STRUCTURAL EQUATION MODELING ON SERVICE QUALITY AT ISLAMIC EDUTAINMENT PARK.

Nurulhayah Muhamad, Sabri Ahmad.

KeyWords
Structural Equation Modeling, Islamic Heritage Park, tourist satisfaction.

ABSTRACT
This study seeks to identify the influence of factors against tourist satisfaction and estimates their satisfaction index after visited Islamic Heritage Park. A total of four hundreds and sixteen tourists, who have been chosen randomly, had answered the questionnaire. This questionnaire is constructed based on six dimensions which is monuments, cleanliness, facilities, products and staff service. In this case the data were analysed through Structural Equation Modeling method by using AMOS Graphics software in order to examine the influence of exogenous and endogenous variables.
INTRODUCTION

Islamic Edutainment Park is one of the tourist spots in Kuala Terengganu. This park is located at Pulau Wan Man, which is approximately 4 kilometres away from the city centre of Kuala Terengganu. The park focus is on the excellence of art and architecture of Islamic heritage from around the world. It gives knowledge and informative entertainment about World Islamic destination. This park that is surrounded by mosque replicas and a mosque called Crystal Mosque, which had been built in March 2005, has become a landmark for Kuala Terengganu. This theme park is one of the economic development projects for East Coast Economic Region. The park is officially opened on 3 February 2008 after three years of construction.

Islamic Heritage Park is divided into two areas, namely public areas and areas of Islamic Heritage Park complex. The complex accommodates 21 building replicas related to the history of the world of Islam. The main attraction here is a showcase of 21 mosque replicas including monuments and statues, which are 99 percent similar to the actual mosque. The replicas were built in the ratio 1:8 scale compared to the actual size of the buildings. Mosque replicas that attract tourists are the National Mosque of Malaysia, the Dome of the Rock from Palestine, the Grand Mosque of Saudi Arabia, Al-Hambra Citadel of Spain and the Taj Mahal from India Country. There are also Mimbar Kalyan from Uzbekistan, Mausoleum of Abu Nasr from Afghanistan, Samarra Rotating Mimbar from Iraq, Mohd Ali Mosque of Cairo, the Great Mosque of Qairawan Tunisia Great Mosque from Agadez Nigeria, Aleppo Citadel of Syria, Kul Sharif Mosque of Russia and the Xian Mimbar from China. Icon of Islamic Heritage Park is the Crystal Mosque, which was made from crystal glass and steel.

Clients' needs are always changing and vary with time and season. Sensitivity to the needs and preferences of the customer is a dimension that should be given priority in the supply of a product or service (Rahim, 1995). Organization that manages service requires an understanding of customer expectations and the importance of relationship quality. Factors that can influence customer expectations that are relevant in the context of higher education, including speech communication, personal needs of tourists, past experience of the quality of services and external relations of the provision of services (Zeithaml et al., 1990). Tourist expectations of the quality of services provided is greatly influenced by their previous experiences.

Therefore, this study emphasizes the satisfaction of the tourists who visit the Islamic Heritage Park in the quality of services offered at this park. Indeed, the success of the tourism industry depends on the level of satisfaction given by the tourists. The tourists will be content when there are quality services and warm hospitality. This hospitality and good welcome will definitely be an attraction to lure back the tourists, as well as their friends and relatives continuously. Satisfied travellers will be pleased to tell their friends and relatives about the praiseworthy attitudes and manners of the staffs at a tourist spot in dealing with them.

OBJECTIVE

The purpose of this study was to determine the level of tourist satisfaction in Islamic Heritage Park. Accordingly, this study is started to meet some of the following objectives:

i. To build a service quality model using SEM that fits tourist satisfaction data.
ii. To estimate the causal effect of the factors on the tourist satisfaction.

METHODOLOGY

SEM is a multivariate analysis used to analyse the relationship between the variables in the complex. Data analysis using the SEM as a whole serves to clarify the relationship between the variables in the study. SEM is used to examine and justify a model (Hair et al., 2006).

SEM is a combination of two separate statistical methods namely factor analysis was first introduced by Galton (1869) and Pearson & Lee (1904), and simultaneous equation model developed in the knowledge of Econometrics (Ghozali, 2005). SEM is a group of statistical techniques that allow testing of a network simultaneously. Some reasons underlying the use of SEM in accordance with (Dillala, 2000) are as follows:

I. The model analysed relatively complicated and it’s difficult to be solved by means of linear regression analysis on the strip,
II. SEM has the ability to predict the relationship between the variables of a multiple relationship,
III. SEM is accurate enough to analyse data involving perception.
IV. Researchers can easily change the model to improve the model has been designed to be more qualified in statistics.
V. SEM is able to analyse the relationship timbale back simultaneously.

According to (Zainudin, 2012) in his book titled Structural Equation Modeling (SEM) Using Amos Graphic, SEM is able to:

I. Test the inter-relationships among constructs: SEM enables researchers to support their theories by extending standard multivariate analysis methods, including regression, factor analysis and analysis of variance (ANOVA). Researchers also could specify, estimate, assess and present their model in an intuitive path diagram to reflect their hypothesized relationships among variables where the hypothesized relationships in a model are analysed simultaneously.

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II. Analyse and test the complex relationships: Researchers could construct attitudinal and behavioural in AMOS graphic that realistically reflects the complex relationships among constructs. Any numeric variable, whether observed or latent, can be used to predict any other numeric variable. It also enables researchers to analyse data simultaneously from several populations, such as multiple groups. The reliability could be increase by employing multiple indicators.

III. Analyse theoretical framework directly: Researchers could convert their theoretical framework into AMOS graphic by using SEM and analyse it directly. Researchers can create path diagrams using drawing tools, rather than writing equations or typing commands. The fitness of model can be assess directly before proceed to further analysis.

IV. Find models that best fit data: Researchers could choose the best model from a large number of alternative models. They could use the Confirmatory Factor Analysis (CFA) to specify and test a factor structure, instead of relying on traditional Exploratory Factor Analysis (EFA).

The researchers could employ AMOS Graphic software to model and analyse the regression equation as shown:

\[ y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \cdots + \beta_i x_i + e_1 \]

RESULTS AND DISCUSSION

\[
M_1 = 0.633X_1 + 0.399X_2 + e_{M1} \\
M_2 = 0.354X_2 + 0.579X_3 + e_{M2} \\
Y = -0.228X_1 + 0.132X_2 + 0.030X_3 + 1.026M_1 + 0.076M_2 + e_1
\]

Where;
$X_1 = \text{Facilities}$  
$X_2 = \text{Monument}$  
$X_3 = \text{Products}$  
$M_1 = \text{Cleanliness}$  
$M_2 = \text{Staff}$  
$Y = \text{Satisfaction}$

<table>
<thead>
<tr>
<th>Name of Category</th>
<th>Name of Index</th>
<th>Index Value</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Absolute fit</td>
<td>RMSEA</td>
<td>0.075</td>
<td>The required level is achieved</td>
</tr>
<tr>
<td>2. Incremental Fit</td>
<td>CFI</td>
<td>0.938</td>
<td>The required level is achieved</td>
</tr>
<tr>
<td>3. Parsimonious fit</td>
<td>Chisq/df</td>
<td>3.304</td>
<td>The required level is achieved</td>
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</table>

<table>
<thead>
<tr>
<th>Construct</th>
<th>Construct</th>
<th>Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>$X_1$ &lt;-</td>
<td>$X_2$</td>
<td>0.735</td>
</tr>
<tr>
<td>$X_1$ &lt;-</td>
<td>$X_3$</td>
<td>0.623</td>
</tr>
<tr>
<td>$X_2$ &lt;-</td>
<td>$X_3$</td>
<td>0.467</td>
</tr>
</tbody>
</table>

Table: The Correlation Estimate for each Pair on Exogenous Construct

The measure of correlation indicates that the strength of the relationship between the three latent exogenous constructs ($X_1$, $X_2$, and $X_3$) is not strong, thus the constructs are not redundant. Since the measure of correlation is lower than 0.85, the discriminant validity is achieved and the researchers could use all constructs in the structural model for further analysis.

<table>
<thead>
<tr>
<th>Hypothesis Statement</th>
<th>Estimate</th>
<th>P-value</th>
<th>Result on hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1: Facilities has significant effect on Cleanliness</td>
<td>0.633</td>
<td>0.001</td>
<td>Supported</td>
</tr>
<tr>
<td>H2: Monument has significant effect on Cleanliness</td>
<td>0.399</td>
<td>0.001</td>
<td>Supported</td>
</tr>
<tr>
<td>H3: Monument has significant effect on Staff</td>
<td>0.354</td>
<td>0.001</td>
<td>Supported</td>
</tr>
<tr>
<td>H4: Product has significant effect on Staff</td>
<td>0.579</td>
<td>0.001</td>
<td>Supported</td>
</tr>
<tr>
<td>H5: Monument has significant effect on Satisfaction</td>
<td>0.132</td>
<td>0.115</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H6: Facilities has significant effect on Satisfaction</td>
<td>-0.228</td>
<td>0.065</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H7: Product has significant effect on Satisfaction</td>
<td>0.030</td>
<td>0.117</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H8: Cleanliness has significant effect on Satisfaction</td>
<td>1.026</td>
<td>0.001</td>
<td>Supported</td>
</tr>
<tr>
<td>H9: Staff has significant effect on Satisfaction</td>
<td>0.076</td>
<td>0.045</td>
<td>Supported</td>
</tr>
</tbody>
</table>

H1: Facilities has significant effect on Cleanliness  
H2: Monument has significant effect on Cleanliness  
H3: Monument has significant effect on Staff  
H4: Product has significant effect on Staff  
H8: Cleanliness has significant effect on Satisfaction

The regression weight for Cleanliness and Staff, Product in the prediction of Staff and Cleanliness in the prediction of Satisfaction are significantly different from zero at the 0.001 level (two-tailed). So, these hypotheses are supported.

H9: Staff has significant effect on Satisfaction

The regression weight for Cleanliness in the prediction of Satisfaction is significantly different from zero at the 0.05 level (two-tailed). So, these hypotheses are supported.

H5: Monument has significant effect on Satisfaction  
H6: Facilities has significant effect on Satisfaction  
H7: Product has significant effect on Satisfaction
The regression weight for Monument, in the prediction of is not significantly different from zero at the 0.05 level (two-tailed). So, these hypotheses are not supported.

**THE RESULTS OF MEDIATION TEST**

H₂: Cleanliness mediates the relationship between Facilities and Satisfaction

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>H₂₁: Facilities has significant effect on Cleanliness</td>
<td>0.633</td>
<td>0.001</td>
<td>Supported</td>
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<tr>
<td>H₂₂: Cleanliness has significant effect on Satisfaction</td>
<td>1.026</td>
<td>0.001</td>
<td>Supported</td>
</tr>
<tr>
<td>H₂₃: Facilities has significant effect on Satisfaction</td>
<td>-0.228</td>
<td>0.065</td>
<td>Not Supported</td>
</tr>
</tbody>
</table>

The results of hypothesis testing indicate that Cleanliness does mediate the relationship between Facilities and Satisfaction. Thus the type of mediation here is full mediation since the direct effect is no longer significant after the mediator enters the model.

H₃: Cleanliness mediates the relationship between Monument and Satisfaction

<table>
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</thead>
<tbody>
<tr>
<td>H₃₁: Monument has significant effect on Cleanliness</td>
<td>0.399</td>
<td>0.001</td>
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<tr>
<td>H₃₂: Cleanliness has significant effect on Satisfaction</td>
<td>1.026</td>
<td>0.001</td>
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<td>H₃₃: Monument has significant effect on Satisfaction</td>
<td>0.132</td>
<td>0.115</td>
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The results of hypothesis testing indicate that Cleanliness does mediate the relationship between Monument and Satisfaction. Thus the type of mediation here is full mediation since the direct effect is no longer significant after the mediator enters the model.

H₄: Staff mediates the relationship between Monument and Satisfaction

<table>
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<tr>
<td>H₄₃: Monument has significant effect on Satisfaction</td>
<td>0.132</td>
<td>0.115</td>
<td>Not Supported</td>
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</table>

The results of hypothesis testing indicate that Staff does mediate the relationship between Monument and Satisfaction. Thus the type of mediation here is full mediation since the direct effect is no longer significant after the mediator enters the model.

H₅: Staff mediates the relationship between Product and Satisfaction

<table>
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</tr>
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<tbody>
<tr>
<td>H₅₁: Product has significant effect on Staff</td>
<td>0.579</td>
<td>0.001</td>
<td>Supported</td>
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<tr>
<td>H₅₂: Staff has significant effect on Satisfaction</td>
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<td>0.030</td>
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The results of hypothesis testing indicate that Staff does mediate the relationship between Product and Satisfaction. Thus the type of mediation here is full mediation since the direct effect is no longer significant after the mediator enters the model.

**Conclusion**
Tourist satisfaction is a very important as it is the main attraction factor for tourists coming to any destination. When tourists are satisfied, they will likely making a trip again in the future or recommend it to others to also come to the tourist destination. This will further increase tourist arrivals from time to time thus generate the local economy and increase the sector’s contribution to national income in accordance with the implementation of this sector in the National Key Result Areas.

Realising this, this study is conduct to estimate the causal effect of the factors on the tourist satisfaction at Islamic Heritage Park. The results of this study can be used as a guideline to improve services thus increasing tourist satisfaction.

Based on the results of the survey, show that factor of Facilities, Monuments and Products have indirect effect to the tourist satisfaction factor as it goes indirectly through the factor of Cleanliness and Staff Services. The mediation that we have in this model is complete mediation.

Acknowledgment

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References