

Resident Perceptions of the Impact of Tourism on the Preliminary Stages of Casino Planning

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Abstract

This research focuses on the promotion of casino planning of Taiwan in 2009, and the investigation of local residents is carried out based on the tourism impact theory. The input attribute grouping is based on resident inclination towards casino development, and the main purpose is to understand the differences in local resident support levels for the government's development of the casino industry.

In this study, we used cluster analysis to evaluate the opinions of residents concerning the development of a casino. We divided the opinions into 'Opposed, and 'In Favor' and the compared their differences. From the perspective of economic impact, our results indicated that opponents believed a casino would drive up prices, while supporters felt that a casino could improve the employment opportunities and income of residents. From the perspective of social impact, opponents believed a casino would erode public security, while supporters felt that the casino could enhance the quality of life. From the perspective of environmental impact, opponents believed a casino would lead to environmental degradation, while supporters felt that the casino could improve the quality of infrastructure of the environment. This study recommends that policy-making authorities illuminate the positive impact that tourism can provide, and develop solutions to address the negative consequences of such development.

Keywords: casino, tourism development, tourism impact

1. Introduction

Singapore's first legal casino "Marina Bay Sands" was raking in cash just one year after opening, making Singapore the latest most popular casino destination in Asia. PricewaterhouseCoopers (PwC) estimated that Singapore's 2010 gaming market totaled 2.8 billion USD in revenue, and predicted that it will expand to 5.5 billion USD in 2011. With the appeal of Universal Studios and the two grand casinos, the number of tourists bound for Singapore in 2010 soared up to 11.6 million people, which broke the record of 10.3 million people set in 2007. Most of these tourists came from the Asia-Pacific region, which includes China, Australia, and Indonesia;

Indian tourists accounted for 53% of all tourists from this region. In addition, with the damage of the 2009 financial crisis, Singapore's Gross Domestic Product (GDP) declined by 1.3%; however, the big spending tourists in 2010 pushed Singapore's GDP up 14.7%, and it become the fastest growing economy in Asia. PwC predicts that Singapore will replace South Korea and Australia this year, and become the second largest gaming market next to Macau in the Asia-Pacific region. PwC stated in their report that Singapore's two massive casino resorts can expect to generate 5.5 billion USD in revenue, and increase up to 8.3 billion USD by 2014 (Chen, 2011).

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Taiwan's Legislative Yuan passed the Gambling Law on January 12, 2009, lowering the referendum threshold for the establishment of offshore casinos. On September 26, 2009, the Penghu Country government held a referendum on building casinos. Before the referendum was conducted, Toko University conducted a randomized contact survey in five Penghu townships and one city from April 28 to 30, 2009; 60% of Penghu residents favored the plan, and only 36% opposed it (Yen, 2009). However, the final referendum result shows that 56% were opposed to building the casino. It is a dramatic change of results within six short months. Before the referendum, more than ten public hearings were held to explain the advantages of this policy and to answer resident's concerns on building the casino. The outcome from these hearings was that some people favored the plan, and some opposed it. People in favor of opening the casino believe that it will achieve the effect of bringing money and prosperity to the local economy. However, people in Taiwan's offshore islands should follow suit like others, who opened casinos to escape the difficulties and fate of life in a remote offshore village. Those opposed to opening a casino believe that government and industry will undertake excess environmental exploitation and resource acquisition to satisfy the increasing demands of tourism and recreation, which will bring with it a major impact and crisis to the environment and resources due to tourism development. Casino as the best solution for economic development may bring negative influences to the local community and environment (Andereck & Vogt, 2000; Ko & Stewart, 2002). Therefore, this research will focus on examining the differing perceptions of residents on the economic, physical environment, social, and cultural impacts of casino development.

Previous research relating to the impact on tourism of casinos has focused on the post-establishment of casinos. Some of the key issues include business type analysis (Gonzales, Lyson, & Mauer, 2007); bringing influence and change to local lives (Lee & Kim, 2003; Lee & Back, 2004; Lee et al., 2006; Lee et al., 2010); and issues related to crime (Semoon, 1996). Results from an empirical study by Tsai & Shiue (2010) on Taiwan's preliminary casino planning shows there is a significant correlation between casino development and resident attitudes and inclinations towards impact of the casino. Therefore, resident inclinations towards casino

development will be affected by resident perceptions. Will these perceptions occur in the future? Or do the residents worry too much? In this research, cluster analysis is used to classify resident inclination toward casino development, and differences among resident perceptions on the impact of casinos are compared. Suggestions are made from the findings of these differences, and it can be used as a reference in terms of casino development for the relevant decision making institutions.

2. Literature Review

Lee et al. (2003) proposed three dimensions of impacts based on the impact on tourism of Korean casinos on its residents: physical environment, economic, and socio-cultural impacts. Subsequently, each category is subdivided by Lee & Back (2006) into positive and negative impacts, for a total of six sub-variables: positive physical environmental impacts, negative physical environmental impacts, positive economic impacts, negative economic impacts, positive socio-cultural impacts, and negative socio-cultural impacts. They are described as follows:

2.1 Physical Environmental Impact

2.1.1 Positive Physical Environmental Impacts

The impacts of the physical environment include the natural and human environments. The main positive physical environment impacts include the preservation of the natural environment; the preservation of historical sites and buildings; improvement of transportation facilities; improvement of medical facilities; improvement of regional appearance; and improvement of power facilities (McCool & Martin, 1994; Snaith & Haley, 1999). The positive physical environment impacts of casino development include improvement of public facilities; facilitation of inter-island transportation; and increased indoor and outdoor recreation sites (Lee & Back, 2006).

2.1.2 Negative Physical Environment Impacts

The main negative physical environment impacts include traffic congestion, overwhelming numbers of tourists, increased garbage, increased soil erosions, the degradation of air quality, the degradation of landscape aesthetics, severe damage to public facilities,

parking issues (Ko et al., 2002; Harrill & Potts, 2003). The negative physical environment impacts of casino development include noise, water pollution, garbage, traffic congestion, damage to the natural environment, and overwhelming numbers of tourists (Yoon, Gursoy, & Chen, 2001; Lee et al., 2003; Lee & Back, 2006; Lee et al., 2010).

2.2 Economic Impact

2.2.1 Positive Economic Impacts

Regarding economic impacts, developing tourism can promote local economic prosperity, as it may bring economic benefits to the locals and improve local income. The main positive economic impacts include increases in resident income and living standards, promoting the development of business investment to improve the local economic structure, increased public facilities, improvement to transportation facilities, increased entertainment opportunities, increased overall local tax revenue, tourists that are willing to spend and invest, and the creation of more job opportunities (McCool et al., 1994; Snaith et al., 1999; Ko et al., 2002; Harrill et al., 2003). The positive economic impacts of casino development include the creation of investment and business activities, employment opportunities, greater spending by tourists, increased tax revenue, modern lifestyles, increased income for residents, and increased public infrastructure (Yoon et al., 2001; Lee, Kim, & Kang, 2003; Lee & Back, 2006; Lee et al., 2010).

2.2.2 Negative Economic Impacts

Economic impacts also have a negative influence on tourist areas. The main negative economic impacts include rises in product price, goods shortages, and rises in land and housing prices, increased personal property tax, increased personal living costs (Snaith et al., 1999; Ko et al., 2002; Harrill et al., 2003). The negative economic impacts of casino development include increased living costs, increased tax burden (Lee et al., 2003; Lee & Back, 2006; Lee et al., 2010).

2.3 Socio-cultural Impact

2.3.1 Positive Socio-cultural Impacts

Socio-cultural impacts are often less evident than economic or physical environment impacts. The main

positive socio-cultural impacts include increased quality of life, more recreation facilities, improved quality of police and fire protection, increased local education opportunities, increased resident self-esteem, and greater entertainment opportunities for residents (McCool et al., 1994; Snaith et al., 1999; Ko et al., 2002; Harrill et al., 2003). The positive socio-cultural impacts of casino development include cultural dependency and activities (Yoon et al., 2001; Lee et al., 2003; Lee & Back, 2006; Lee et al., 2010).

2.3.2 Negative Socio-cultural Impacts

The main negative socio-cultural impacts include changes of original values (Snaith et al., 1999; Ko et al., 2002; Harrill et al., 2003). The negative socio-cultural impacts of casino development include crime, alcoholism and drugs, the rise of the mentality of speculation, divorce, prostitution, corruption, bribery, problem gambling, bankruptcy, destruction of families, usury, and decreased moral sense (Yoon et al., 2001; Lee et al., 2003; Lee & Back, 2006; Lee et al., 2010).

3. Data Collection and Questionnaire Design

In this research, field research was conducted through convenience sampling in five townships and one city of Penghu county. Before collecting the data, the researchers had to make sure that the respondents' residences were in Penghu, and that they were living there currently and permanently. After obtaining the residents' consent and explaining the research purpose, a questionnaire survey was conducted via face to face interviews.

The questionnaire design of this research was divided into two sections: tourism impact and development inclination. Each measured item was scored by a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). In this research, three questions were designed for development inclination: "I am in favor of the government opening up casinos"; "I am in favor of casinos being built in Penghu"; and "I am in favor of casinos being built in the community in which I live." The questionnaire on tourism impact was adopted from Lee et al. (2003) and Lee & Back (2006) with some modifications. Each category was divided into positive and negative impacts, for a total of six sub-variables.

The definitions of the variables are detailed as follows:

1. Positive physical environmental impacts: the perception level of residents on positive physical environmental issues under the premises of casino development; for example, improvements to public facilities, improvements to inter-island transportation, increased indoor and outdoor recreation sites, etc; five questions in total.
2. Negative physical environmental impacts: the perception level of residents on negative physical environmental issues under the premises of casino development; for example, noise, water pollution, garbage, traffic congestion, damage to the natural environment, overwhelming numbers of tourists, etc; 10 questions in total.
3. Positive economic impacts: the perception level of residents on positive economic issues under the premises of casino development; for example, job opportunities, resident income, taxes, revitalization of the local economy, etc; seven questions in total.
4. Negative economic impacts: the perception level of residents on negative economic issues under the premises of casino development; for example, rises in price, rises in the price of real estate price, rises in living costs, etc; three questions in total.
5. Positive socio-cultural impacts: the perception level of residents on positive socio-cultural issues under the premises of casino development; for example, the preservation of culture, providing entertainment opportunities, improvements in service quality, improvements in quality of life, etc; four questions in total.
6. Negative socio-cultural impacts: the perception level of residents on negative socio-cultural issues under the premises of casino development; for example, crime, alcoholism, drugs, increases in speculative attitudes, etc; six questions in total.

4. Result

The analysis results are as shown in Table 1. The majority of the respondents were males. The majority of the respondents aged were over 61. The majority of the respondents had a junior school degree (56.12%).

5. Cluster Analysis

In this research, the input attribute grouping is based on resident inclination towards casino development, and the main purpose is to understand the differences in local resident support levels for the government's development of the casino industry. According to the results from the first stage of cluster analysis, there were no significant changes in the cohesive coefficient for greater than ten clusters; thus only ten clusters of cohesive coefficient are listed below (Table 2).

In table 2, the coefficient value increased to 1114.137 when two clusters skipped one cluster; as a result, the combination of two clusters to one cluster creates a big difference, and thus two clusters seemed more appropriate for this research. At stage two of cluster analysis, with two clusters as the input number, the K-means method was applied to analyze the differences between each cluster. The definitions of the "opposed" cluster and the "in favor" cluster were defined based on the mean of inclination; opposed cluster accounted for 56.33%, and favored cluster accounted for 43.67% (Table 3).

Table 1. Demographic Analysis

	Variable	Number of	%
Gender	Male	279	56.94
	Female	211	43.06
Age	Under 20 years old	16	3.27
	21~30 years old	87	17.76
	31~40 years old	62	12.65
	41~50 years old	58	11.84
	51~60 years old	70	14.29
	Over 61 years old	197	40.2
Level of education	Junior school	275	56.12
	High school	106	21.63
	Junior colleges	32	6.53
	University	64	13.06
	Institute	13	2.65

Table 2. Cohesive Coefficients

Cluster number	Cohesive coefficient	The increasing value of coefficient
10	45.267	8.903
9	58.693	13.426
8	72.540	13.848
7	92.907	20.366
6	122.135	29.229
5	166.392	44.256
4	239.513	73.122
3	338.783	99.269
2	757.108	418.325
1	1871.245	1114.137

In this research, comparative analysis was employed to find the differences of these two clusters in their perceptions of the impact of tourism (Table 4). The results showed that there were differences for all items except for two: “The flow of people that casinos attract will make life in Penghu more crowded”; and “Casinos will increase land and housing prices in Penghu”.

Table 3. Number of clusters

	Opposed	In Favor
Samples	276	214
Percent	56.33%	43.67%
Mean	2.39	4.17
Standard Deviation (SD)	0.738	0.48

Table 4. Tourism Impact

Dimension	Item	Opposed		In Favor		T value	
		Mean	S D	Mean	S D		
Negative physical environmental impacts	make life more crowd	3.627	0.774	3.533	0.814	1.297	
	increase the amount of garbage	3.601	0.749	3.407	0.838	2.674**	
	degrade environmental quality	3.522	0.774	3.243	0.832	3.791**	
	degrade beach cleanliness	3.522	0.760	3.192	0.785	4.683**	
	increase noise pollution	3.514	0.726	3.299	0.807	3.060**	
	increase air pollution	3.489	0.765	3.224	0.773	3.779**	
	ocean to become polluted	3.478	0.779	3.276	0.824	2.763**	
	increase water pollution	3.475	0.590	3.312	0.610	2.965**	
	increase the number traffic accidents	3.446	0.744	3.294	0.783	2.168*	
Produce soil erosion	produce soil erosion	3.435	0.786	3.215	0.776	3.094**	
	Positive physical environmental impacts	increase the number of indoor and outdoor recreation sites	3.420	0.572	3.656	0.542	-4.664*
		diverse restaurants	3.392	0.585	3.556	0.492	-3.364**
		enhance fire safety	3.390	0.581	3.493	0.517	-2.057*
		facilitate transportation	3.280	0.554	3.468	0.542	-3.768**
increase public facilities		3.251	0.473	3.439	0.474	-4.371**	
Negative economic impacts	land and housing prices to increase	3.768	1.970	3.864	0.675	-0.757	
	rises in product price	3.663	0.877	3.841	0.659	-2.565*	
	Penghu residents to increase consumption	3.377	0.867	3.785	0.686	-5.819**	
Positive economic impacts	revitalize local economy	3.498	0.865	4.071	0.586	-8.723**	
	increase the number of job opportunities	3.453	1.042	4.238	0.601	-10.480**	
	increase family incomes	3.406	1.090	4.107	0.687	-8.698**	
	increase tax revenue	3.386	0.813	3.870	0.603	-7.563**	
	increase national income	3.338	0.834	3.978	0.584	-9.979**	
	increase the sales of specialty products	3.296	0.709	3.552	0.585	-4.364**	
	increase the sales of handicraft industry	3.094	0.728	3.360	0.602	-4.419**	
Negative socio-cultural impacts	increase crime rates	3.670	0.770	3.262	0.742	5.946**	
	increase the drug abuse situation	3.590	0.735	3.227	0.744	5.379**	
	increase sex industry	3.576	0.731	3.243	0.749	4.926**	
	increase in the rate of alcoholism	3.569	0.776	3.262	0.815	4.226**	
	increase speculative attitudes	3.453	0.935	2.762	0.836	8.618**	
	degrade the morality of residents	3.289	0.842	2.645	0.665	9.464**	
Positive socio-cultural impacts	bring more varieties of entertainment	3.363	0.694	3.753	0.551	-6.913**	
	improve the quality of life	3.333	0.975	4.042	0.701	-9.356**	
	improve service quality	3.266	0.939	3.950	0.685	-9.324**	
	protect cultural heritage	3.083	0.967	3.509	0.865	-5.134**	

*P < 0.05; **P < 0.01

In this research, the mean perception of the impact of tourism from these two clusters of residents was sorted, and the differences between the top five most influential impacts were compared (Table 5)

5.1 Physical Environment Impacts

Regarding negative physical environmental impacts, the two clusters of residents both agree that casinos will create a crowded living environment; the two groups have different opinions on the rest of the physical environment impacts. The opposed cluster of residents think that the establishment of casinos will only cause negative environmental impact, and the

Table 5. Comparison of the perceptions of two clusters of residents

Dimension	Similarities	Differences	
		Opposed	In Favor
Physical environmental impacts	<ul style="list-style-type: none"> • Crowded living environment 	<ul style="list-style-type: none"> • Increased amount of garbage • Degradation of environmental quality • Degradation of beach cleanliness • Increased noise pollution 	<ul style="list-style-type: none"> • Increased number of indoor and outdoor recreation sites • Creation of diverse restaurants • Improved fire safety • Improved transportation situation
Socio- cultural impacts	<ul style="list-style-type: none"> • Increased crime rates 	<ul style="list-style-type: none"> • Drug abuse • Increases in the sex industries • Increased number of alcoholics 	<ul style="list-style-type: none"> • Improved quality of life • Improved service quality • Greater entertainment variety • Protection of cultural heritage
Economic impacts	<ul style="list-style-type: none"> • Increased job opportunities • Increased family income • Revitalization of local economy 	<ul style="list-style-type: none"> • Increased land and housing prices • Rising product prices 	<ul style="list-style-type: none"> • Increased national income • Increased tax revenue

main concerns were increased amounts of garbage, a degradation of environmental quality, a degradation of beach cleanliness, and increased noise pollution. The cluster of residents in favor thought that the positive environment that it casinos will bring are mainly increased indoor and outdoor recreation sites, the creation of diverse restaurants, improved fire safety, and an improved transportation situation.

5.2 Socio-cultural Impacts

The two clusters of residents both agree that casinos will cause an increase in crime rates. The opposed cluster thinks that the establishment of casinos will only create negative socio-cultural impacts, the main ones being drug abuse, expanded sex industries, a greater prevalence of alcoholism, and the propagation of attitudes of speculation. The cluster of residents in favor believes that the positive socio-cultural impacts that casinos will bring include improved quality of life, improved service quality, greater variety in entertainment, and protection of cultural heritage.

5.3 Economic Impacts

The two clusters of residents both agree that casinos will create more job opportunities, increase family income, and revitalize the local. The opposed cluster thinks that the establishment of casinos will bring the negative economic impacts of rising product prices, both of land and housing and overall. The cluster of residents in favor believes that casinos will only bring positive economic effects, such as increased public income and tax revenue.

6. Discussion

The establishment of casinos will bring positive and negative effects to local residents. The analysis of past literature has focused on the post-establishment of casinos, and if an analysis on the perception of local residents towards the impacts of tourism is conducted prior to their establishment, it will lead to more detailed casino planning, and the support of residents will promote the development of the gaming industry. Therefore, this research focuses on the promotion of casino planning of Taiwan in 2009, and the investigation of local residents is carried out based on the tourism impact theory.

Residents hold opinions both of approval and disapproval towards the establishment of casinos. Therefore, opinions are divided into groups that are opposed to and in favor via cluster analysis, and the differences in perception on the impacts of tourism were further analyzed. The analysis results show that the two clusters of residents both have the same perceptions on crowded living environments, increased crime rates, increased job opportunities, increased family incomes and, and revitalization of the local economy. However, among other dimensions of tourism impact, the perception of the residents who are in favor of the casino establishment regards the positive benefits as their top priority, and those opposed to a casino establishment regard the negative impacts as their top priority. The results are predictable. However, when the casino is established, will the perceptions of residents on the impacts of tourism manifest themselves? Or can it be chalked up to

unnecessary anxiety? Therefore, the results from this research was compared and analyzed with the tourism impacts that were generated after the casinos were established.

This research referenced three articles in the discussion of resident perceptions on the impacts of tourism post-establishment of casinos in Korea. Taiwan and Korea are Asian countries, and the local customs of residents are more similar with one another as compared with European and American residents. Among the research that of Choong-Ki Lee & Ki-Joon Back (2003) analyzed on the tourism impact in the post-establishment of casinos in Korea; Choong-Ki Lee & Ki-Joon Back (2006) studied the impact differences four years after the casino was established; and Choong-Ki Lee et al. (2010) researched the tourism impacts post-establishment of two casinos.

First, before the establishment of casinos, both residents opposed to and in favor of their establishment have agreed that casinos will bring with them the negative impacts of a crowded living environment and increased crime rates. However, they also agree that it will bring the positive effects of increased job opportunities, increased family incomes, and revitalization of the local economy. The positive and negative impacts will occur after the casino is established. As a result, casinos can certainly bring positive economic effects, but as also can produce crowded living environments and increased crime rates. Therefore, this paper advises that prior to casino development, the relevant decision-making institutions explain to the public about the positive economic effects that a casino will bring; also the capacity estimation of the casino's scheduled location must be precise and controlled. In addition to crime rate issues, comprehensive complementary measures and methods are necessary to ensure public security.

Second, the perception of residents in favor of casino establishment perceive the positive benefits of the casino as the top priority, which includes the increase in national income and increased quality of life; similar benefits are also generated post-establishment of a casino. The perception of residents that are opposed to casino establishment sees the negative impacts

of casinos as the top priority, which includes rising product prices and alcoholism; similar negative impacts are also generated post-establishment of a casino. Therefore, a detailed response plan must be planned in advance in response to the concerns about the negative impacts of rising product prices and alcoholism of the opposed group; otherwise, the chances of occurrence in the future are profound, and may even create unneeded social unrest, adding more to the social cost.

Lastly, the perceptions of residents both opposed to and in favor casino establishment on the positive and negative tourism impacts are different to the impacts post-establishment of a casino. Due to these differences in perception, the relevant institutions are advised to reinforce advocating the advantages to increase residents' inclinations towards casino establishment. In terms of the impacts caused by casino establishment in other countries, relevant institutions should learn from their experiences and take preventive measures by drafting relevant complementary measures in advance.

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