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Influential factors on tourism potential of Buddhist temples: Case study of Buddhist temples in cultural conservation zone of Bangkok Metropolitan Administration (Rattanakosin and Thonburi)

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Abstract

The purpose of this study was to identify the factors influencing the tourism potential of temples. The whole temple population located in the cultural conservation zone of Rattanakosin Island and the Thonburi area was studied by classifying these temples into two groups—tourist and non-tourist temples—according to the Tourism Authority of Thailand. By using a multiple logistic regression method, the facility factor, X_7 and the surrounding community factor, X_8 were positively associated with the tourism potential of a temple. A logit equation was developed: logit $[\pi(X)] = -11.221 + 0.015X_7 + 0.016X_8$. This model explained 43.2 percent of the variance that can be predicted from the two predictors. It was found that the model had a correct prediction rate of 91 percent.

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Introduction

Thailand is an agricultural country, but the major revenue comes from tourism. In 2016, the revenue from tourism was 2.51 trillion baht and was 10.93 percent higher than the total tourism revenue in 2015. It is expected that the revenue can increase by 8 percent in 2017 (Ministry of Tourism and Sports, Office of the Permanent Secretary, 2016). Although Thailand has many tourist attractions, religious places/temples as cultural and historical attractions are the most admired. Royal palaces, museums, and historical parks are secondary, alternative choices (Tourism Authority of Thailand, 2013). In spite of the many interesting temples, tourists always travel to the same places. One of the top popular temples is the temple of the Emerald Buddha. Moreover, a lot of temples have historic and archaeological value but they are not well-known by Thai and foreign tourists. These beautiful Buddhist temples could be developed into tourist locations. As a result, temple renovation at tourist locations not only increases temple income and that of the nation, but also furthers tourist understanding of Buddhism.

Presently, the only document used to evaluate historical tourist attractions is the Manual of Potential Assessment of Historic Sites issued by the Department of Tourism. However, this manual may not be relevant in this case because historical sites have many categories such as historical park, historical and cultural museum, religious place, and architectural building. The aim of potential assessment of temples is to consider whether the local temples are able to be

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developed into a tourist attraction and what the major factors to achieve this are.

Thus, the researcher was interested in determining the influencing factors on the tourism potential of temples. Knowledge of these influencing factors can improve temple management to be tourist attractions. In the present study, the influencing factors were evaluated against the tourism potential of temples in the cultural conservation zone of Bangkok Metropolitan Administration, Rattanokosin and Thonburi.

Scope of Study Area

The scope of the area was limited to the temples on Rattanakosin Island and in the Thonburi area (the cultural conservation zone) according to the map of the Geographical Division, the Strategy and Evaluation Department, Bangkok Metropolitan in 2005.

Definition of Terms

1. **Tourism potential** refers to the ability of a site to attract tourists.
2. **Royal temple** means the temple which is established or patronized by the King, the Queen or the Crown prince. It is divided into three classes: (1) First class royal temple means a temple where royal relics are kept or the temple is greatly honored; (2) Second class royal temple means the temple has an important chedi or the temple is honored; and (3) Third class royal temple means the city's temple or an inferior temple (Phra Dhamma-kittiwongse, 2008).
3. **Public temple** means a temple which is established by commoners. It is endorsed by the state and granted Wisungkhamasima by the King including Samnak Song (a temple without state endorsement and Wisungkhamasima) (Phra Dhammakittiwongse, 2008).
4. **Dhammayutnikai** or Law-abiding is a smaller denomination of the Thai monkhood with Dhammayutnikai's monks maintaining stricter discipline than Mahanikai's monks (Phra Brahmagunabhorn, 2005)
5. **Mahanikai** is a greater sub-order of the Thai monkhood. The core teachings are essentially the same as Dhammayutnikai (Phra Brahmagunabhorn, 2005)

Literature Review

This study presents a review of literature of the concept of tourism and the elements of tourism at historical sites.

Concept of Tourism

Tourism is defined as the sum of the phenomena and relationships arising from the interaction of tourists, business suppliers, host governments, and host communities in the process of attracting and hosting these tourists and other visitors (Mcintosh & Goedner, 1995). Since 2011, the government of Thailand has determined an urgent policy for tourism. Publicity to invite foreign tourists has been undertaken. Tourism locations have been improved and tourists' safety and security have been guaranteed. Moreover, conservative tourism and cultural tourism are promoted (Ministry of Tourism and Sports, 2001). Currently, the concept of tourism requires sustainability (Lochaiyakul, 2011). This concept consists of tourism and good service management. This means that adequate management must be consistent with the potential of local resources, communities, traditions, cultures, and community lifestyles (Jittangwatana, 2005). To achieve good service management, the budget is vital. With regard to this point, the source of budget or income for temples comes from people making merit annually (Kathin). An entrance fee is another way to earn money. These earnings could be used to make restored temples more appealing. Therefore, increased temple income requires a positive trend in tourist temple attraction. In contrast, the charging an entrance fee might affect a tourist temple negatively. This study proposes the following hypotheses:

H1. As temple income increases, the tourist potential of the temple becomes more positive.

H2. Charging an entrance fee decreases the tourist potential of temples.

Elements of Tourism at Historical Sites

The manual of potential assessment of historical sites reveals that tourists choose to visit any tourist location that is attractive and appealing to a level that satisfies them. For historical attractions, the potential for attractiveness consists of historical value, uniqueness, and the aesthetics of the tourist attractions. In addition, tourist locations must be easy to access and safe. The objective of historical tourism is to provide tourists with knowledge of history, archeology, wisdom, and culture. The Department of Tourism has defined the elements for standardized historical sites as follows (Division of Tourism Services Development, 2014):

(1) Potential for attracting tourism: means that tourist locations have points of interest and historical value such as uniqueness, architectural and fine arts, reputability, and historical acceptance. Also physical potential and the variety of tourism activities (such as releasing animals from captivity and fortune telling) are important to fascinate the tourists. Physical potential consists of easy access via convenient transportation. Therefore, the following hypotheses have been proposed:

H3. Fame of a temple is positively related to tourist temple attraction.

H4. As the score of artwork style increases, the tourist potential of a temple becomes more positive.

H5. If a temple is easy to access, it will be classified as a tourist temple attraction.

H6. A temple that provides more activities for tourist participation would be classified as a tourist temple.

(2) Potential for supporting tourism: is defined as factors that enhance historical sites to be important and appropriate for tourism management. Some historical sites may have high tourism attractiveness, but there are limitations to

basic facilities like toilets and car parking. Some of them may have a limitation from external factors such as environmental conditions surrounding the tourist attractions. Communities around tourist attractions are one of the environmental conditions that can affect the area. The cleanness, tidiness, safety, and ancient buildings of these communities are considered. Therefore, if the facility factor score of a temple increases, the tourist potential is improved. Also, communities surrounding temples may influence tourist potential. Thus:

H7. There is a significant association between a tourist temple and the facility factor.

H8. The higher the surrounding communities score is, the greater the tourist potential of the temple.

(3) Potential for tourism management: means the ability to sustainably manage tourist attractions such as the conservation of tourist locations and providing knowledge of the historical value. Local participation will lead to such a development and the locals can help to avoid any harmful activities or inform tourists of interesting information. Consequently, temples and local people need to rely on each other. Thus:

H9. There is a significant association between a tourist temple and local participation.

The researcher also extended the study factors on extra services, impression of other tourists, and public relations. We expected extra services such as Thai massage and demonstrations of Thai fighting would probably attract tourist interest. Also, public relations arranged by temples or other tourists could increase a temple's popularity. Our hypotheses are thus:

H10. There is a significant association between a tourist temple and the launching of extra services.
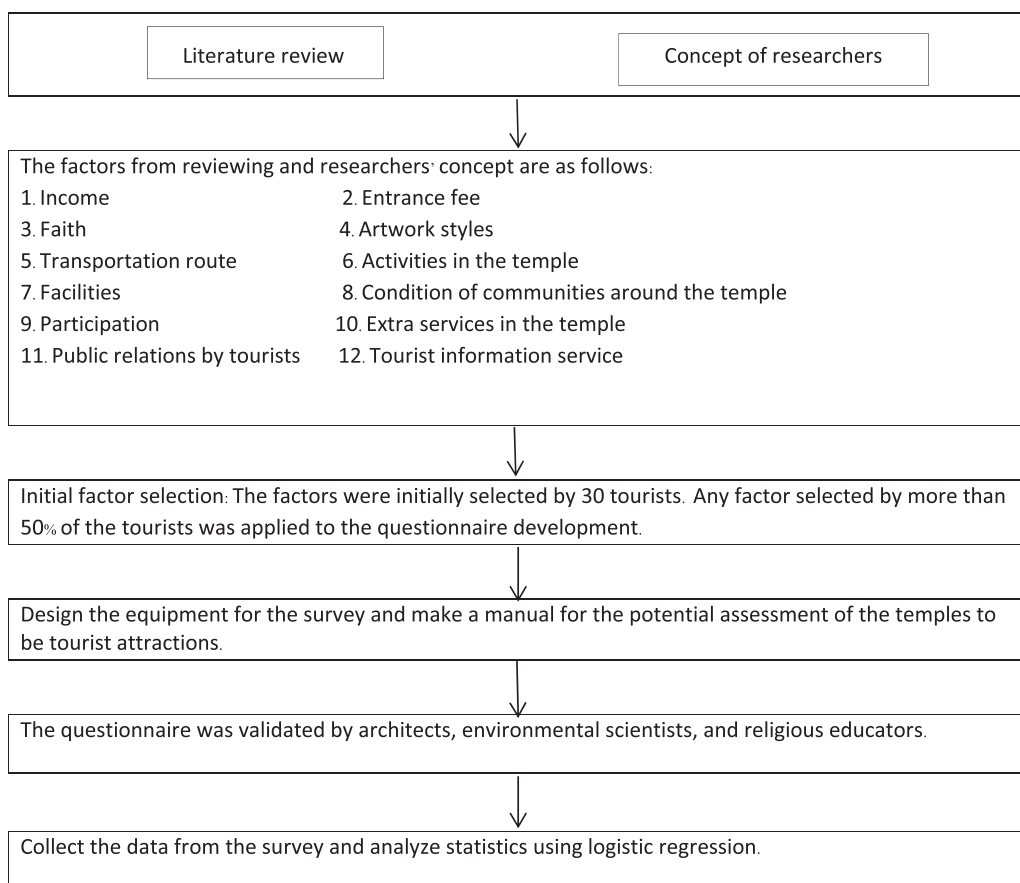
H11. If tourists are impressed and tell others about interesting temples, this will have a positive effect on tourist temples.

H12. There is a noteworthy effect between tourist temples and the providing tourist information services (public relations).

Methods

Study Framework

The study framework for this research was as follows.

Study Population and Sampling

The study population consisted of two groups—tourists and temples.

Tourist Population

This research used the accidental sampling method due to the infinite population of tourists who were travelling to temples. The criteria used for sample selection were: all tourists were at least 20 years old; they were willing to answer the questions; and they had visited a temple. The sample size was 30 which was sufficient for initial selection according to the Central Limit Theorem (Wannacott & Wannacott, 1990). Since there were two incomplete questionnaires, the number of tourists selected in the sample was 28.

Temple Population

The whole temple population located in the cultural conservation zone of Rattanakosin Island and Thonbubi area was studied. The population size is 123. However, the Emerald Buddha temple was excluded. Thus, the number of study temples was 122 which comprised 21 temples on Rattanakosin Island and 101 temples in the Thonburi area.

According to the Public Relations for Tourist Temples of the Tourism Authority of Thailand and the Pilgrimage Promotion Program in 2014 by the Religious Affairs Department, these temples are composed of 13 tourist temples (popular temples) and 109 non-tourist temples (unpopular temples) (Religious Affairs Department, 2014). Hence, the dependent variable was the type of a temple (tourist temple or non-tourist temple) based on a binary qualitative variable, where $Y = 1$ means a tourist temple and $Y = 0$ means a non-tourist temple.

The study temples located in the Thonburi area consist of 25 temples in Thonburi district, 13 temples in Bangkok Yai district, 32 temples in Bangkok Noi district, 8 temples in Khlongsan district, and 23 temples in Bang Phlat district. All 122 administrative monks were purposively selected to interview.

Twenty eight tourists and 122 administrative monks signed informed consent forms before their participation in the study. This study procedure was approved by the Central Institutional Review Board, Mahidol University.

Questionnaire and Survey Design

The literature review based on the manual of potential assessment of the historical sites and the researcher's ideas led to suggesting 12 factors that possibly impacted on the restoration of temples to tourist attractions as shown in Table 1. In order to reduce the factors preliminarily, accidentally selected tourists were interviewed from those 12 factors which would have been of interest to them in visiting temples. For this reason, the selected factors must have been chosen by over 50 percent of the tourists. After the preliminary selection, the selected factors were used to construct the questionnaire. Content validity was verified using the IOC index. Items with an IOC index higher than .5 were accepted. Cronbach's alpha value was used to verify the reliability of items using an interval scale, with acceptable reliability indicated by a Cronbach's alpha value higher than .7. Hence, the results indicated that the questionnaire achieved an IOC value of .832 and each item had a Cronbach's alpha value greater than .7.

The content of the questionnaire was divided into six sections: (1) General characteristics: these questions consisted of research variables including status, location, and denomination; (2) Financial issues: there were two variables—income and entrance fee; (3) Aesthetic appreciation issues: they covered study factors including fame of temples, artwork style, and activities relating to making merit; (4) Physical factor issues: there were three factors—transportation routes, facility, and surrounding community around a temple; (5) Participation issue: this considered local participation; and (6) Public relations and extra service issues: there were three factors—tourist information service of temples, impression of other tourists, and extra services.

Statistical Analysis

Frequencies and percentages were used to describe the characteristics of temples, their status, location, and

Table 1
Descriptions of possible factors in the study

Influencing factor (X_i)	Description	Measurement scale	Unit
1. Income	Money that a temple gains from Kathin ceremony.	Ratio	Baht per year
2. Entrance fee	Fee to enter tourist attractions.	Nominal	Yes = 1, No = 0
3. Faith	Fame of a temple such as temple's history, well-known abbots.	Nominal	Yes = 1, No = 0
4. Artwork style	Architecture and mural paintings which are outstanding and complete.	Interval	Score
5. Transportation routes	Routes that are easy to follow and are linked to other routes.	Interval	Score
6. Activity	Activities for tourists to participate in i.e. setting animal free, fortune telling.	Nominal	Yes = 1, No = 0
7. Facility	Things that help tourists such as toilets, car parking, bins, public signs, shelters.	Interval	Score
8. Surrounding community	Refers to the communities that surround a temple considering cleanness, tidiness, safety, and ancient buildings.	Interval	Score
9. Local's participation	Local's participation in developing a temple in the community.	Nominal	Yes = 1, No = 0
10. Extra services	Services for other purposes, apart from religious tourism such as Thai traditional massage.	Nominal	Yes = 1, No = 0
11. Impression of other tourists	Impression provided by other tourists.	Ratio	Persons
12. Tourist information services	Providing tourist information about interesting temples.	Nominal	Yes = 1, No = 0

denomination. According to Hosmer and Lemeshow (1989), two steps of analysis were applied that were suitable for the small sample size of the research. To prevent the deletion of important variables, the significance level of exploratory analysis was defined as $p \leq .25$. Univariate analysis was studied to explore the study factors. Any possible variable that had at least a modest ($p \leq .25$) relation with a response variable was included in later multivariate analysis. Then, a multiple logistic stepwise regression model (Likelihood Ratio) was developed. Odds ratios were used to evaluate affecting factors associated with the response variable.

The reliability of the model was compared using the observed value and predicted value. The goodness-of-fit test was verified where the significance level was at $p \geq .05$. The parameters were tested using a χ^2 test where statistical significance was defined as $p \leq .05$.

Results and Discussion

Status, Location and Denomination

In total, 122 temples were studied. Among these temples, eight temples (6.56%) were first class royal temples, 12 temples (9.83%) were second class royal temples, 32 temples (26.23%) were third class royal temples, with 70 temples (57.38%) being public temples. There were only 12 temples (9.84%) located on the Chao Phraya riversides whereas 110 temples (90.16%) were located far away from rivers. Considering denominations, Mahanikai represented 90.16 percent with 9.84 percent being Dhammayutnikai.

Of the 12 factors, eight were chosen that had greater than 50 percent, namely facility (X_7), faith (X_3), transportation routes (X_5), income (X_1), surrounding community (X_8), tourist information services (X_{12}), activity (X_6), and artwork style (X_4), as shown in Figure 1.

Univariate Analysis

Eight factors were individually analyzed using binary logistic regression as exploratory analysis. It was found that every factor had a modest ($p \leq .25$) relation to the response variable, as shown in Table 2.

Table 2
Univariate analysis results of possible factors

| Factor	Pearson χ^2 test	Wald test	p
Facility		13.162	<.001
Faith	10.809		.001
Transportation routes		2.327	.127
Income		10.667	.001
Surrounding community		12.893	<.001
Tourist information services	15.256		<.001
Activity	6.582		.01
Artwork style		8.411	.004

Table 3
Regression coefficients, Wald test, p-value, and odds ratios with 95% confidence interval (CI) for factors associated with popular temples

Factor	$ß_i$	Wald	p	Odds ratio (95% CI)
Facility	0.015	6.184	.013	1.015 (1.003, 1.027)
Surrounding community	0.016	4.946	.026	1.016 (1.002, 1.030)
Constant	−11.221	14.828	.000	
$R^2 = 0.432$				

Multivariate Analysis

The logit model was developed for determining sensible factors to improve temples to be tourist attractions. Of the factors examined in the multivariate analysis, facility factor (X_7) and surrounding community factor (X_8) were significantly associated ($p \leq .05$) with tourist temples, as presented in Table 3. Therefore, H7 and H8 were supported in this study. The association of both factors had a direct positive effect on tourist temples. Thus, a temple with a higher score for facility factor and the surrounding community factor was likely to be a tourist temple. The goodness of fit was acceptable ($p = .798$). Also, the assumptions of the logit model were not violated.

The estimated odds ratio for a popular temple using the facility factor equaled exp(0.015) = 1.015 (95% CI: 1.003, 1.027). For the surrounding community factor, the estimated odds ratio for developing temples to be tourist attractions was exp(0.016) = 1.016 (95% CI: 1.002, 1.030). The odds ratios of the surrounding factor and the facility factor were not that different.
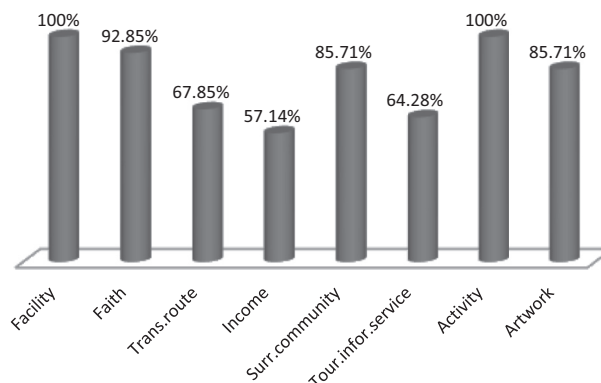
Figure 1 Factors having a score higher than 50%

To illustrate, a temple having a facility factor score of 200 would have an odds ratio of 4.48 times (odds ratio: $\exp(100 \times 0.015)$) for a tourist temple when compared with a temple having a facility factor score of 100.

The model (Eq. (1)) was developed where $\pi(X)$ denotes the success probability of a temple being a tourist attraction.

$$\text{logit}\,[\pi(X)] = 11.221 + 0.015X_7 + 0.016X_8 \qquad (1)$$

The predicted probability, $\widehat{\pi}(x)$ of a temple being popular for a fixed score of X_7 and X_8 is shown in Eq. (2).

$$\widehat{\pi}(x) = \frac{\exp(-11.221 + 0.015X_7 + 0.016X_8)}{1 + \exp(-11.221 + 0.015X_7 + 0.016X_8)} \qquad (2)$$

The model reliability was verified by comparing the observed and predicted data of 122 cases. The cut value of probabilities was defined at .5. From the observed 109 non-tourist temples, 107 temples were correctly predicted, whereas, for the observed data for tourist temples of 13, the model could predict 4 temples as tourist temples. Therefore, the model predicted 91 percent correctly.

Conclusion and Recommendation

The 122 studied temples located on Rattanakosin Island and in the Thonburi area were divided into popular and unpopular groups. Most were public temples and not located near riversides. All temple populations provided data for developing the model. The results from this study showed that the facility factor was positively associated with the temple development to be a tourist attraction. This factor consists of items such as toilets, car parks, bins, public signs, and shelters, as these could increase convenience for tourists. Clearly, many facilities in popular temples are cleaner and there is a greater range. Car parks are available inside and outside popular and unpopular temples, with many having shade for the cars. However, they differed in cleanliness and maintenance. The surrounding community factor was also positively related to a tourist temple. This implied that communities around temples are an important factor from the viewpoint of tourists and the communities should be safe and tidy. In fact, many communities around temples in Thonburi are old and look like slums and are dirty and untidy. There is lack of support and help from local people and public sector organizations; furthermore such areas may not be safe for tourists and the temple image is bad. In contrast, ancient architectural buildings around temples which have been preserved and maintained would improve a temple's image (Office of National Resources and Environmental Policy and Planning, 2012). In summary, in order to effectively influence the development of temples, it is important that temples should improve their facilities and take care of the surrounding area so it is clean and tidy.

Conflict of Interest

There is no conflict of interest.

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