

Tourist Satisfaction of the Jin Lian Shing Brick Carving Factory Cultural Tours in 2010

Hui-chuan Huang

No. 168, Hsueh-fu Rd., Tanwen Village, Chaochiao Township, Miaoli County, 361 Taiwan (R.O.C)
cy5321@yahoo.com.tw

Abstract. The industry structure in Taiwan has been changing dramatically along with the rapid economic growth. As a result, conventional industries are no longer key players, and in order to retain their competitiveness and create opportunities for business sustainability, businesses in these industries need to reform and innovate. In order to assist businesses, particularly conventional industries, the Taiwanese government has proposed a series of targeted development plans and introduced the concept of industrial tourism. As the concept of travel, including the way in which people travel, has changed over the past few years, businesses now offer tour options that are more diverse, in-depth and even thought provoking. These new tour options are rapidly becoming very popular in Taiwan. Given the issues faced by conventional industries, this paper aims to analyze and discuss tourist satisfaction concerning the 2010 Jin Lian Shing Brick Carving Factory Cultural Tours. The paper will discuss two specific aspects in this empirical case study namely, the population structure of the tourists, and the satisfaction of these tourists.

Keywords: tourism factory, recreational behavior, recreational satisfaction

1. Introduction

The industry structure in Taiwan has been changing dramatically along with the rapid economic growth. Conventional industries have played an important role in economic development until recent years, when the economic environment experienced dramatic changes. As a result, conventional industries are no longer key players, and in order to retain their competitiveness and create opportunities for business sustainability, businesses in these industries need to reform and innovate.

In order to assist businesses, particularly conventional industries, the Taiwanese government has proposed a series of targeted development plans and introduced the concept of industrial tourism. According to the Industrial Development Bureau, of the Ministry of Economic Affairs, tourism factories in Taiwan are capable of collectively producing an industry value of several billion NT dollars each year. As the concept of travel, including the way in which people travel, has changed over the past few years, businesses now offer tour options that are more diverse, in-depth and even thought provoking. These new tour options are rapidly becoming very popular in Taiwan.

As industrial tourism is an emerging tourism concept and a feasible choice for many tourists, it is worthwhile to conduct studies which discuss and clarify how the different nature of this tourism sub-industry may affect people's recreational characteristics and preferences. Furthermore, having insightful knowledge of the needs of tourists is key for the planning and management of tourism related events, and their success. Consequently, this study will discuss various aspects of tourist satisfaction using the following empirical case study: Tourist Satisfaction of the Jin Lian Shing Brick Carving Factory Cultural Tours in 2010. Our conclusions and recommendations will serve as a practical reference for future planning within the tourism industry.

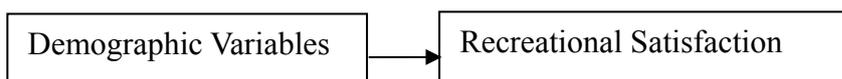
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2. Research Methodology and Process

Research methodology: For this study we adopted a questionnaire as our data collection tool. We drafted and compiled the questionnaire based on past questionnaires devised by Tsung-Jen Yu (2002), Hsiu-Shu Chen (2004), and May-Ping Lin (2003), and adapted it further to suit the objectives of this research study. We conducted the questionnaire on the targeted tourists to understand their recreational satisfaction.

Research subjects : We randomly sampled visitors to the factory in 2010 for this questionnaire. Once we obtained the completed questionnaires we compiled the results and carried out a comparison of this dataset with data from relevant past research studies.

Research framework: Through reviewing past research literature we know that tourists display various different characteristics, and they show a range of different attitudes, preferences, and motivations depending on their cultures. In addition, demographic variables also influence the level of travel motivation and preferences; this leads to recreational activities, which results in various individual recreational behaviors and consequently affects recreational satisfaction. We constructed a research framework based on this notion; the framework is illustrated in Figure 3-3-2:



The compilation of the research tool. The compilation of the research tool: We drafted and compiled the structured questionnaire based on past questionnaires devised by Tsung-Jen Yu (2002), Hsiu-Shu Chen (2004), and May-Ping Lin (2003), and adapted it further to suit the objectives of this research study. The questionnaire was titled ‘Recreational Satisfaction of Tourists Participating in the Jin Lian Shing Brick Carving Factory Cultural Tours in 2010, and it contains two main sub sections: 1. Recreational satisfaction – this section collects information on the experience regarding services and the satisfaction with the event experience; 2. Demographics of the subjects who completed the questionnaire.

Validation of the research tool

1) We distributed the initial questionnaire draft to 30 sample subjects in order to test the reliability and validity of the questionnaire. We then made further amendments to the questionnaire to complete the official research questionnaire.

2) Item analysis and reliability analysis: we used correlation coefficients as standards for measuring the homogeneity of the question items. We also used Cronbach’s α (coefficient alphi) to ensure consistency of the questionnaire content. The correlation coefficient of every question item is larger than .3; the critical ratio (CR) of every question item showed a significance level of 5% (0.05). The official questionnaire consists of four question dimensions with a total of 18 questions. The first dimension (service satisfaction) contains 4 questions, the second dimension (satisfaction with venue and marketing) contains 5 questions, the third dimension (satisfaction with facilities) contains 4 questions, and the fourth dimension (event participation satisfaction) contains 4 questions.

Table1 Summary of analysis results on participation satisfaction questions

Dimension	Question	Discriminative Value	Correlation coefficient	Cronbach’s α if item deleted
Service satisfaction	06. Staff attitude	.883	.651	.947
	07. The staff listened to me and answered my questions attentively	.910	.771	.945

	08. The staff were able to provide detailed information	.750	.635	.947
	09. The staff solved my problem efficiently	.858	.784	.945
Satisfaction with venue and marketing	01. Leisure entertainment of the event program	.821	.828	.944
	02. Advertisement copy or advertisements	.717	.727	.946
	03. Arrangement of the exhibition or performance venues	.909	.768	.945
	04. Activities and performance programs	.896	.783	.945
	05. Venue suitability	.879	.786	.945
Satisfaction with facilities	11. Arrangement of car parking area	.713	.748	.945
	12. Comprehensiveness of signposts	.753	.608	.948
	13. Convenience of participating in brick carving activities	.572	.642	.947
	14. Venue environment cleanness and hygiene	.888	.662	.947
	15. Public toilet cleanness and hygiene	.803	.548	.949
Event participation satisfaction	10. Traffic control	.702	.619	.948
	16. Activities and facilities for families	.876	.701	.946
	17. Chance of participating in programs and activities	.944	.672	.947
	18. Overall rating of this tourism factory	.846	.683	.947

* p<.05

We also used Cronbach's α (coefficient alphi) to ensure the consistency of questionnaire content. The reliability of each sub-questionnaire with the deleted question items is shown in Table 2. The results demonstrate that the sub-questionnaires all display a good level of reliability so the overall questionnaire is reliable.

Table2 Reliability of sub-questionnaires on satisfaction

Sub-questionnaire	Questions	No. questions	Sub-questionnaire reliability
Service satisfaction	6.7.8.9	4	940
Satisfaction with venue and marketing	1.2.3.4.5	5	945
Satisfaction with facilities	12.13.14.15	4	835
Event participation satisfaction	10.16.17.18	4	879

Validity analysis: we used expert validity to test the validity of our questionnaire; the experts consulted are listed in Table3:

Table 3 The expert team

Experts and scholars	Title	Specialized subject areas
Chih-Cheng Weng	Yu Da University Professor at the Department of Leisure and Sports Management	Management, sport officiating
Ching-Ming Chen	Simsport Manager of a marketing communications company	Sports and leisure management, sports and leisure marketing, event planning

Zhao-Tai Gu	Yu Da University Professor at the Department of Leisure Management	Leisure and health marketing, society development and leisure education, leisure planning and management
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(Ordered by the number of strokes of the surname)

Implementation process. We asked for the business owner's permission and collaboration over the distribution of questionnaires within their premises. We conversed with businesses in advance to minimize inaccuracy, and distributed a total of 120 questionnaires over the sample period from January 2010 to January 2011. Of the total questionnaires distributed, we recovered 108 questionnaires, with 96 of these being valid questionnaires. Consequently, the questionnaire response rate was 90%, and the rate of valid questionnaires was 80%.

2.6 Data collection and processing

We used the statistical software SPSS for windows version 12.0 to analyze the questionnaire results. We used the following statistical methods:

1. Descriptive statistical analysis: We used this method to analyze respondents' background information and to conduct a general statistical analysis to obtain the main research variables such as average, variance, standard deviation, and frequency distribution.

2. t-test and one-way ANOVA: We adopted t-test when there were only two independent variables, and adopted one-way ANOVA when there were three or more independent variables. The significance level for the one-way ANOVA is $p < .05$.

3. Results and Discussion

Analysis of demographic variables and recreational behavior. Research results: After compiling and analyzing the demographic data on the subjects we found the main customer segment consisted mainly of females between the ages of 25 and 29. They are either students or unmarried females, the majority are educated to university level, have a monthly income of below NT\$15,000, live in central Taiwan, and participate in recreational activities approximately twice per month.

Results discussion: The structure of our sample subjects closely matches that in Chi-Chin Pan's research (2008). Pan (2008) discovered that the 125 sample subjects in their research consisted mainly of females between the ages of 20 and 29, educated to college or university level, and the majority were still students. This congruency in the results tells us that the types of visitors to the Jin Lian Shing tourism factory have remained largely the same with little changes. Yu-Lin Chen (2008) conducted a research study on the tourism factory of Brand and Dahesong Salico. For Brand, 294 valid questionnaires were recovered, and for Dahesong Salico, 295 valid questionnaires were recovered. Analysis results from these questionnaires revealed that apart from the sample subjects' average income being higher than the average in our study, results on other variables are largely the same as our study. We also compared our results to that of another study, carried out by Hsiao-Chi Lin (2009) regarding Brand's Health Museum. The sample in Lin's study consisted of 401 tourists and the majority of these tourists' demographic variables were the same as ours, apart from the fact that these tourists were mostly between the ages of 30 and 39 (age group 20-29 was the second largest group), their average monthly income was slightly higher (between NT\$20,000 and NT\$39,999), and that 59.8% of them were married with children.

The findings illustrated that the demographic structure of tourism factory visitors is very consistent. The main customer segment for tourism factories, consist of females between the ages of 25 to 29, the majority of which are students and unmarried, and are educated to university level. We believe the reason for the majority of visitors being students can be attributed to the fact that the visits are field trips organized by schools and universities. However, this main customer segment has a relatively low buying power and a relatively low intention to revisit. Therefore, businesses must focus on creating consumers' intentions to revisit, and can learn from Brand who managed to attract more visitors who are married with children to their Health Museum. This way, the value of each customer can be increased, and the effort will also have a positive effect on business sustainability and brand reputation.

Another shared demographic trend discovered by this and past studies, is that the majority of visitors to tourism factories are from the central part of Taiwan, and the second largest group of visitors, are from northern Taiwan. We believe this is due to that fact that the tourism factories targeted for this research, tended to be located in central and northern Taiwan; therefore it indicates that people living in those regions are more inclined to visit these tourism factories for their recreational activities.

A particular finding to note is that visitors to the Jin Lian Shing factory display a noticeably lower average monthly income than visitors to other factories. As monthly income is correlated to buying power, we should consider how Jin Lian Shing could attract a new customer segment with a higher income.

4. Discussion of analysis results on demographic variables and satisfaction

1) Gender: The majority of the sample subjects are female.

2) Age: The sample subjects scored unevenly for different questions in the questionnaire dimension 'age'.

3) Level of education: The sample subjects scored unevenly for different questions in the questionnaire dimension 'level of education'.

4) Occupation: The sample subjects scored unevenly for different questions concerning level of education in the questionnaire dimension 'occupation'.

5) Marital status: The majority of the sample subjects are unmarried.

6) Income: The sample subjects scored unevenly for different questions concerning income in the questionnaire dimension 'occupation'.

7) Place of residence: The sample subjects scored unevenly for different questions concerning level of education in the questionnaire dimension 'place of residence'.

8) Recreational behavior: In the questionnaire dimension 'recreational behavior', the highest number of times regularly participating in recreational activities by the sample subjects is '5 times or above'.

9) Analysis summary on demographic variables and satisfaction: We can see from the analysis of the demographic variables that not a single variable achieved significant difference levels, indicating that demographic variables have no significant impact on any aspect of service satisfaction.

Discussion of results. The analysis of results from this study are congruent with that presented in the studies by Yu-Lin Chen (2008) and Hsiao-Chi Lin (2009). The first common finding is that satisfaction did not reach significant levels in the analysis of demographic variables, implying that the demographic characteristics of tourism factory visitors have no significant impact on their satisfaction with the services. There are two possible reasons for this phenomenon: First, the random sample selected for this research displays high homogeneity and therefore the results show no significance; second, the factory attracts a rather specific group of consumers; therefore the sample shows a very even structure, and thus the results show no significance. However, Hsiao-Chi Lin (2009) research reveals that age affects satisfaction; after analyzing the demographic variables, we also made the following discoveries:

1) Gender: The female subjects gave the highest satisfaction scores, particularly in the 'services satisfaction' section. This indicates female visitors are more satisfied because they regard the services provided by the business are well suited to their needs, Yu-Lin Chen (2008).

2) Age: The highest scores in the 'services satisfaction' section are mainly given by sample subjects between the ages of 40 and 59, which indicates older visitors place greater importance on service. The highest scores in the 'satisfaction with venue and marketing' section are mainly given by sample subjects between the ages of 15 and 19, which indicates young and student visitors are more satisfied with the marketing of the event and facilities at the venue. The highest scores in the 'event participation satisfaction' section are mainly given by sample subjects between the ages of 20 and 24. These outcomes show that visitors of different age groups place emphasis on different aspects of satisfaction.

3) Level of education: The outcome is similar to the result from the analysis of the variable 'age'.

4) Occupation: In the 'services satisfaction' section, the majority of the sample subjects that gave the highest scores are people who have retired, which tells us older consumers place a greater emphasis on services.

In the 'satisfaction with venue and marketing' section the majority of the sample subjects that gave the highest scores are students. In the 'satisfaction with facilities' and 'event participation satisfaction' sections, the majority of the group that gave the highest scores are civil servants, the occupation matches their level of education.

5) Marriage: The majority of the sample subjects are unmarried. This group gave the highest average score in the 'services satisfaction' section, but the lowest average score in the 'satisfaction with venue and marketing' and 'satisfaction with facilities' sections.

6) Income: In the 'services satisfaction' and 'event participation satisfaction' sections, the majority of the sample subjects that gave the highest scores are people with an income between NT\$30,001 and NT\$45,000. In the 'satisfaction with venue and marketing' sections, the majority of the group that gave the highest scores are people with an income below NT\$15,000.

7) Place of residence: In the 'services satisfaction' and 'satisfaction with facilities' sections, the majority of the sample subjects that gave the highest scores are people who reside in central Taiwan. In the 'satisfaction with venue and marketing' and 'event participation satisfaction' sections, the majority of the sample subjects that gave the highest scores are people who reside in eastern Taiwan.

8) Recreational behavior: '5 times or above' is the highest number of times regularly participating in recreational activities by sample subjects. In the 'services satisfaction' section, the average satisfaction score is the highest. In the 'satisfaction with venue and marketing' and 'satisfaction with facilities' sections the average scores are the lowest.

Our analysis shows that different demographic variables give rise to different satisfaction results. Similar findings have been proposed by other scholars including Mei-Jung Lai (1990), Chin-Chang Su (2003), Wan-chi Chang (2005), and Chi-Chin Pan (2008). These scholars pointed out that the visitors of dissimilar demographic characteristics show differences in their cognition of tourism and their beliefs. Yu-Lin Chen (2008) also found that satisfaction differs significantly depending on the marital status and the number of visits to a place. Hsiao-Chi Lin (2009) pointed out that visitor satisfaction varies according to age groups. We thus recommend future studies further investigate the reasons for such differences, as the findings can then be applied to effectively create and increase visitor satisfaction.

5. Conclusions and Recommendations

Conclusions. Demographic variables: Our research findings echo the findings discovered in the study by Chi-Chin Pan (2008). The findings suggest that the demographic characteristics of visitors to Jin Lian Shing factory have largely remained the same since 2008. Compared with the visitors of other tourism factories, Jin Lian Shing visitors' monthly income is the variable that has produced a rather different result whereby the average monthly income is significantly lower than that of visitors to other tourism factories. For the fact that income is closely correlated to buying power, this issue deserves close attention from this empirical case study.

Demographic variables and satisfaction: satisfaction did not reach significant levels in the analysis of demographic variables, implying the demographic variables of tourism factory visitors have no significant impact on their satisfaction levels. On the other hand, the study also found that different demographic variables produced different satisfaction levels for different aspects of satisfaction. We therefore suggest future studies investigate the reasons for these discrepancies.

Recommendations. Recommendations for Jin Lian Shing:

1. The demographics of the factory's typical visitors have largely remained the same; therefore Jin Lian Shing should focus on ways to attract other types of visitors. We also found the majority of the sample subjects were first-time visitors, which implies the intention to revisit is low. Since satisfaction is a critical factor in creating customer loyalty, we recommend a mechanism be established for obtaining information on visitor satisfaction. Through continuous tracking of satisfaction levels, the business can use the collected data to develop appropriate strategies. In addition, we recommend Jin Lian Shing use a more diverse range of information distribution channels and make information more readily available to tourists as a means of addressing the current information deficiency and increasing the company's profile.

2. Visitors' satisfaction with the participation in the events provided also greatly affects their loyalty. Currently, event program design and innovation are not the strengths of tourism factories; we therefore recommend Jin Lian Shing collaborate with external marketing agencies or even establish an affiliation relationship with the local government. Through these strategies, the company should be able to generate additional ideas for their factory tour programs, make them more interesting, customized, and suitable for the local market. These efforts will encourage visitor's to revisit tourism factories. Many research studies also indicate that the majority of tourists receive relevant tourism information from friends and families; therefore improvement on satisfaction will have a positive effect on the business reputation and this will spread through word-of-mouth.

Recommendations for future studies

1. In contrast to past research studies, this study reveals that the type of tourism factory influences tourist satisfaction level, and that not all types of sub-industries are suitable as tourism factories, or can be successfully transformed into successful players within the tourism industry (Min-Hui Hsieh, 2011). The important issues that require further research include establishing what variables exist and which are the main variables, and what environmental conditions and resource differences exist between an original business industry and the tourism industry.

2. As industrial tourism is still a relatively new research topic in Taiwan, there is a lack of established literature available for reference (Hsiao-Chi Lin, 2009). Current models and frameworks adopted for research studies are the same or based on works by previous studies in Taiwan or abroad, hence many studies lack comprehensiveness and are not appropriately tailored to the local market. We recommend future studies extend the scope of their research and establish a more solid groundwork for their research by reviewing an even wider range of theories and reference, in order to raise the rigor and significance of the research.

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