

Article

Application of the Kano Model and DEMATEL Technique to Explore Sustainable Promotion Strategies for Thai-Chinese Temples as Tourist Attractions

Bo-Wei Zhu ¹, Zheng Huang ² and Lei Xiong ^{3,*}

¹ Faculty of Humanities and Arts, Macau University of Science and Technology, Avenida Wai Long, Taipa, Macau 999078, China; bwzhu@must.edu.mo

² Faculty of Decorative Arts, Silpakorn University, Ratchamankha Nai Rd., Nakhon Pathom 73000, Thailand; 2003082@glut.edu.cn

³ Academy of Fine Arts, South China Normal University, No. 55, Zhongshan Avenue, Tianhe District, Guangzhou 510631, China

* Correspondence: kmt20005@gmail.com; Tel.: +86-186-8817-6556

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Abstract: With the development of the modern social economy, temple tourism has become a lucrative industry. Because of their distinct architecture, rituals, and history, temples have become an important part of the sustainable development of temple economies. Thailand, a tourism-rich country in Southeast Asia, has many Chinese temples, most of which have developed into well-known tourist attractions. However, little research has explored attraction factor categories of Thai-Chinese temples as cultural tourist attractions, and also the relationships among these factor categories. This knowledge is important for assessing and developing improvement strategies of Thai-Chinese temples for achieving a sustainable temple economy. Thus, this study aims to identify appropriate ways to identify the constituent attraction factor categories of Thai-Chinese temples as cultural tourist attractions and how they are prioritized, considering the complex interaction relationships among them. The research findings show that 12 main factor categories under the three dimensions, three attributive classifications with different priorities to which the 12 categories belong, and the complex interaction relationships among factor categories are identified. Combining the priorities on attributive classifications and the priorities on interaction relationships, the sustainable improvement strategies of Thai-Chinese temples are established. This paper extends previous research on Chinese temples, offers insights into the theoretical investigation of Thai-Chinese temples as tourist attractions, and provides decision makers with an integrated and practical way to establish priorities of multiple attraction factor categories, in order to make sustainable improvement strategies of Thai-Chinese temples under the consideration of rational allocation of resources.

Keywords: Chinese temples; cultural tourism attraction; Kano model; DEMATEL technique; main factor categories; attribute classifications; influential network relationships

1. Introduction

Chinese religious beliefs in Southeast Asia were formed during the historical emigration of the Chinese to Southeast Asian countries and on the basis of the changes in their living environments (Zhong and Zhang 2011). Previous studies reveal that the traditional religious beliefs that have prevailed in Fujian and Guangdong mainly originated from Taoism, Buddhism, and Confucianism and derive from several forms and contents of folk beliefs (Eng and Lin 2002; Xue and Zhu 2008;

Junkui 2017). The traditional religious beliefs of the Southeast Asian Chinese originated from it and formed similar harmonious beliefs (Zhang 1999). The migration of early Chinese immigrants brought traditional temple architecture and practices. For them, temples were places of worship and performing social rituals such as promoting solidarity, conducting welfare activities, and gathering for funerals (Hsiao et al. 2005). For example, Cheng Hoon Teng Temple, the first Chinese guild hall in Malacca, Malaysia, influenced the evolution of the Fujian guild hall. When Chinese immigrants arrived in Singapore from the southeast coast of China, they built temples for their own communities. Most of these temples were established by the five dialect groups, namely, Min, Yue, Chao, Ke, and Qiong (Chen 2009).

Chinese temples have their own economic attributes comprising human, material, and financial resources (He 2007). To a certain extent, the existence and spread of religion depends on the size and development of the temple economies. Therefore, in addition to performing basic divine functions, these temples conduct secular functions that are economic, political, and cultural. Hence, the managers of the most successful temples would have to devise marketing and promotion strategies as well as innovative public activities to sustain their popularity (Lang et al. 2005). A trend can be observed wherein the temple economy seems to actively participate in and contribute to the secular economy, which involves business- and tourism-related activities and other service industries. Further, with the development of modern society and the economy, temple tourism has become an industry, and its share in the overall temple economy seems to be increasing (Shuo et al. 2009; Song et al. 2015). Notably, with the change in tourist demands, human resources seem to play a vital role in temple tourism (Lin and Hsing 2009). Therefore, temple tourism can be considered a new form of cultural tourism which is becoming an important part of the sustainable development of temple economies.

Thailand has a highly developed tourism industry with many temples. Among these, several well-known Chinese temples exist, such as Wat Mangkon Kamalawat, Ang Sila, and Wat Bhoman Khunaram. Today, China has become the fastest growing source market, and outbound Chinese tourists are serving as a catalyst for economic growth in many countries (Dai et al. 2017; Liu and Ko 2011). Previous studies reveal that unique local cultural resources and festivals are primary motivators for Chinese tourists to visit Thailand (Amonhaemanon and Amornhaymanon 2015). Practical experience indicates that Chinese temples in Thailand integrate local culture at varying degrees, and the essential space art and religious activities produce a unique cultural value; moreover, several Chinese temples have either become or are committed to becoming successful cultural tourist attractions. Some previous studies in tourism management have provided valuable knowledge for exploring the attraction factors or important attributes of tourist attractions from the perspective of consumer preference and behavior (Barbieri and Mahoney 2010; Lu et al. 2015; Naoi et al. 2011; Wang et al. 2016). However, few have explored attraction factors and their importance of Thai-Chinese temples as cultural tourist attractions. This knowledge is important for assessing and developing improvement strategies of Thai-Chinese temples for achieving a sustainable temple economy. Thus, this study attempts to fill this gap by identifying two important aspects that should be addressed. First, research to date has not produced sufficient knowledge about the attraction factors of Thai-Chinese temples. Different kinds of tourist attractions have different development goals that may lead to different evaluation criteria and the detailed indicators. Therefore, extracting the attraction factors of Thai-Chinese temples from the perspective of tourist preference is one focus of this research. Second, as for generating the relative importance of attraction factors, the methods used in this study, such as analytic hierarchy process (AHP) (e.g., Lu et al. 2015; Wang et al. 2016; Willis 2009), structural equation modeling (SEM) (e.g., Lu et al. 2015), and stated preference choice method (e.g., Willis 2009), almost all operate on the assumption that the factors are independent, which may not fit the current real-world situation where there are often interrelations among attributes. The improvement priorities obtained using such methods may then not contribute to sustainable promotion strategies under the consideration of rational resources allocation. Furthermore, some scholars suggest that sustainable promotion strategies in the process of continuous improvement of cultural tourism attractions will help in further

exploring the strategies of venue building and governance planning, thereby promoting the sustainable development of tourist attractions (Nasser 2003; Ursache 2015; Xie 2018).

In summary, this study aims to identify appropriate ways to identify the constituent attraction factor categories of Thai-Chinese temples as cultural tourist attractions and how they are prioritized, considering the complex interaction relationships among them. The goal is to establish sustainable improvement strategies that enhance the cultural tourism attraction of Thai-Chinese temples. Accordingly, the study is designed as follows: first, qualitative data is collected through interviews using the general induction method and reviewing relevant literature to extract the factor categories of Thai-Chinese temples as cultural tourist attractions; second, questionnaires are distributed to tourists, and the Kano Model is applied to distinguish between the levels of tourist demand and to clarify the attribute quality of each factor category and how they are prioritized; finally, a questionnaire is distributed to experts and the Decision-making Trial and Evaluation Laboratory (DEMATEL) technique is applied to describe the relationships between the attraction factor categories. Thereby, the sustainable improvement strategies for enhancing visitor attraction to Thai-Chinese temples as sites for cultural tourism can be established.

2. Methodology and Steps

2.1. General Inductive Approach

In this research, the individual interview method is applied to understand the attraction factor categories of Thai-Chinese temples as cultural tourism attractions. The respondents were recruited via open invitation and were required to meet the following conditions: (1) be classified as tourists; (2) agree to participate in an approximately 30-min on-site individual interview (including a short sit-down interview and a walking interview); and (3) share their ideas/feelings with the investigators in English or Chinese. Two investigators with a good knowledge of Chinese temples in Thailand, including the historical background, architectural environment, public facilities, and management operations, conducted the interviews. The investigators were asked to explain the purpose of the study to participants, ask questions, communicate clearly and effectively, and allow to fully express their viewpoints. Interviews were recorded, and notes and photos were taken to record data in field observation according to the concept or content the participants have mentioned, such as spatial characteristics or participation activities. The interviews were semi-structured, and the participants were asked the following open-ended questions:

- What are your major motivations for traveling to these temples (e.g., cultural environment, food, relaxation and entertainment, natural scenery)?
- What are the activities you would like to do here? Which ones are more attractive?
- What characteristics/features enticed you to visit these temples?
- Do you have any religious beliefs?

This cross-sectional survey was distributed at some Thai-Chinese temple locations between October 2019 and January 2020. Investigators tried to invite tourists at random to participate in the interview in order to achieve a more rounded sample. Some 54 tourists were interviewed; their characteristics were showed in Table 1. In terms of gender, the ratio of men to women was 25:29. The respondents' age range was 21–65 years old, which represented the appropriate physiological age for people to complete the interviews in this study. Among the 54 respondents, 17 were from China, accounting for 34% of the total number of foreign respondents. In this research, such a state is considered as sample saturation: the sample size is not less than 30, and the number and content of the criteria remain unchanged when at least 10% of the total sample data is continuously analyzed. If so, the researchers do not need to recruit any more participants.

Table 1. Selected respondent characteristics (N = 54).

Gender	
Female	29
Male	25
Age	
Up to 21	9
22—32	14
33—43	26
44—65	5
Education	
Secondary education	7
University/college	15
Graduate institute	32
Country of residence	
China	17
Korea	10
Malaysia	7
India	6
Japan	5
Thailand	4
Australia	3
New Zealand	2
Religious beliefs	
Yes	40
No	14
Travel frequency	
First visit	18
Visited before	36

This study applies the general induction method introduced by Thomas (Thomas 2006). An overview of the inductive coding process is shown in Figure 1. The intended outcome of the process is to create between three and eight summary categories that capture the key aspects of the themes identified in the raw data. Inductive coding that identifies more than eight major themes is incomplete. In this case, some of the categories are combined, or the evaluator determines which themes or categories are most important.

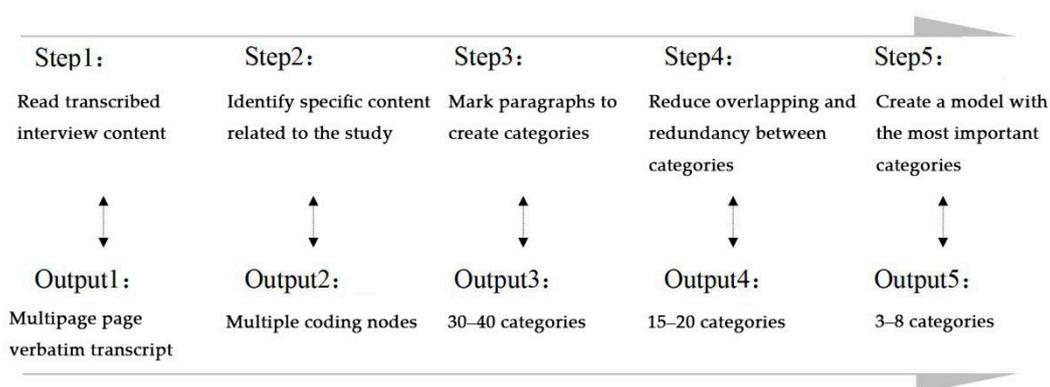


Figure 1. The coding process in inductive analysis.

2.2. The Kano Model

In this study, the general qualitative induction method was applied to extract the constituent factors of the cultural tourism attraction of Chinese temples in Thailand. Further analysis should be conducted based on tourists’ perspectives and preferences to understand the different attribute classifications of the constituent factors. The Kano Model was first proposed by Kano et al. in 1984 and

has since been widely applied to product design, consumer behavior, community development and tourism services (Qi et al. 2016; Dace et al. 2019). This research method involves little mathematical computation and can be used to collect relevant information quickly. Kano’s two-dimensional quality model has also been used to improve service quality indices in industries such as food and beverage, tourism, and hospitality (Cheng et al. 2019). The Kano Model’s most prominent strength is that it uses positive/negative question pairs to determine the intensity of interview respondents’ preferences when answering questions pertaining to a research theme. Meanwhile, interview respondents’ intensity of preferences can be classified into five levels, which allows researchers to conduct further comparisons and analyses that are unattainable using other research tools.

This study’s Kano Model questionnaire (see Appendix A) is based on the results of previous qualitative research. The questionnaire was distributed to tourists who had visited Thai-Chinese temples. A total of 306 respondents were surveyed during this research stage. The average response time for each questionnaire was 15 min, and 295 valid questionnaires were collected.

The study was conducted on the basis of the five classifications of quality elements and response quality management strategies proposed by Kano et al. (Kano et al. 1984) (see Table 2).

Table 2. Decision Matrix of Qualitative Classification.

Reverse Conditions						
Positive Conditions		Likes	Of Course	No Matter	Be Able to Bear	Dislikes
Likes		Q	A	A	A	O
Of course		R	I	I	I	M
No matter		R	I	I	I	M
Be able to bear		R	I	I	I	M
Dislikes		R	R	R	R	Q

Q: Contradiction quality; A: Attractive quality; O: One-dimensional quality; M: Must-be quality; I: Indifferent quality; R: Reverse quality.

- **Attractive Quality Attributes:** provide satisfaction if present, but do not cause dissatisfaction when not present. Respondents still consider it acceptable when attractive quality attributes are not present. However, attractive quality attributes could be used as competitive tools or to develop strategies to attract tourists.
- **One-dimensional Quality Attributes:** result in satisfaction with the present conditions, and respondents’ satisfaction is proportional to the extent to which these attributes are present. However, these quality attributes result in dissatisfaction when not present. One-dimensional quality attributes could be the basis for meeting an appropriate standard when costs and benefits are considered.
- **Must-Be Quality Attributes:** would be taken for granted when present, but result in dissatisfaction when not present. Regarding must-be quality attributes, decision makers need only input the right amount of costs to cater to tourists’ basic needs.
- **Indifferent Quality Attributes:** do not result in tourist satisfaction or dissatisfaction, regardless of being present or not. When cutting back on expenditures is a concern, decision makers can use their own discretion to determine whether or not to provide these quality attributes.
- **Reverse Quality Attributes:** would result in dissatisfaction when present, and result in satisfaction when not present. Providing tourists with reverse quality attributes is harmful to a tourist attraction, and therefore, should be avoided to the maximum extent possible.

2.3. DEMATEL Technique

Based on the results of the Kano analysis, this study proposes clarifying the dominant relationship between various factor categories in different attribute classifications from the perspective of influence. This will help to further and systematically explore the continuous improvement strategies of the cultural tourism attraction of Thai-Chinese temples. In the fields of landscape design, rural governance, product marketing, teaching evaluation, to name a few, many scholars have applied the DEMATEL Technique to clarify the abstract and complex impact relationship between several attributes/indexes/factors. (e.g., Zhu et al. 2017; Xiong et al. 2017; Qu et al. 2019). Therefore, different from the previous two research stages, this study will distribute DEMATEL questionnaires to experts from both academic and practical fields. Each expert possessed at least a master's degree and more than 8 years of relevant work experience. The duration prescribed for completing the questionnaire was 40 min. Finally, 11 experts filled in the questionnaire (see Appendix B), and nine valid questionnaires were collected following the consistency test.

In this study, the calculation steps of DEMATEL technique were as follows:

- Creating Direct Influence Relation Matrix E

The data were collected from the expert questionnaire, whose evaluation scores include 0, 1, 2, 3, and 4, with 0 representing the semantic meaning of having no influence and 4 implying extreme influence. This questionnaire was completed by experts in the research domain of this project, and the pairwise comparison method was used to evaluate the extent of influence of the criteria so as to express the extent of influence of one criterion on another under the evaluation framework. This matrix is an $n \times n$ -type non-negative matrix. Matrix E was created on the basis of the responses of several experts.

- Creating Average Direct Influence Relation Matrix A

The average matrix obtained through calculating the average score of several expert questionnaires was called the average direct influence relationship matrix.

- Consensus Testing of Expert Questionnaires

The consensus testing of the expert questionnaires was performed by calculating the average gap ratio. The threshold value of the average gap ratio in statistics is 5%. When the calculation result is smaller than 5%, it means that the confidence level of the collected expert questionnaires is over 95%; it can be regarded as a stable and reliable system, and these questionnaires have manifested a relatively high consensus. However, if the testing results show that it is not a stable system, it is then necessary to re-examine whether the collected data are correct or whether the number of experts is adequate.

- Creating the Normalized Average Direct Influence Relation Matrix D

The result of normalization was transforming all the numerical values in matrix A correspondingly into the numerical values between 0 and 1. In the matrix, all the numerical values located at the diagonal are 0.

- Creating Total Influence Relation Matrix T

When the powerful number of matrix D approximates to infinity, the indirect influence in it would continuously decline. Thus, it is first necessary to create an inverse matrix of the difference between an $n \times n$ identity matrix I and matrix D . By multiplying this inverse matrix and matrix D , the total influence relation matrix T could be obtained.

- Drawing INRM

This step requires quantifying the influence effects each criterion produces and received by other criteria. This could be obtained through adding up the numerical value of each line and each row in matrix T . At the same time, a total dimensional influence relation matrix T_D was constructed. Then, the influence network relation map (INRM) for various dimensions and various criteria were drawn respectively.

3. Results and Discussions

3.1. Categories and Dimensions of Thai-Chinese Temples as Potential Tourism Attractions

In this study, inductive coding commenced in close reading of the text and multiple inherent meanings. The researcher then identified text segments that contained meaning units, and created a label for a new category to which the text segments were assigned. Additional text segments were added to the category where relevant. During the analysis, the researchers provided a preliminary description of the meaning of each category, such as association, connection, and meaning, and wrote a memo on each of these categories. Each category was revised and improved through continuous comparative analysis by searching for new concepts and contradictory viewpoints. Categories were combined or connected under a higher-level category when their meanings were identical. In this study, 25 initial categories were extracted and encoded in the verbatim transcripts of the respondents' interviews. After eliminating overlapping and redundant instances, 12 main categories were created. Further, after organizing the relationship between these categories, these 12 categories were classified into three different dimensions. Therefore, the results of the qualitative research stage in this study show that the various constituent factors of the cultural tourism attraction of Thai-Chinese temples constitute a hierarchical structural system (Figure 2).

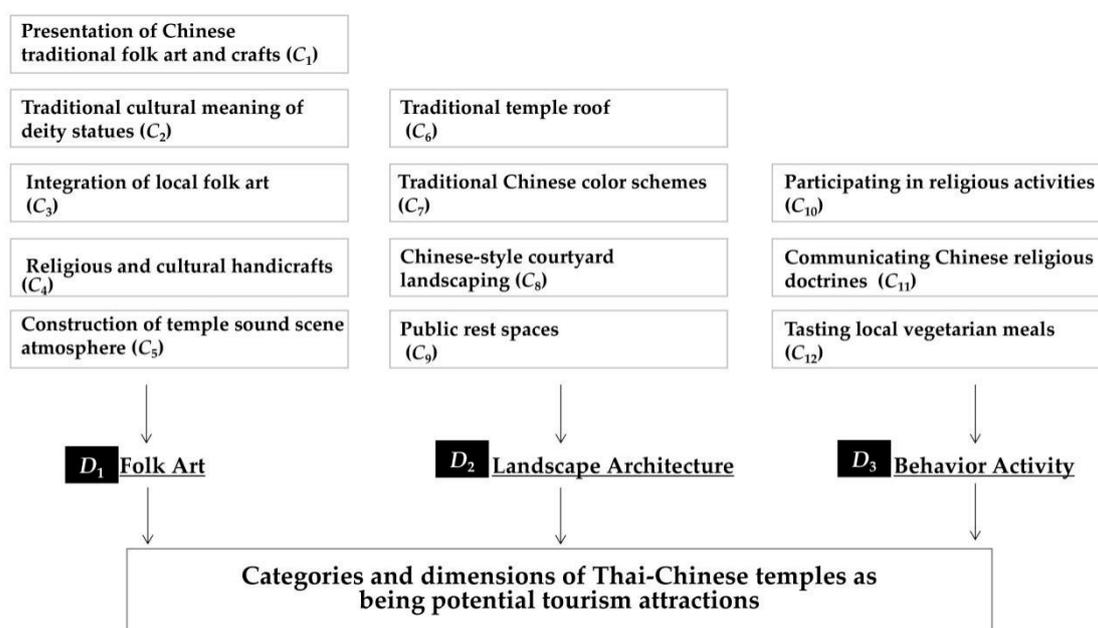


Figure 2. Categories and dimensions of Thai-Chinese temples as being potential tourism attractions.

3.1.1. Folk Art (D₁)

There were five main categories under the dimension of folk art (D₁), namely, the presentation of Chinese traditional folk arts and crafts (C₁), traditional cultural meaning of deities statues (C₂), the integration of local folk art (C₃), religious and cultural handicrafts (C₄), the construction of temple sound scene atmosphere (C₅). For the following survey question: “When you walk by these Chinese temples, what are the factors that attract you to visit them?”, many respondents said that they quickly noticed the historical value of the temple decorations, such as Chinese murals, carvings, couplets,

potted plants, which were very similar to those seen in China or were within the relevant context (see Figure 3). Obviously, these “utensils” in Chinese temples carry Chinese traditional decorative art elements, and the common characteristic lies in folk handcraft heritage.



Figure 3. Chinese traditional folk arts and crafts in Thai-Chinese temples.

Respondent ID.12 stated the following:

“It’s exciting to see these folk arts from China in Thailand ... Those carvings and lacquers are similar to style of Chaoshan region in China, and the magnificent Chaoshan golden lacquered wood carvings are unforgettable. This kind of folk art really comes to this foreign country with the Chinese immigrants ... I can’t help but say that these traditional Chinese decorative arts match the temple’s building environment very well.”

In addition to displaying local folk art and crafts, statues in the temples can also specifically and vividly display China’s development and its local culture. This involves interpretation and consensus of local immigrant communities on corresponding doctrines and classic allusions. For example, the statues related to Buddhism and Taoism were illustrated artistically, thereby conveying the philosophy of “persuading people to be good, to purify their bodies and minds, and being content and happy,” which fascinated most tourists, who were willing to accept these notions.

Besides, the Thai folk art symbol is also a distinct memory point, and the integration of these Chinese temple decorations can also leave a deep impression on tourists and inspire them to learn more, thus making the Thai-Chinese temples more culturally diverse from a visual perspective and highlighting evident differences between these temples and temples in China. Respondent ID.36 pointed out the following:

“Interestingly, in Chinese temples that I visited ... I do find some folk-art symbols that belong to Thailand, which makes me feel like a discoverer on the journey ... I even look forward to going to the next Chinese temple and carefully investigate whether there are similar or new discoveries ... ”

Some respondents also revealed that items such as fortune-telling notes, Buddhist amulets, hand strings, woven chains, seen during previous visits inspired them to revisit the Chinese temples. Of course, these handicrafts often possess certain aesthetic value, but, more importantly, they carry religious, cultural, and touristic experiences that belong to individuals. Music also plays a significant role in conveying religious and cultural contexts to visiting tourists.

Respondent ID.11 stated the following:

“The music I heard here reminds me of a visit to a Buddhist temple with friends in Guangzhou many years ago . . . At that time, I encountered a period of change in career, and I was upset. But, I was lucky to be comforted by monks in the temple, which really made me open, calm, and relieved . . . It’s very interesting. Even if similar Buddhist music is played, it will make me feel that this place can make me relax and take off some of the burden and complex thoughts in my heart.”

3.1.2. Landscape Architecture (D_2)

There are four main categories under landscape architecture (D_2), namely, traditional temple roof (C_6), traditional Chinese color schemes (C_7), Chinese-style courtyard landscaping (C_8), and public rest spaces (C_9). During the interviews, the distinctively traditional Chinese architectural style of these Thai-Chinese temples was the feature respondents talked about most. In terms of architectural form and spatial characteristics, the temples and their courtyards were obviously different from other temples in Thailand. This study found that the roof shape of the Chinese temples was eye-catching to tourists (Figure 4). Notably, several tourists did not only take photos to document the local style but also identified and discussed the types of temple roofs. Although the comments and opinions of tourists are not necessarily accurate and in-depth, such exchanges and expressions were considered to be valuable during the tour.



Figure 4. Representative images of Wat Mangkon Kamalawat sampled.

Respondent ID.05 reported the following:

“I guess this building has a hip roof . . . I’m not sure. I’m not an architecture major, but it’s a typical Chinese traditional architectural style. It’s so beautiful and impressive . . . ”

In addition to the building roof, the color of the temple buildings, particularly the color matching the building facade, was reported to attract the attention and interest of tourists. Some tourists could identify information related to corresponding religious culture or folk belief based on the color and size of the Chinese temples. Further, several of the most notable Chinese temples had utilized the natural landscape in terms of site selection, layout, modeling, and building material to form a robust religious atmosphere. These traditional Chinese landscapes display the importance of ecological and environmental protection, doctrines such as “dependent origination,” “Metta bhavana,” and “the oneness of life and its environment”, all of which imply the mutual dependence and harmonious coexistence between human and nature.

Respondent ID.33 states the following:

“I think ... There are also those ancient trees and flowers that attract people’s nostalgia. These environment-friendly garden landscapes not only protect the ecological environment but also purify people’s minds.”

It is also observed that many tourists were interested in extending their stays at the temples or planning to revisit them in the future. This is closely related to the fact that the physicality of these temple provides visitors with a public rest space within a religious atmosphere. These open spaces are clean, simple, and elegant, characteristics that meet many of the requirements of peoples’ daily outdoor leisure activities.

3.1.3. Behavior Activity (D_3)

There are three main categories under behavioral activity (D_3), namely, participating in religious activities (C_{10}), communicating Chinese religious doctrines (C_{11}), and tasting local vegetarian meals (C_{12}). Religious activities can also be enticing for nonreligious tourists. Many respondents said that they visited the temples not out of devotion to corresponding religious beliefs but due to the strong sense of novelty and mystery surrounding these religious spaces (Figure 5). Thai-Chinese temples embody the religious beliefs of Chinese immigrants. These unique religious activities attract tourists’ attention and invoke a feeling of curiosity.



Figure 5. Tourists participate in religious activities.

Respondent ID.17 reported the following:

“The way of worship in these temples is very attractive to me. I’d like to know the similarities and differences between local worshippers and their counterparts in China ... It’s amazing to be able to participate in these religious activities in person. Maybe I am curious about these rituals and the mysterious atmosphere rendered by the place ... ”

These Thai-Chinese temples belong to different religions, with most deriving from Confucianism, Buddhism, and Taoism in China. In China, these three religions “intersect into a common trend,” which together constitute the following characteristics of Chinese religions: paying attention to self-cultivation, benevolence and order, and emphasizing justice rather than profit; denying fatalism, making good connections, and planting the seeds for good results; and valuing nature, limiting desires and fights, and being frugal and helpful to others. In Taiwan, a series of historical events in terms of

war, colonization and restoration led to social changes and the shift toward “Buddhism and Taoism under one roof” in many rural settlements.

Respondent ID.10 pointed out the following:

“I like to come here, because I can learn and understand the thoughts conveyed by Chinese Buddhism ... I think it’s teaching people to be good and believe in cause and effect ... I think it’s a process of purifying people’s mind.”

On the contrary, in this study, people over 50 years old were generally interested in the vegetarian meals provided by temples. “Eating” in Chinese Buddhism is also known as “passing the hall,” which is a unique behavior from Chinese Buddhism. Two “passings of hall” are organized in the morning and afternoon and constitute spiritual exercises in themselves. In addition, Thailand has its own unique catering and cooking culture. During the interviews, many respondents reported that they enjoyed tasting healthy and multicultural vegetarian meals during their visit. Therefore, region-specific cuisine can be enticing to tourists, who often seek an escape from daily life and wish to have novel experiences.

3.2. Attribute Classification and Priority Analysis of the Main Factor Categories

This study applied the Kano Model to analyze and classify attributes based on the findings of the questionnaire distributed to tourists. As a result, the factors that attract tourists to the Thai-Chinese temples are as follows: four main categories are must-be quality; seven main categories belong to attractive quality; and one main category is one-dimensional quality (Table 3). Assisting decision makers in prioritizing these categories is a major functional feature of Kano Model. When ranking the priority of attribute classifications, decision makers can mainly refer to the basic order of must-be quality > one-dimensional quality > attractive quality > indifference quality.

This study found that, to maintain or further enhance the cultural tourism attraction of Thai-Chinese temples, local decision makers should make use of temple spaces to better present traditional Chinese folk art and crafts. In addition, it is necessary to maintain and highlight the buildings’ Chinese color schemes and provide public resting areas for the public. At the same time, decision makers should also pay attention to whether Chinese religious doctrines are communicated effectively and appropriately. It should be emphasized that the above suggestions comprise a necessary foundation of Thai-Chinese temple cultural tourism. If decision makers neglect or mismanage these factors, cultural tourism to these sites will be negatively affected.

In addition, the results of this study reveal that the traditional roof shape of Thai-Chinese temples belongs to one-dimensional quality. This means that for tourists, a temple roof constructed in the traditional style will significantly improve the attraction of cultural tourism. If not, the attraction will significantly weaken or even disappear, forming a simple linear regression. Further, seven main categories of different dimensions belong to attraction quality. Although the lack of these contents will not affect the existence of cultural tourism attraction, attraction quality is related to how to achieve “better” and “icing on the cake.” The results show that Chinese temples in Thailand, the traditional Chinese courtyards, public spaces, as well as religious activities can further enhance the attraction of tourists to these temples.

Table 3. The Attribute Classification of Kano Evaluation Items (unit: %).

Comprehensive Evaluation Projects		Attrac-Tive (A)	One-Dimen-Sional (O)	Must-Be (M)	Indiffe-Rent (I)	Rever-se (R)	Contra-Diction (Q)	Kano Classi-Fication
Folk Art (D₁)	Presentation of Chinese traditional folk art and crafts (C ₁)	28.8	10.8	38.3	21.4	0.7	0.0	M
	Traditional cultural meaning of deity statues (C ₂)	44.7	16.6	9.2	24.1	4.7	0.7	A
	Integration of local folk art (C ₃)	39.7	23.4	19.0	14.9	2.0	1.0	A
	Religious and cultural handicrafts (C ₄)	34.2	14.2	15.9	26.1	7.8	1.7	A
	Construction of temple sound scene atmosphere (C ₅)	60.7	10.8	8.8	18.6	1.0	0.0	A
Landscape Architecture (D₂)	Traditional temple roof (C ₆)	10.8	46.1	39.7	2.4	1.0	0.0	O
	Traditional Chinese color schemes (C ₇)	18.6	7.8	38.6	31.2	2.4	1.4	M
	Chinese-style courtyard landscaping (C ₈)	32.9	15.6	18.6	28.5	4.4	0.0	A
	Public rest spaces (C ₉)	7.1	28.1	51.2	11.2	1.0	1.4	M
Behavior Activity(D₃)	Participating in religious activities (C ₁₀)	48.5	21.4	19.0	7.5	3.7	0.0	A
	Communicating Chinese religious doctrines (C ₁₁)	15.9	9.5	38.3	31.9	2.7	1.7	M
	Tasting local vegetarian meals (C ₁₂)	32.9	18.0	24.1	20.0	4.1	1.0	A

Note: Contradiction (Q) should be less than 2% to have high validity.

3.3. Analysis of Dominant Influential Relation among Main Factor Categories

Tzeng and Shen (Tzeng and Shen 2017) posit that when developing improvement strategies for a particular project, the complex relationships among factor categories must be clarified. Therefore, this study distributed questionnaires to experts and used DEMATEL technology to clarify the dominant influence relationships among the 12 main factor categories. Then, the INRM was plotted according to the results of DEMATEL analysis (shown in Figure 6). The dominant influence of each dimension is as follows: $D_2 > D_1 > D_3$. This means that when formulating strategies to enhance the cultural tourism attraction of Chinese temples, decision makers should seriously consider the evaluation of the temple’s landscape architecture quality. Chinese temples value the integration between different forms of traditional Chinese folk art (D_1), including sculpture and painting as well as religious music and local folk art symbols. These can have an impact on tourists’ behavioral activities in the temples (D_3).

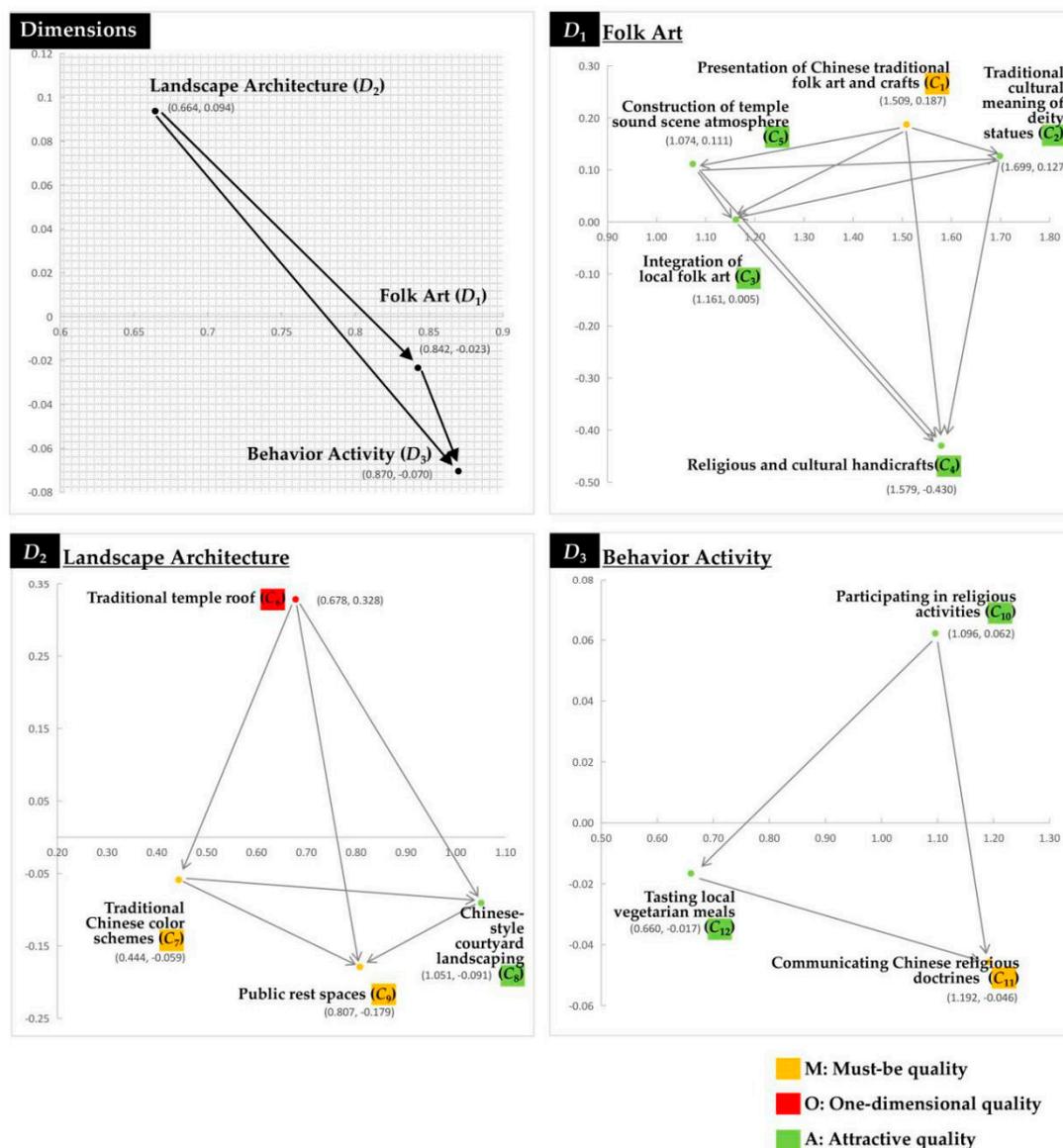


Figure 6. The influence network relation map.

In D_2 , the main category with the largest dominant influence is C_6 , and the next are C_7 and C_8 . The main category C_9 has the smallest influence in D_2 . In D_1 , the dominant influence ranks as follows: $C_1 > C_5 > C_2 > C_3 > C_4$. In D_3 , the main category C_{10} can dominate and influence C_{11} and C_{12} . And the C_{11} has the smallest influence.

Notably, the meaning of the dominant influence relationships among attraction factor categories obtained by DEMATEL method is quite different from the meaning of the relative importance, which is generated using methods such as AHP (Lu et al. 2015; Wang et al. 2016; Willis 2009), SEM (Lu et al. 2015), and stated preference choice method (Willis 2009). The relative importance of factors is calculated based on the assumption that the factors are independent, which may not fit the current real-world situation. Conversely, by applying the DEMATEL method, the dominant influence relationships among attraction factor categories in the INRM is obtained based on the assumption that “there are often interrelations among the factors.” Additionally, it can better contribute to sustainable promotion strategies under the consideration of rational resources allocation. For example, when C_9 is the worst performing category, it can be found that its source-influential factor categories are C_6 , C_7 and C_8 (shown in INRM). This means that if investing in its source-influential factor categories (C_6 , C_7 , C_8), then C_9 would be affected and improved accordingly. The new improvement strategies may therefore be more cost-effective.

The new model which combines the Kano Model and DEMATEL technique, compared to applying these two methods separately, has new integration advantages. By using the DEMATEL technique, the influential relationships among multiple factor categories can be obtained. When decision makers develop improvement strategies for the factor categories exhibiting the worst performance, the INRM can provide a valuable warning that they should not ignore the source factor categories which have influential impact on the worst ones. But the degree of attention allocated to the worst performing factors and the source factors cannot be obtained in INRM. The advantage of the Kano Model is that the quality characteristics of each factor category can be obtained, while it cannot take the influential relationships among factor categories into consideration. Clearly, the two methods can complement each other. For example, if C_8 is a worst-performance category, C_6 and C_7 , which are the C_8 's source-influential factor categories, should be considered. In addition, C_7 belongs to the must-be attribute, C_6 to the one-dimensional attribute, and C_8 to the attractive qualities. In the improvement strategies, decision makers should consider the collocation relation of these three factor categories at the same time, then give first priority to C_7 , then to C_6 and the third to C_8 . That is, if the Chinese-style landscape of a temple courtyard is less attractive to visitors, the primary check should be whether the form of the temple architecture is attractive, especially on distinct and intact Chinese traditions in roof shapes; the second priority is whether the overall building facade color is properly controlled; then, it is necessary to ensure that the courtyard is in harmony with the first two. From the INRM, improving the attraction of these three categories may inadvertently improve the public rest space.

This study suggests that if Chinese temples in Thailand are to continue to enhance their own cultural tourism attraction, the priority is to ensure good construction of the physical environment. Therefore, the temple landscape architecture can be enhanced in terms of the facade color scheme, roof shape, and public rest space. Then, decision makers should try to strengthen the application and inheritance of traditional folk crafts, religious statues and music originating from China in these temples. Meanwhile, pay attention to the diversity of culture and art and ensure that folk art symbols are represented. Finally, the temple should offer opportunities for visitors to participate in religious activities such as preaching and worship ceremonies and tasting traditional food. To sum up, the must-be, one-dimensional, and attractive qualities with strong dominant influence obtained from the application of the Kano Model and DEMATEL should be the focus for decision makers in formulating relevant strategies. This is related to whether the so-called “improvement strategies” can really “continuously” enhance the cultural tourism attraction of Chinese temples in Thailand.

4. Conclusions

In this research, the general induction method is applied to identify the attraction factor categories of Thai-Chinese temples as cultural tourism attractions; the Kano Model is applied to understand the different attribute classifications to which the 12 main factor categories belong based on user preference, and the DEMATEL technique is applied to find the influential relationships among the

12 factor categories from the perspective of expert judgment. Combining the priorities on attributive classifications and the priorities on interaction relationships, the sustainable improvement strategies of Thai-Chinese temples are established. In conclusion, this paper expands on previous research on Chinese temples, and offers insights into the theoretical investigation of Thai-Chinese temples as tourism attractions. In addition, the findings show that the Kano Model and the DEMATEL technique can complement each other to help decision makers identify gradual improvement priorities in different phases/years when resources are insufficient. Thus, in the context of cultural tourism in practice, this paper also provides decision makers an integrated and practical way to establish priorities of multiple attraction factor categories in order to make sustainable improvement strategies of Thai-Chinese temples under the demand of rational allocation of resources.

The limitations of this study should also be acknowledged, as they may provide guidance for future research. This cross-sectional study used a convenience sample of tourists in the Chinese Temples in the Thailand. A great deal of preference studies referenced in this study are case-specific, while some findings are transferable. Therefore, the evaluation framework and the improvement strategies proposed in this study should not be applied out of context, or to Chinese temples in other countries or regions. However, the process and evaluation framework of this study can be used as a reference for investigating improvement priorities of Chinese temples in some different areas.

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Appendix A. Kano Model Questionnaire

The application of the Kano Model in this study is meant to clarify the level of tourists' needs and to clarify the classification and priority of attributes of the main factor categories. Each quality attribute in the Kano questionnaire comprises two questions, reverse conditions and positive conditions, to test the response of the respondent in the presence or absence of a certain quality attribute. The questionnaire generally offers five types of responses, namely "likes", "of course", "no matter", "be able to bear", "dislikes" (Table A1).

Table A1. Kano Model questionnaire.

	Likes	of Course	No Matter	Be Able to Bear	Dislikes
Presentation of Chinese traditional folk art and crafts (C ₁) (Reverse conditions)					
Presentation of Chinese traditional folk art and crafts (C ₁) (Positive conditions)					
Traditional cultural meaning of deity statues (C ₂) (Reverse conditions)					
Traditional cultural meaning of deity statues (C ₂) (Positive conditions)					

Table A1. Cont.

	Likes	of Course	No Matter	Be Able to Bear	Dislikes
Integration of local folk art (C ₃) (Reverse conditions)					
Integration of local folk art (C ₃) (Positive conditions)					
Religious and cultural handicrafts (C ₄) (Reverse conditions)					
Religious and cultural handicrafts (C ₄) (Positive conditions)					
Construction of temple sound scene atmosphere (C ₅) (Reverse conditions)					
Construction of temple sound scene atmosphere (C ₅) (Positive conditions)					
Traditional temple roof (C ₆) (Reverse conditions)					
Traditional temple roof (C ₆) (Positive conditions)					
Traditional Chinese color schemes (C ₇) (Reverse conditions)					
Traditional Chinese color schemes (C ₇) (Positive conditions)					
Chinese-style courtyard landscaping (C ₈) (Reverse conditions)					
Chinese-style courtyard landscaping (C ₈) (Positive conditions)					
Public rest spaces (C ₉) (Reverse conditions)					
Public rest spaces (C ₉) (Positive conditions)					
Participating in religious activities (C ₁₀) (Reverse conditions)					
Participating in religious activities (C ₁₀) (Positive conditions)					
Communicating Chinese religious doctrines (C ₁₁) (Reverse conditions)					
Communicating Chinese religious doctrines (C ₁₁) (Positive conditions)					
Tasting local vegetarian meals (C ₁₂) (Reverse conditions)					
Tasting local vegetarian meals (C ₁₂) (Positive conditions)					

Appendix B. DEMATEL Questionnaire

The purpose of this survey was to identify the interrelationships among main factor categories of Thai-Chinese temples as cultural tourist attractions in order to improve them.

Please complete the surveys in two parts (B1 and B2) as follows:

- B1: Comparison of the influence of the 12 categories

Complete lack of influence (0); low influence (1); medium influence (2); high influence (3); and extremely high influence (4). Example: The influence of B on A is high; thus, a 3 is entered as below.

	A	B	C	D	E
A					
B	3				

Table A2. DEMATEL questionnaire.

	C ₁	C ₂	C ₃	C ₄	C ₅	C ₆	C ₇	C ₈	C ₉	C ₁₀	C ₁₁	C ₁₂
Presentation of Chinese traditional folk art and crafts (C ₁)												
Traditional cultural meaning of deity statues (C ₂)												
Integration of local folk art (C ₃)												
Religious and cultural handicrafts (C ₄)												
Construction of temple sound scene atmosphere (C ₅)												
Traditional temple roof (C ₆)												
Traditional Chinese color schemes (C ₇)												
Chinese-style courtyard landscaping (C ₈)												
Public rest spaces (C ₉)												
Participating in religious activities (C ₁₀)												
Communicating Chinese religious doctrines (C ₁₁)												
Tasting local vegetarian meals (C ₁₂)												

- B2. Basic personal data

1. Gender: Male Female
2. Education Level: College University Master Ph.D.
3. Service Unit: _____
4. Service Dept.: _____
5. Job Title: _____
6. Age: ≤21 years old; 21–35 years old; 36–40 years old; 41–50 years old; >50 years old.

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