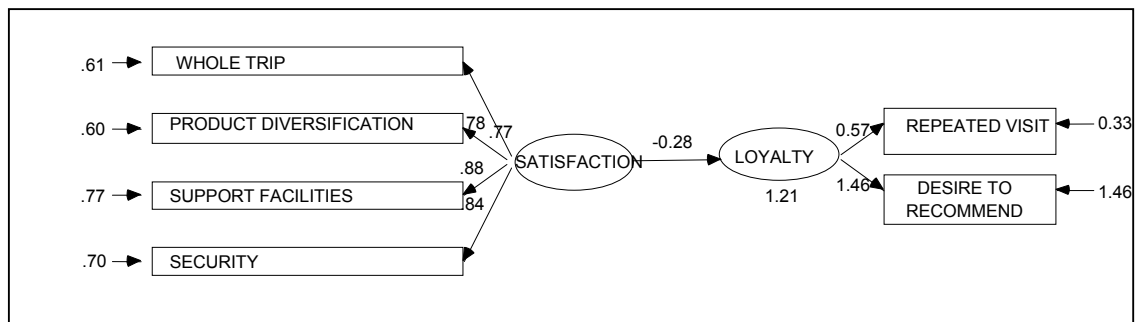
*Result of Measurement Model*

Latent constructs	Construct reliability
Tourist satisfaction	0.889
Tourist loyalty	0.810

Source. Kapas Island survey, 2011

Table 2 shows the estimates for the standardised path coefficients in the said model. All estimates are statistically significant ( $p > 0.05$ ). It is found that all factors influencing tourist satisfaction are positively related with satisfaction, namely the whole trip, product diversification, support facilities and security.

However, there is still negative relationship between tourist satisfaction and loyalty; where even though the tourists are satisfied with their trip, they are not interested in revisiting and in recommending the visited destination, i.e. Kapas Island to their friends or families.



Source. Kapas Island survey, 2011

Figure 2: Tourist satisfaction and loyalty model

### Conclusion and Policy Implication

Tourist satisfaction and loyalty are two important components in improving tourist arrival to a country. When a tourist is satisfied with his visit, then the desire to revisit the place is high and this will lead to his desire in recommending the said tourism location to friends and family members. This will indirectly promote the said tourism destination. This will be beneficial to tourism operators and ultimately to the nation's income.

Thus, in view that information on satisfaction and loyalty is important; this leads to this study being conducted by setting TLPK as the study's location. The general objective of this study is to observe the relationship between tourist satisfaction and loyalty to TLPK. In observing the said relationship, 193 tourists are interviewed. Information from the interviews is analysed by using the *Structural Equation Model* (SEM) method with the assistance of computer software package, *Analysis of Moment Structures* (AMOS 5.0) programme.

The result of study finds that the tourist satisfaction and loyalty model developed, fits; where the result of the model fitness, Goodness-of-fit Chi-square is insignificant [ $\chi^2$  (N=300, df=8) = 12.107  $p > 0.05$ ], the value of fitness indices NFI, RFI, IFI, TLI and CFI exceed 0.90, and the small RMSEA

value less than 0.06 (RMSEA=0.051) confirm the reliability of the measurement model in the structural equation model proposed by researchers. The Cronbach alfa value for both latent variables, namely the tourist satisfaction and loyalty are also high at 0.88 and 0.81, respectively.

Furthermore, the result of study also discovers positive relationship for all variables influencing tourist satisfaction, namely whole trip, product diversification, support facilities and security. However, there is negative relationship between tourist satisfaction and loyalty, where even though the tourists are satisfied with their visits, they do not have the desire to revisit and also the interest to recommend the said destination, i.e. Kapas Island to their friends and family members.

In increasing number of tourist arrival to the Taman Laut Pulau Kapas, operators need to improve on their service quality and examine existing weaknesses; and find the best solutions in improving the said weaknesses as to increase the tourist satisfaction and loyalty. Thus, efforts in improving the number of tourist arrival to TLPK do not only fall on the shoulder of the operators; other parties must also collaborate in improving the number of tourist arrival. This is because tourist arrival can improve the nation's economy in general that is by increasing the income of the locals and other parties, and indirectly to the nation's income.

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