SOCIAL SCIENCES & HUMANITIES

An Evaluation of Cultural Heritage Tourism Destination Attributes for Delighting Visitors: A Case Study of the Ban Chiang Archaeological Site

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ABSTRACT

The purpose of this research was to adopt the refined Kano's model, customer satisfaction index and the Importance-Satisfaction model to identify and evaluate the quality of tourism destination attributes at the Ban Chiang Archaeological Site in order to provide a reference for improving and enhancing its cultural heritage tourism management. A questionnaire was designed based on the 6A's framework of tourism destination attributes including attraction, accessibilities, activities, availability, accommodation and ancillary services. A total of 397 valid questionnaires were analysed. The results revealed that all of 30 cultural heritage tourism destinations were one-dimensional quality attributes (O). All attributes resulted in satisfaction when fulfilled and in dissatisfaction when not fulfilled. The satisfaction increment index (SII) of these attributes was between 0.58 and 0.76, while the dissatisfaction decrement index (DDI) was between -0.50 and -1.00. These indicated that all quality attributes were a great influence on customer satisfaction. At the same time, it was found that if all of them were not fulfilled, the influence on customer dissatisfaction became stronger. Furthermore, there were 14 quality attributes categorised under high value-added attributes which could fulfil customers' satisfaction at a higher level. Among high value-added attributes, there were five attributes that had high SII and high DDI, so the Ban Chiang Archeological Site should fulfil these requirements as its first priority. Only one attribute should be improved immediately while the remaining five attributes should be continuously fulfilled to gain competitiveness in the future.

Keywords: Cultural heritage tourism, quality attribute, Refined Kano's model, satisfaction, dissatisfaction

INTRODUCTION

Cultural heritage tourism plays an important role in terms of community, economic and

social development in several countries. It is a rapidly growing segment of the tourism industry in Thailand as well. Evidence of this is seen in the increasing volume of both Thai and foreign visitors who seek culture, history, archaeology and interaction with local people. World Heritage sites are among the most popular destinations in cultural heritage tourism. A critical factor of cultural tourism attractions is to develop a cultural heritage site to express its own outstanding and unique identity (Gaffar, Wetprasit, & Setiyorini, 2011). In accordance with the study of Tipawanna and Katawandee (2014), in the view of indigenous people, the factors affecting cultural tourists' choice of destination were opportunity for high community participation in tourism development, unique physical and aesthetic features of the site and ease of access, respectively. Moreover, concerned stakeholders have indicated that environmental management around the sites could enhance the attractiveness of the sites.

The Ban Chiang Archaeological Site is one of five World Heritage sites in Thailand. It is a prehistoric human habitation and burial site located in the Ban Chiang Sub-district, Nong Han District of Udon Thani Province in northeast Thailand. In 1992, this site was announced as a World Heritage site by UNESCO. Ban Chiang is well-known as a prehistoric community with its own agriculture, animal domestication, metallurgical expertise and unique painted pottery. According to the statistical data of the Ban Chiang National Museum, the number of visitors in 2013 totalled 239,997

persons, which is a gradual increase from the period 2009 to 2012, with an average growth rate of 3% per year.

To sustain and develop its status as an attractive tourism destination, the Ban Chiang Archaeological Site has to offer an amalgam of tourism products and services to meet visitors' needs. It is necessary for it to classify and analyse the product and service requirements that influence visitor satisfaction. Although there has been some ecological and archeological field research in this area, limited literature exists on Ban Chiang from a cultural tourism management context. Hence, this research aims to identify and evaluate the quality of tourism destination attributes at the Ban Chiang Archaeological Site, in order to provide a reference for improving and enhancing its cultural heritage tourism management by adopting the refined Kano two-dimensional quality model, customer satisfaction index and the Importance-Satisfaction model.

LITERATURE REVIEW

The Ban Chiang Archeological Site

The Ban Chiang Archaeological Site is located in the Nong Han District, Udon Thani Province, Thailand. The site was first discovered in 1966. It is considered by scholars to be the centre of a remarkable phenomenon of human, cultural, social and technological evolution. The major advancements in technology include agriculture, animal domestication, ceramics and metallurgy, all of which are evident in the archaeological records of this site. Also, evidence such as the many burials,

rich in ceramic and metal grave goods, reveals an increasing economic prosperity, a distinctively developed culture and the social complexity of successive communities in Ban Chiang (Guide to Ban Chiang National Museum, 2009). In 1992, Ban Chiang was listed as World Heritage Site Number 359, following the registration criteria: "It represents a rare and unique monument or it attests to a tradition or civilization that is either active or already extinct."

The site is protected under the Act on Monuments, Ancient Objects, Art Objects and National Museums of 1961. The Fine Arts Department, Ministry of Education is directly responsible for the organisation and management of the site. Three must-visit places are: the Ban Chiang National Museum, the Archeological Pit and Tai Phuan House. The Ban Chiang National Museum was established in order to conserve and exhibit the artifacts excavated from the site during the period 1974 to 1975. Many archaeological artifacts (such as pottery, implements and ornaments of bronze and iron) are still in situ, providing a complete picture of the original culture and helping to promote the awareness of value and importance of the preservation of cultural heritage as a legacy for future generations. The Archaeological Pit is located in Wat Pho Sri Nai, about 500 metres to the east of the Ban Chiang National Museum. It is a public open-air museum. Tai Phuan House is outstanding in terms of architectural art conservation, which has brought it the Architectural Conservation ASA Award 2007 from the Association of Siamese Architects Under Royal Patronage.

Review of Tourism Destination Attributes

For cultural heritage tourism, destination attributes are part of the products that influence tourist perception and impression, leading to tourist satisfaction (Gaffar, Wetprasit, & Setiyorini, 2011). In this regard, Buhalis (2000) proposed the 6A's framework to indicate the attributes of a tourism destination, which are described as follows: 1) Attraction represents a natural, hand-made, artificial, purpose built, heritage, special events; 2) Accessibility refers to entire transportation system comprising routes, terminals and vehicles; 3) Amenities refers to accommodation, catering facilities, retailing and other tourist services; 4) Availability means pre-arranged service, pre-coming communication, the quality of welcoming and the quality of information; 5) Activities represent all the activities at the destination that tourists can participate in during their visit; and 6) Ancillary services refers to services used by tourists such as banking, telecommunications, posts and hospitals etc. To understand how tourists perceive an attribute as an attraction, the Ban Chiang Archaeological Site can improve or develop this attribute to increase tourists' satisfaction.

Review of KANO's model

To be successful in the long run, an organisation should focus its efforts primarily on understanding customers' needs and expectations in order to meet their requirements. In the past, customer satisfaction was considered in one-dimensional terms – the greater the ability

to fulfil a desired quality attribute, the higher the level of customer satisfaction. However, there are some quality attributes that do not lead to a high level of customer satisfaction even though they are fulfilled to a great extent for customers. Kano, Seraku, Takahashi and Tsuji (1984) developed the Kano model, based on the Two Factor Theory proposed by behaviourist Herzberg, in order to gain a better understanding of how customers evolve, evaluate and perceive quality attributes. They viewed satisfaction and dissatisfaction as two independent concepts in the mind of customers. They proposed a model to consider two dimensions of the fulfilment of requirement qualities and customer perception of satisfaction, as illustrated in Fig.1. Based on Kano's model, quality attributes can be divided into five categories as follows:

• Attractive quality attribute: An attribute that will lead to customer satisfaction if it is present; however its absence will not lead to customer dissatisfaction. This attribute is neither demanded nor expected by customers. It is referred to as the excitement need;

• One-dimensional quality attribute: An attribute that will lead to customer satisfaction if it is present, but which will lead to dissatisfaction if it is absent. The greater the degree of fulfilment from this attribute, the greater the degree of customer satisfaction and vice-versa. It is referred to as the performance need;

• Must-be quality attribute: An attribute that will not significantly lead to customer satisfaction if it is present; however its absence will lead to customer dissatisfaction. Customers consider this attribute as a prerequisite. It is referred to as the basic need;

• Indifferent quality attribute: An attribute that will lead to neither customer satisfaction nor dissatisfaction if it is present or absent. It is referred to as the neutral need; and

• Reverse quality attribute: An attribute that will lead to customer dissatisfaction if it is present, but which will lead to customer satisfaction if it is absent. It is referred to as the reverse need.

Fig.1: Kano's two-dimensional model.
Source: Kano (2002)

According to their quality attributes, products and services can be offered to meet different requirements. Matzler and Hinterhuber (1998) developed a two-dimensional quality element classification table as illustrated in Table 1.

TABLE 1
Two-Dimensional Quality Element Classification Table

Positive \ Negative	Like	Must-be	Neutral	Acceptable	Dislike
Like	O	A	A	A	O
Must-be	R	I	I	I	M
Neutral	R	I	I	I	M
Acceptable	R	I	I	I	M
Dislike	R	R	R	R	O

Note: A is Attractive quality, O is One-dimensional quality, M is Must-be quality, I is Indifferent quality, R is Reverse quality

Source: Matzler, K. and Hinterhuber, H. (1998)

Review of the Refined Kano's Model

Although Kano's model is extensively applied in the area of product and service development and improvement, it has the shortcoming of taking into account the degree of importance of certain quality attributes. A firm may have the technical or financial reasons due to which it cannot develop or improve several quality attributes simultaneously. This should be the decision criterion that has the greatest influence on customer satisfaction. Thus, Yang (2005) proposed the refined Kano's model that increases the importance of quality attributes categorising from four categories to eight categories, illustrated in Fig.2 and described as follows:
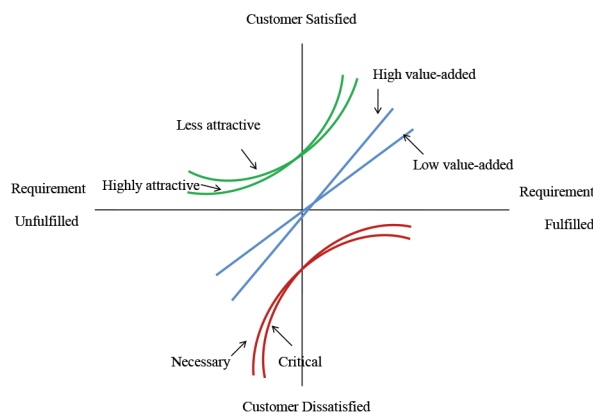

Fig.2: Refined Kano's two-dimensional model.
Source: Yang, C. (2005)

1) The must-be quality is divided into:

   1.1) Critical quality attributes: Customers view these attributes as crucial and having a high level of importance. Thus, a firm must provide these requirements perfectly.

   1.2) Necessary quality attributes: Customers view these attributes as essential but at a lower level of importance. Thus, a firm may fulfil these requirements at certain levels to retain customer satisfaction.

2) The one-dimensional quality is divided into:

   2.1) High value-added quality attributes: These attributes can fulfil customer satisfaction at a higher level. Thus, a firm should try to provide these requirements for customers.

   2.2) Low value-added quality attributes: These attributes can fulfil customer satisfaction but at lower levels. Thus, a firm may fulfil these attributes at an acceptable level to avoid customer dissatisfaction.

3) The attractive quality is divided into:

   3.1) High attractive quality attributes: These attributes are deemed as a firm's strategies to have high levels of attraction for potential customers. Thus, a firm should offer these requirements to customers.

3.2) Low attractive quality attributes: These attributes are considered to have little attraction for potential customers. Thus, a firm may discard these requirements in view of cost considerations.

4) The indifference quality is divided into:

   4.1) Potential quality attributes: These attributes have the potential for gradually changing the excitement quality attributes. Thus, a firm may adopt these requirements as strategies to attract customers in the future.

   4.2) Care-free quality attributes: These attributes are not attended to by customers. A firm only considers whether or not customers are satisfied and may not offer these requirements in view of cost considerations.

Generally, there are different needs and expectations in each market segment, thus it is essential to know the effect of the existence and absence of a product or service attributed to customer satisfaction. Kuo (2004) proposed the customer satisfaction index. The satisfaction increment index (SII) indicates the influence of an attribute towards fulfilling customer satisfaction while the dissatisfaction decrement index (DDI) indicates the influence of an attribute in not fulfilling customer satisfaction. The equation is as follows:

$$\text{SII} \quad = \frac{(A + O)}{(A + O + M + I)}$$

$$\text{DDI} = \frac{(O + M)}{(A + O + M + I) \times (-1)}$$

The SSI that is closer to 1 indicates greater influence on customer satisfaction whereas the DDI is closer to 1 and indicates greater influence on customer dissatisfaction. Based on the refined Kano's model and these coefficients, the Ban Chiang Archaeological Site can function better with a better understanding of the most important and beneficial quality attributes when planning or improving products and services.

The Importance Satisfaction Model (I-S Model)

The increasing competitive intensity to satisfy customers at a high level is a key success factor in the long run. To achieve high customer satisfaction, a firm should prioritise quality attributes that have high importance levels and low satisfaction levels. Yang (2003) developed the Importance-Satisfaction model (I-S model) based on the Importance-Performance Model of Martilla and James (1977). Performance has been replaced by satisfaction. The I-S model can be used to analyse the current status of satisfaction and identify product and service items for improvement. In the I-S model, the horizontal axis presents customers' perceived importance of attributes while the vertical axis presents customers' experienced satisfaction in relation to these. Mean value of importance and satisfaction have been used to divide coordinates into four quadrants. The interpretation of the I-S model is graphically presented in Fig.3.
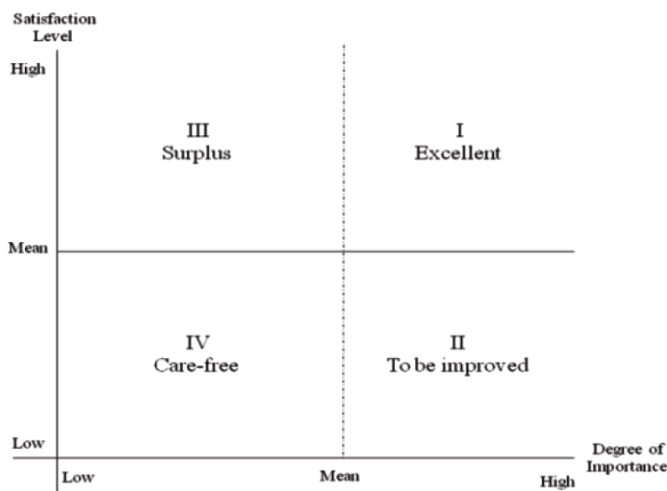

Fig.3: Importance-Satisfaction Model (I-S).
Source: Yang, C. (2005)

1) Excellent area: The attributes located in this area are very important to customers and for whom performance is satisfactory. Therefore, these attributes should be continually maintained.

2) To be improved area: The attributes established in this area are perceived to be very important to customers, but they provide low satisfaction. Therefore, these attributes must be improved immediately.

3) Surplus area: The attributes positioned in this area are not very important to customers, but they provide quite satisfactory performance. As these attributes can be eliminated without incurring any negative impact on customer satisfaction, a firm should consider the resources spent on these attributes as being possibly surplus.

4) Care-free area: The attributes situated in this area have low importance to customers and they bring low satisfaction. Because these attributes have less impact on the whole quality-evaluation process, a firm should not be overly concerned.

Given the importance of tourist satisfaction, many researchers and practitioners have studied the quality of tourist destinations by using various methods (i.e. Tan & Pawitra, 2001; Fuchs, 2002; Pawitra & Tan, 2003; Fuchs & Weiermair, 2004; Fuller *et al.*, 2006).

However, there are few empirical research findings and practice that adopt the integration of the refined Kano's model, customer satisfaction and the I-S model for quality improvement.

METHODOLOGY

This study used a descriptive research design and a cross-sectional survey. The subjects in this study were Thai tourists who visited the Ban Chiang Archeological Site. This study adopted randomly sampling and extracted 397 respondents for analysis.

A survey questionnaire was used to collect data from the target population. The questionnaire was divided into three parts: Part 1 was designed to measure cultural heritage tourism destination attributes based on functional (positive) question statements and dysfunctional (negative) question statements. Part 2 was designed to assess the importance and satisfaction of these attributes on a 7-point Likert scale. Section 3 collected demographic information of respondents.

Several methods were used in data analysis. Firstly, this study tested the internal consistency of each of the expectation and perception attributes. Secondly, second-order confirmatory factor analysis was used for the factorial validity of the 6A's framework using the LISREL programme for Structural Equation Modelling (SEM). Thirdly, this study

identified quality attributes by adopting the refined Kano's model to categorise the quality attributes of cultural heritage tourism. The SII and DDI were analysed to determine the improvement priorities. Then, a paired t-test was employed to test the significant difference between the two means of expectations and perceptions. An I-S model analysis was used to explore the product and service quality. Finally, some recommendations are provided at the end of this paper for improving the critical quality attributes.

RESULTS

Among the 397 valid respondents, 193 were male (48.62 %) and 204 were female (51.38 %); the majority were 20-29 years old (23.68 %) and below 19 years old (22.92 %); had a monthly income of 20,000-30,000 Baht (26.95 %) and above 30001 Baht (26.45 %); were public servants (28.72 %) and students (26.45 %); lived in the northeastern region (51.13 %) and central region (29.22 %); and were visiting for the first time (55.42 %). Motivation to visit the Ban Chiang Archeological Site was seen to be due to an interest in the arts and culture (22.03 %) and history (21.67 %).

The results of the reliability and validity tests conducted are shown in Table 2. A reliability coefficient was calculated to test the internal consistency reliability. The reliability coefficient of all quality attributes was 0.975, demonstrating convergent validity for the questionnaire. Six factors of these quality attributes had reliability coefficients ranging from 0.882 to 0.919.

Furthermore, second-order confirmatory factor analysis (CFA) was used to examine the construct validity of the cultural heritage tourism destination scale using Structural Equation Modelling (SEM). Because of the large sample, the chi-square statistic was 894.25 with a degree of freedom of 357 that was too high (Bagozzi & Yi, 1998). However, dividing the model chi-square by degree of freedom, the values of the normed chi-square (NC) of 2.50 indicated reasonable fit (Bollen, 1989). Moreover, the SEM statistics (for example, RMSEA = 0.06, NFI = 0.984, CFI = 0.991 and GFI = 0.869) reached the suggested confidence levels for this CFA model. Finally, most of the standardised factor loading were above the recommended value for a CFA of 0.40 establishing convergent validity (Anderson & Gerbing, 1988).

TABLE 2
Results of Second Order Confirmatory Factor Analysis

Quality attributes	Factor Loading	S.E.	R^2	Reliability Coefficient
Factor 1: Attraction	**0.856**	**0.053****	**0.733**	**0.904**
A1. Unique and possesses cultural value	0.843		0.662	
A2. An outstanding model in painting and sculpture	0.820	0.040**	0.620	
A3. A site worthy of history and historic events	0.729	0.042**	0.625	
A4. A surrounding structure of historic sites	0.812	0.045**	0.656	
A5. Showcases traditional way of life of local people	0.810	0.051**	0.620	
Factor 2: Activities	**0.983**	**0.061****	**0.967**	**0.882**
A6. A learning centre or activities for learning about cultural identity	0.812		0.511	
A7. Consistency between activities and the dominant tourist attraction	0.823	0.048**	0.560	
A8. Interpolate cultural and environmental consciousness during the visit	0.840	0.054**	0.632	
A9. Hospitality of local people	0.814	0.052**	0.645	
A10. Route arrangement and badge of knowledge for cultural study	0.857	0.061**	0.519	
Factor 3: Availability	**0.967**	**0.063****	**0.935**	**0.912**
A11. Availability of tour destination staff	0.881		0.497	
A12. Adequate tour destination staff	0.895	0.043**	0.517	
A13. Staff knowledge and competencies	0.826	0.045**	0.483	
A14. Courtesy of staff	0.834	0.050**	0.500	
A15. Informing visitors of what can be done or what cannot be done.	0.892	0.059**	0.652	
Factor 4: Amenities	**0.988**	**0.056****	**0.977**	**0.902**
A16. A service centre to provide information and publicity	0.887		0.594	
A17. Various media to provide information on the important places to visit	0.920	0.044**	0.630	
A18. Media providing information in multiple languages	0.812	0.049**	0.595	
A19. Convenient and safe path for tourist venues	0.936	0.050**	0.715	
A20. Leisure facilities such as video, map location and information headphone	0.851	0.049**	0.648	
Factor 5: Accessibility	**1.000**	**0.054****	**1.000**	**0.894**
A21. A public service system for travelling to tourist attraction sites	0.880		0.619	
A22. Internal vehicle to visit entire location of each destination in a tourist attraction	0.888	0.045**	0.595	
A23. Service infrastructure such as parking, seating and washrooms	0.846	0.046**	0.659	
A24. Clean, good and pleasant surroundings	0.787	0.046**	0.594	
A25. Safety of life and assets of visitors	0.792	0.048**	0.559	
Factor 6: Ancillary Services	**0.934**	**0.054****	**0.873**	**0.919**
A26. Unique local food restaurants	0.837		0.628	
A27. Clearly show prices charged for items such as tickets, food and souvenirs	0.899	0.040**	0.693	
A28. Souvenir shop offering unique and local products	0.903	0.046**	0.760	
A29. Valuable and functional souvenirs and handicraft	0.829	0.050**	0.592	
A30. Restaurants with a high standard of service and cleanliness	0.904	0.054**	0.598	

$**p<0.01$

TABLE 3
Classification of Kano Cultural Heritage Tourism Quality Attributes

Quality attributes	A	M	O	I	R	Kano's Category	Refined Kano's category	SSI	DDI	Satisfaction	Importance	S-I	t-value
Factor 1: Attraction										5.27	6.30		
A1	94	42	199	62	0	O	High value-added	0.74	-0.61	5.22	6.34	-1.12	-9.00**
A2	86	56	171	84	0	O	High value-added	0.65	-0.57	5.24	6.26	-1.02	-8.40**
A3	98	27	195	77	0	O	High value-added	0.74	-0.56	5.40	6.41	-1.01	-8.35**
A4	96	44	184	73	0	O	High value-added	0.71	-0.57	5.30	6.24	-0.94	-7.73**
A5	87	47	173	90	0	O	High value-added	0.65	-0.55	5.24	6.26	-1.02	-8.42**
Factor 2: Activities										5.11	6.18		
A6	100	46	164	87	0	O	High value-added	0.66	-0.53	5.26	6.18	-0.92	-7.67**
A7	97	54	144	102	0	O	Low value-added	0.61	-0.50	5.17	6.15	-0.98	-7.97**
A8	84	45	169	99	0	O	High value-added	0.64	-0.54	5.19	6.20	-1.01	-8.28**
A9	80	61	173	83	0	O	Low value-added	0.64	-0.59	4.83	6.10	-1.27	-9.98**
A10	76	60	165	96	0	O	High value-added	0.61	-0.57	5.13	6.27	-1.14	-9.39**
Factor 3: Available										5.14	6.10		
A11	95	54	167	81	0	O	Low value-added	0.65	-0.56	5.11	6.05	-0.94	-7.49**
A12	88	55	161	93	0	O	Low value-added	0.63	-0.54	5.08	6.01	-0.93	-7.27**
A13	95	52	182	68	0	O	Low value-added	0.70	-0.59	5.11	6.07	-0.96	-7.68**
A14	86	50	214	47	0	O	High value-added	0.76	-0.66	5.29	6.22	-0.93	-7.11**
A15	85	55	165	92	0	O	Low value-added	0.63	-0.55	5.11	6.16	-1.05	-8.52**
Factor 4: Amenities										5.11	6.15		
A16	88	58	153	98	0	O	Low value-added	0.61	-0.53	5.04	6.13	-1.09	-8.67**
A17	77	60	152	108	0	O	Low value-added	0.58	-0.53	5.08	6.12	-1.04	-8.39**
A18	70	62	166	99	0	O	High value-added	0.59	-0.57	5.17	6.17	-1.00	-7.98**
A19	71	51	181	94	0	O	Low value-added	0.63	-0.58	5.09	6.16	-1.07	-8.67**
A20	84	72	159	82	0	O	Low value-added	0.61	-0.58	5.16	6.16	-1.00	-8.15**
Factor 5: Accessibility										5.14	6.16		
A21	75	59	169	94	0	O	Low value-added	0.61	-0.57	5.05	6.08	-1.03	-8.42**
A22	66	61	170	100	0	O	Low value-added	0.59	-0.58	4.96	6.02	-1.06	-8.55**
A23	84	72	159	82	0	O	High value-added	0.65	-0.62	5.19	6.18	-0.99	-7.92**
A24	85	54	191	67	0	O	High value-added	0.70	-0.62	5.25	6.24	-0.99	-7.92**
A25	56	65	203	73	0	O	High value-added	0.65	-0.68	5.21	6.28	-1.07	-8.41**
Factor 6: Ancillary Services										6.15	5.13		
A26	74	65	160	98	0	O	Low value-added	0.59	-0.57	5.09	6.13	-1.04	-8.38**
A27	61	78	175	83	0	O	Low value-added	0.59	-0.64	5.15	6.13	-0.98	-7.71**
A28	65	73	174	85	0	O	High value-added	0.60	-0.62	5.16	6.20	-1.04	-8.35**
A29	77	76	165	79	0	O	Low value-added	0.61	-0.61	5.14	6.15	-1.01	-8.06**
A30	81	76	153	87	0	O	Low value-added	0.60	-1.00	5.09	6.15	-1.06	-8.59**
									Overall Mean	5.15	6.17		

**p<0.01

As shown in Table 3, all of the 30 quality attributes were of One-dimensional quality. Having obtained the results of importance, these quality attributes were then classified into two categories by adopting the refined Kano's model. There were 14 attributes categorised as high value-added. These items were unique and possesses cultural value (A1), an outstanding model in painting and sculpture (A2), a site worthy of history and historic events (A3), a surrounding structure of historic sites (A4), showcases traditional way of life of local people (A5), a learning centre or activities for learning (A6), interpolate cultural and environmental consciousness during the visit (A8), route arrangement and badge of knowledge for cultural study (A10), courtesy of staff (A14), media providing information in multiple languages (A18),

service infrastructure (A23), clean, good and pleasant surroundings (A24), safety of life and assets of visitors (A25) and souvenir shop offering unique and local products (A28). These 14 high-value added attributes could fulfil customers' satisfaction at a higher level. The rest were low value-added attributes that could fulfil customer satisfaction but at a low level.

This study calculated the satisfaction increment indices (SII) and the dissatisfaction decrement indices of each attribute. The SII of the 30 quality attributes was between 0.58 and 0.76. The average mean of the SII was 0.641. The DDI of these attributes was between -0.50 and -1.00. The average mean of the DDI was -0.593. This study then developed a quadrant graph based on the average mean of the index values as illustrated Fig.4.
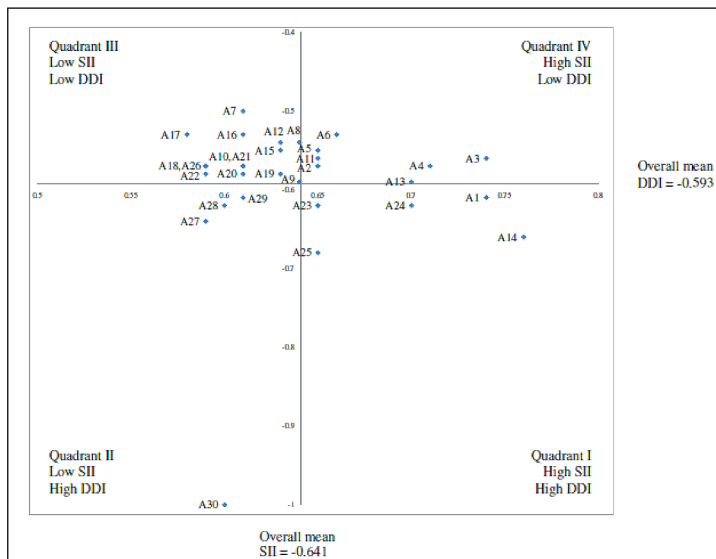

Fig.4: Customer satisfaction matrix.

Items in the first quadrant had a great effect on increasing satisfaction and reducing dissatisfaction. These items were unique and possesses cultural value (A1), courtesy of staff (A14), service infrastructure (A23), clean, good and pleasant surroundings (A24) and safety of life and assets of visitors (A25), which were of high concern to visitors. Therefore, the Ban Chiang Archeological Site should implement these requirements as their first priority because they can increase profitability and/or maintain competitiveness.

Items in the second quadrant did not have a great effect on increasing satisfaction; however, they could greatly reduce dissatisfaction. These items were clearly show prices charged for items such as tickets, food and souvenirs (A27), souvenir shop offering unique and local products (A28), the valuable and functional souvenirs and handicraft (A29) and restaurants with a high standard of service and cleanliness (A30). Therefore, the implementation of these requirements can be viewed as a conservative marketing strategy for the Ban Chiang Archeological Site.

Items in the third quadrant had a low effect on increasing satisfaction and reducing dissatisfaction. These items were the consistency between activities and the dominant tourist attraction (A7), interpolate cultural and environment consciousness during the visit (A8), hospitality of local people (A9), route arrangement and badge of knowledge for cultural study

(A10), adequate tour destination staff (A12), informing visitors of what can be done or what cannot be done (A15), a service centre to provide information and publicity (A16), various media to provide information on the important places visit (A17), media providing information in multiple languages (A18), the convenient and safe path for tourist venues (A19), leisure facilities (A20), a public service system for travelling (A21), internal vehicle to visit entire location of each destination in a tourist attraction (A22) and unique local food restaurants (A26), which were of low concern to visitors. Therefore, it is not necessary for the Ban Chiang Archeological Site to pay too much attention to these items.

Items in the fourth quadrant had a great effect on increasing satisfaction, but a low effect on reducing dissatisfaction. These items were an outstanding model in painting and sculpture (A2), a site worthy of history and historic events (A3), a surrounding structure of historic sites (A4), showcases traditional way of life of local people (A5), a learning centre or activities for learning about cultural identity (A6), availability of tour destination staff (A11) and staff knowledge and competencies (A13), which were not valued by visitors. Therefore, the Ban Chiang Archeological Site might use these items as part of their competitiveness strategy in the future.

As shown in Table 3, the respective importance means, satisfaction means, gap means and t-values regarding all product and service quality attributes showed that

visitors had a level of satisfactions that was lower than their level of expectations, with a significant difference between the two. It implied that each quality attribute suffered a service quality shortfall. The largest gap score was found for "the involvement of local people in hospitality". The mean value of importance and satisfaction was used to divide coordinates into four quadrants. The interpretation of the I-S model integrated with the refined Kano's model and customer satisfaction is graphically presented in Fig.5.

The attributes located in the 'Excellent area' consisted of the following items: unique and possesses cultural value (A1), an outstanding model in painting and sculpture (A2), a site worthy of history and historic events (A3), a surrounding structure of historic sites (A4), showcases traditional way of life of local people (A5), a learning centre or activities for learning (A6), interpolate cultural and environmental consciousness during the visit (A8), courtesy of staff (A14), media providing information in multiple languages (A18), service infrastructure (A23), clean, good and pleasant surroundings (A24), safety of life and assets of visitors (A25) and souvenir shop offering unique and local products (A28), which were very important to customers and for which performance was satisfactory. All of these were high value-added attributes. Five items, namely, unique and possesses cultural value (A1), courtesy of staff (A14), service infrastructure (A23), clean, good and

pleasant surroundings (A24) and safety of life and assets of visitors (A25), were high SII and high DDI.

The attributes located in the 'To be improved area' were A10, 'Route arrangement and badge of knowledge for cultural study'. This should be improved immediately as it can fulfil customer satisfaction at a higher level.

The attributes located in the 'Surplus area' i.e. consistency between activities and the dominant tourist attraction (A7), leisure facilities (A20) and showing the price charged (A27) were not very important to customers, but performance in these areas was quite satisfactory. All of them were low-added attributes. A firm could be eliminated in view of cost considerations. However, only clearly showing the price charged (A27) had a low SII and a high DDI, which indicated that if unfulfilled, this attribute could lead to customer dissatisfaction.

The attributes situated in the 'Care-free area' included 14 items. The attributes situated in this area had low importance to customers as well as low satisfaction. All were low value-added attributes. However, valuable and functional souvenirs and handicraft (A29) and restaurants with a high standard of service and cleanliness (A30) had low SII and high DII. They should be offered to prevent dissatisfaction.

Appropriate actions for improvement are proposed based on the refined Kano's model, customer satisfaction index and the importance and satisfaction level as illustrated in Table 4.
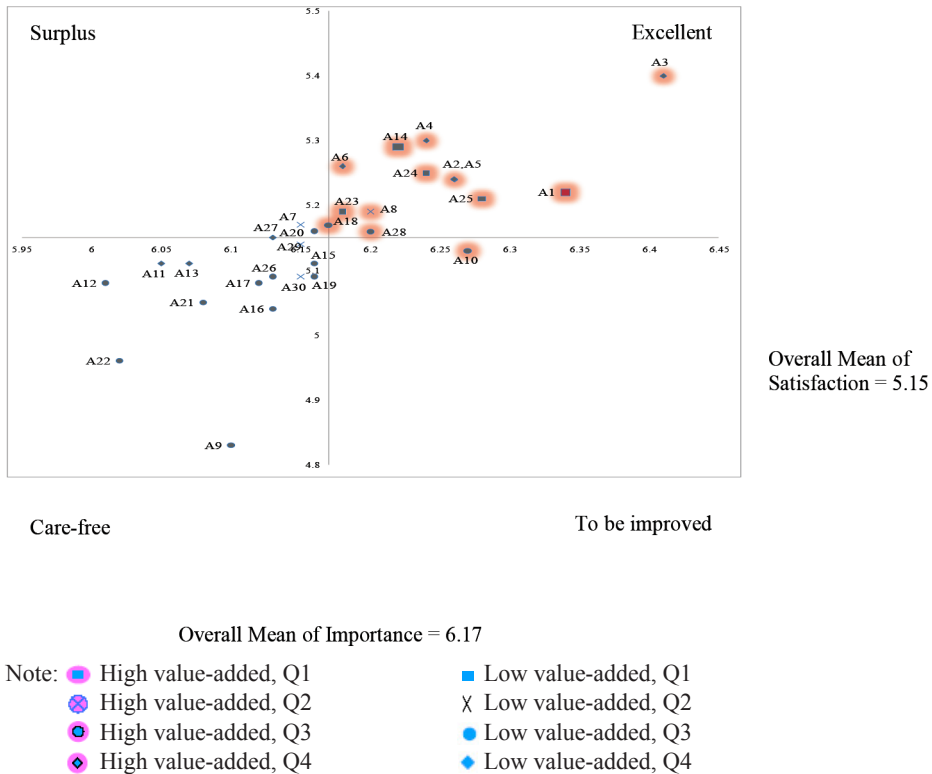
Fig.5: Integrated results of the refined Kano's model, customer satisfaction index and I-S model.

Note:
- High value-added, Q1 ● ／ Low value-added, Q1 ■
- High value-added, Q2 ⊗ ／ Low value-added, Q2 ✗
- High value-added, Q3 ◉ ／ Low value-added, Q3 ●
- High value-added, Q4 ◆ ／ Low value-added, Q4 ◆

Overall Mean of Importance = 6.17

Overall Mean of Satisfaction = 5.15

TABLE 4
Improving Actions Based on the Refined Kano's Model, Customer Satisfaction Index and I-S Model

Quality attributes	Refined Kano's category	Satisfaction Matrix	I-S Model
Improvement Action 1: To fulfil this requirement at the first priority and continuously maintain the service			
A1. Unique and possesses cultural value	High value-added	Q1	Excellent
A14. Courtesy of staff	High value-added	Q1	Excellent
A23. Service infrastructure such as parking, seating and washrooms	High value-added	Q1	Excellent
A24. Clean, good and pleasant surroundings	High value-added	Q1	Excellent
A25. Safety of life and assets of visitors	High value-added	Q1	Excellent
Improvement Action 2: To immediately improve this requirement to achieve acceptable level			
A10. Route arrangement and badge of knowledge for cultural study	High value-added	Q3	To be improved
Improvement Action 3: To continuously fulfil this requirement and develop it to gain competitive advantage in the future			
A2. An outstanding model in painting and sculpture	High value-added	Q4	Excellent
A3. A site worthy of history and historic events	High value-added	Q4	Excellent

Table 4 (continue)

A4. A surrounding structure of historic sites	High value-added	Q4	Excellent
A5. Showcases traditional way of life of local people	High value-added	Q4	Excellent
A6. A learning centre or activities for learning about cultural identity	High value-added	Q4	Excellent
Improvement Action 4: To continuously fulfil and maintain at the acceptable level			
A8. Interpolate cultural and environmental consciousness during the visit	High value-added	Q2	Excellent
A18. Media providing information in multiple languages	High value-added	Q3	Excellent
A28. Souvenir shop offering unique and local products	High value-added	Q3	Excellent
Improvement Action 5: To continuously maintain at the acceptable level to prevent dissatisfaction, but it may reduce the fulfilment level in view of cost considerations			
A27. Clearly show prices charged for items such as tickets, food and souvenirs	Low value-added	Q2	Surplus
A29. Valuable and functional souvenirs and handicraft	Low value-added	Q2	Care-free
A30. Restaurants with a high standard of service and cleanliness	Low value-added	Q2	Care-free
A7. Consistency between activities and the dominant tourist attraction	Low value-added	Q3	Surplus
A9. Hospitality of local people	Low value-added	Q3	Care-free
A11. Availability of tour destination staff	Low value-added	Q4	Care-free
A12. Adequate tour destination staff	Low value-added	Q3	Care-free
A13. Staff knowledge and competencies	Low value-added	Q4	Care-free
A15. Informing visitors of what can be done or what cannot be done	Low value-added	Q3	Care-free
A16. A service centre to provide information and publicity	Low value-added	Q3	Care-free
A17. Various media to provide information on the important places to visit	Low value-added	Q3	Care-free
A19. Convenient and safe path for tourist venues	Low value-added	Q3	Care-free
A20. Leisure facilities such as video, map location and information headphone	Low value-added	Q3	Surplus
A21. A public service system for travelling to tourist attraction sites	Low value-added	Q3	Care-free
A22. Internal vehicle to visit entire location of each destination in a tourist attraction	Low value-added	Q3	Care-free
A26. Unique local food restaurants	Low value-added	Q3	Care-free

DISCUSSION

Due to limited resources of the Ban Chiang Archaeological Site in crafting a competitive advantage, this study explored the strategic development and continuous improvement by adopting the refined Kano's model, customer satisfaction index and the I-S model.

With reference to the one-dimensional attributes with high value-added elements, high SII and high DDI, this site should implement the following requirements at the first priority: unique and possesses cultural value (A1), courtesy of staff (A14), service infrastructure (A23), clean, good and pleasant surroundings (A24) and safety of life and assets of visitors (A25). Consistent with the study of Vajčnerova, Šacha and Ryglova (2013), visitor satisfaction in this study too was influenced the most by the factors of natural attractions and uniqueness of destination, which were the primary offer of each destination while the factors of accommodation and accessibility were the secondary offer that could be modified. Improved accommodation and accessibility would significantly affect overall visitor satisfaction. Moreover, the study of Chang, Chen and Hsu (2012) showed that the staff's service-orientated contact elements were 'one-dimensional quality'. These elements were the first priority to provide tourists with a quality brand. Buhalis (2003) stated that destinations are amalgams of tourism products and services, offering an integrated experience to visitors. Developing a tourism product concerns both delivering a service and planning and conceptualising

branding. Thus, understanding the entire service chain of visitors' needs will ensure satisfaction and encourage them to return and/or share their positive experience with others.

With reference to the one-dimensional attributes with high value-added elements and high DDI, the arrangement of routes and signs providing information for cultural study should be immediately improved (A10). According to the study of Chang, Chen and Hsu (2012), service-orientated contact elements and service providers operating businesses could concurrently increase customer satisfaction and decrease customer dissatisfaction. Cook (2001) stated that proper management of cultural routes and trails can help communities to conserve cultural heritage, generate a sense of belonging and enrich visitors' experience. The cognitive and emotional appreciation of routes depends on the appropriate information and presentation of story and storytelling conveyed to the visitors along the routes.

With reference to the one-dimensional attributes with high value-added elements and high SII, the following attributes should be used to make the site competitive in the future: the outstanding paintings and sculpture models (A2), valuable history and historic sites (A3), surrounding structures of historic sites (A4), tradition way of life of local people (A5) and learning centres or activities for learning (A6). Consistent with the study of Ngamsomsuke, Hwang and Huang (2011) showed that the overall architectural character of the location

and the designs surrounding cultural heritage sites were the two most important indicators for cultural heritage tourism. Protection and conservation of these assets are essential for the survival and sustainable growth of a cultural heritage site. Moreover, interesting activities and experiences should be offered at the sites to add value and make the sites unique, thus attracting new visitors as well as repeat visitors. Furthermore, Ho¨gstro¨m, Rosner and Gustafsson (2010) claimed that the physical service environment has a major influence on customer satisfaction and affects the destination's image.

With reference to the one-dimensional attributes with high value-added elements, the following attributes should be maintained at an acceptable level: interpolate cultural and environmental consciousness during the visit (A8) with high DDI, media providing information in multiple languages (A18) and unique local souvenir shops (A28). A destination is made up of physical, social and cultural features that render its atmosphere or ambience. Atmosphere includes features such as services for visitors, the local way of life and local history and folklore. These factors have power to draw visitors. Zeithaml and Bitner (2000) stated that atmosphere is appreciated through sensory channels. It makes the entire experience of visitors delightful. Atmosphere is the type of augmented product that should be developed in order to make a cultural heritage site unique. Consistent with the study of Chang, Chen and Hsu (2012), this

study indicated that atmosphere-orientated contact elements play a powerful role in developing specific tourism niches.

CONCLUSION

The refined Kano's model is a useful practical tool for assessing important cultural heritage tourism destination attributes of the Ban Chiang Archaeological Site to make better decisions to improve its quality strategies. To integrate the refined Kano's model and customer satisfaction index into the I-S model enables the Ban Chiang Archaeological Site to obtain much more valuable and precise information for strategic planning. The results obtained in this study showed that all 30 cultural heritage tourism destinations had a one-dimensional quality attribute (O). The satisfaction increment indices (SII) of these attributes were in the range of 0.58 to 0.76, while the dissatisfaction decrement indices (DDI) were in the range of -0.50 to -1.00. There are 15 high value-added attributes which the Ban Chiang Archaeological Ssite should try to provide to visitors.

Along with high value-added attributes, five items had high SII and high DDI, indicating that these items had a great effect on increasing satisfaction and reducing dissatisfaction. Therefore, the Ban Chiang Archeological Site should fulfil these requirements as its first priority because they can increase profitability and/or maintain competitiveness. Moreover, there is one attribute that the Ban Chiang Archaeological Site should improve immediately. However, it may be

improved to the acceptable level as it has low SSI and low DII. Furthermore, there are five attributes that the Ban Chiang Archaeological Site should continuously fulfil and maintain as it can use these attributes to maintain competitiveness in the future. The Ban Chiang Archaeological Site should also fulfil the rest of the high value-added attributes at acceptable levels in order to prevent dissatisfaction. On the other hand, the 15 low value-added attributes should be maintained at the acceptable level but they may be reduced or discarded in view of cost considerations. Future discussion may further integrate the Quality Function Development (QFD) method to develop creative products and services of the Ban Chiang Archaeological Site. In the future, it may be expanded to cover other sites to develop and improve the quality attributes of cultural heritage tourism.

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