A Study of Amusement Park Industry

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Content

Abstract

More appealing tourism sites of one area would attract more visiting of tourist that might prosper a country economy. The trend of opening new amusement parks is something we could not ignore. This thesis selects the top 75 popular amusement parks in North America, Latin America, Asia and Europe with the data from Themed Entertainment Association (TEA). The research objectives is to study what factor has relationship with attendance. And to discuss whether it is profitable to construct globalized amusement park in Taiwan. The multiple regression is chosen as our model, and the independent variable included four division: sites, amusement park, target customer, additional feature. The goal of this thesis is to provide the company of amusement park industry some idea when making decisions on designing their amusement parks.

I. Introduction

1.1 Motivation and Background

In 2015, a new famous theme park is scheduled to open in Shanghai. Disney, the largest theme park operator in the world, is constructing its third theme park in Asia. Shanghai Disney Resort will be the biggest one in Asia compare to the existing Tokyo Disney Resort and Hong Kong Disneyland Resort. It is believed to attract more tourists and its attendance will top other Disney theme parks in Asia announced by Disney's Chief Financial Officer Jay Rasulo. Walt Disney Company reported its Parks and Resorts revenues increased 9% to $14.1 billion last year (2013). Although theme

parks industry isn't the biggest part of Disney's business, it indeed plays an important role in the increasing revenue and profit.

Travel & Tourism (T&T) becomes one of the essential industries in the world. It contributes a great portion of GDP in many countries. In 2013, the World Travel & Tourism Council (WTTC) estimated T&T generated 6.8% of Japan's GDP and 9.3% of China's GDP. The economic benefits T&T brought to both Japan and China are significant. The opening of an amusement park might boost the amount of tourists of one place and contribute a great percentage in T&T industry.

With all the materials above, we would like to know about how amusement park industry interacts with country economic. We would also like to find out what factors influence the attendance of amusement parks the most, which may provide idea for company to take into consideration when designing their parks. Last, we would combine our topic with Taiwan to discuss whether Taiwan is a good location to build an amusement park. We will discuss these issues by applying the data of the top 48 popular amusement/ theme parks in the world.

1.2   Purpose of Study

✓ Learn how amusement/theme park industry interacts with country economic.

✓ Discover those factors relate to the attendance of amusement/theme parks.

II.   Literature Review

2.1 The importance of theme parks to Disney Company

The Parks and Resorts business accounted for 31% of revenue and 15.3% of profit (Matt Krantz, 2013).The last quarter in 2013, Parks and Resorts revenues increased 8% to $3.7 billion. For the year, revenues increased 9% to $14.1 billion. There is an increase in vacation club ownership sales and higher royalty revenue from Tokyo Disney Resort. Growth of operating income in Hong Kong Disneyland Resort was due to higher guest spending and attendance (The Walt Disney Company Reports).

2.2   The relation between local economy and the theme park

Globalization leads to increasing foreign direct investment, which is the international flow of capital by creating or expanding a subsidiary in another country (Stephanie Rohac, 2006). For instance, Disney develops its foreign markets by doing foreign direct investment in Tokyo, and Hong Kong. Theme parks like Disney, Knott's Berry Farm, Universal Studios which are visited by tourists frequently, represent an important "income generator" for each single region. The additional spending of tourist dollars in an area affects the economy (Michael Braun, 1999).The Walter Disney theme park is likely to bring out substantial net benefits to the economy, mainly as a result of additional tourist spending and to a lesser extent additional spending by local residents (Economic Analysis Division, 1999).

2.3   The interaction with local industries and government

Disney Resorts brought lots of commercial opportunities to the neighborhood and the country. For example, the hotel nearby may cooperate with Disney Resorts and have extra revenue. Disney would also provide services as chart bellow showed:

Guest Benefits	Disney Hotels	Tokyo Disney Resort Official Hotels	Tokyo Disney Resort Partner Hotels	Tokyo Disney Resort Good Neighbor Hotels
Park Ticket Sales	●	●	●	
Guaranteed Park Admission	●	●		
Tokyo Disney Resort Monorail Pass	● (complimentary*)			
Shuttle Bus Services	●	●	●	●
Baggage Delivery Service	● (complimentary)	● (complimentary)	● (fee required)	
Station Delivery Service	● (fee required)	● (fee required)		
Shopping Delivery Service	●			
Take a Break at the Hotels During Park Visits	●	●		
Hotel Shops	●	●	●	
Latest Information on Tokyo Disney Resort	●	●	●	●

*Excluding Disney Ambassador Hotel

Also, it provided 6,000 work opportunities to build the theme park and 18 thousands work opportunities after the completion. Governments foresaw the possibilities and also provide assistant to Disney Resort. Take Hong Kong for instance, the government spend 32.5 million HK dollars on the investment and 152 million HK dollars on the infrastructure (Channel Economics). Moreover, for the ongoing Disney Resort in Shanghai, the Shanghai government estimated about 80 percent of mainland people will come, since it is located between Japan and Hong Kong Disneyland (China International). Disney Resort is more than just a theme park for a company. It brought substantial profit to a country.

III. Methodology

3.1 Research framework
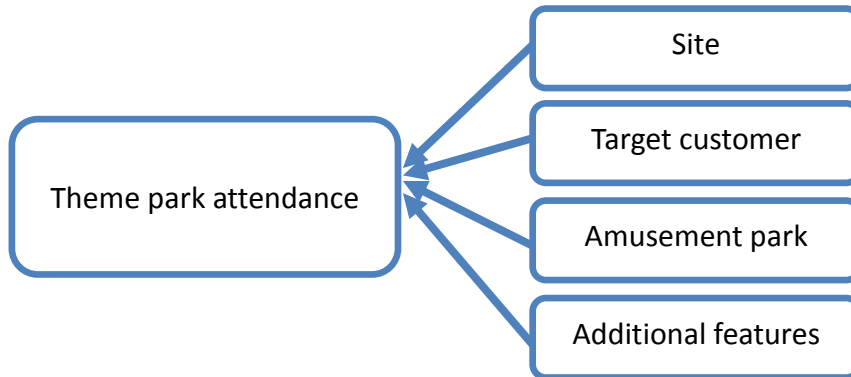
3.2 Research sample

We use the data of top 48 amusement/theme parks in North America, Latin America, Europe, and Asia-Pacific. In addition, we included some data of the cities where those amusement/theme parks lies.

3.3 Research model

Multiple Regression Analysis

$Y=\beta_0+\beta_1X_1+\beta_2X_2+\beta_3X_3+\beta_4X_4+\beta_5X_5+\beta_6X_6+\beta_7X_7+\varepsilon$

-Dependent variable:

Y = annual attendance in 2012

-Independent variables:

X_1 =amount of roller coaster

X_2 =population of location city

X_3 =area of amusement park

X_4 = Y/N with symbol character

X_5 = Y/N with firework or parade

X_6 = Y/N with target customer- teenager

X_7 = Y/N with target customer- family

3.4 Definition of the variables

-Dependent variable

Attendance: The number of people visits the amusement park in a year, which

represents how successful the amusement park is.

-Independent variable

1. Location Population: Location population is the total number of people inhabiting

the area where the amusement park is located.

2. Amount of roller coaster: A roller coaster is a facility, having a train that moves along

a high, sharply winding trestle built with steep inclines that produce sudden, speedy plunges for thrill-seeking passengers. The number of roller coaster may represent the degree of excitement.

3. Area of the park: The size of the amusement park here is not including the area the hotel occupies.

4. Target Customers: Target customer is the main client the amusement park focuses on, and they may have more expenditure on the advertisement to attract their target customers. Here, we divided into two types, family and teenagers considered as dummy variables.

5. Activities: Aside from the facilities, there are other things to fascinate the customers. We select fireworks and parade as dummy variables, and they have to be regular activities.

6. Symbol Character: The role which is well-known for everyone stands for the amusement park. It may be a single or a group.

3.5 Statistically analysis

We can use this model to find out how the country will be affected by the construction of theme park. First, it is believed that a significant number of the base tourists will visit the theme park and spend additional money in that country. Second, a further significant number of tourists will be induced the country to visit the theme park. Third, additional spending will be made by local residents visiting the theme park. Thus, using this model, we can calculate how much i country earned from the amusement park in t year.

3.6 Data analysis

Table.1   2012 48 Out of Top 70 Amusement Parks Data

Amusement Park	Annual Attendance in 2012 (1,000,000 people)	Amount of Roller Coaster	Population of Location City (100,000 people)	Area of Amusement Park (10acres)	Y/N with Symbol Character	Y/N with Firework or Parade	Target Customer: Teenager	Target Customer: Family
Magic Kingdom Park	17.54	4	2.50	10.70	1	1	0	1
Disneyland	15.96	5	99.52	16.00	1	1	0	1
Disney's Animal Kingdom	10.00	2	2.50	40.30	1	1	0	1
Everland	6.85	3	125.49	24.71	0	1	1	1
Changzhou Dinosaurs Park	3.40	2	46.80	60.00	0	0	0	1
Lego Land Windsor	2.00	0	1.46	15.00	1	1	0	1
Heide Park	1.30	5	0.21	21.00	0	1	1	0

*The table.1 only shows part of our data

First, we want to find out what impacts on the attendance of each amusement park. We choose 48 out of the top 70 amusement parks in the world and collect the data of them. The table.1 only shows the part of our data. By all the data, we notice that the annual attendance is increasing while amount of roller coaster and population of location city are going upward. We also find that if the amusement park has firework, parade, and symbol character, they may have more annual attendance. Hence, we use

multiple regression models to observe the relationship between independent variable

and annual attendance and figure out whether these factors have significant impact on

annual attendance by collecting the data of 48 amusement parks in the world.

Table.2   Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.702[a]	.492	.403	3.20807	.492	5.539	7	40	.000

a. Predictors: (Constant), Family, RCamount, Role, Area, population, Teenager, Firework

Table.3   ANOVA [a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	399.059	7	57.008	5.539	.000[b]
	Residual	411.667	40	10.292		
	Total	810.727	47			

a. Dependent Variable: Attendance

b. Predictors: (Constant), Family, RCamount, Role, Area, population, Teenager, Firework

Next, let's look on our result. By the table.2 (model summary), we can see that our

adjusted R square is 0.403. It means our variables can interpret 40.3% of the change of

annual attendance. When we look on the F and p-value in the table.3 (ANOVA), we can

see we get the well and statistically significant model.

Table.4   Coefficients [a]

Model	Unstandardized Coefficients		t	Sig.	Collinearity Statistics	
	B	Std. Error			Tolerance	VIF
1 (Constant)	.740	1.667	.444	.660		
Amount of Roller Coaster	.255	.145	1.751	.088	.774	1.291
Population of Location City	.046	.012	3.879	.000	.762	1.312
Area of Amusement Park	-.004	.011	-.404	.688	.811	1.233
Y/N with Symbol Character	2.425	1.027	2.361	.023	.814	1.228
Y/N with Firework or Parade	2.817	1.136	2.479	.018	.683	1.464
Target Customer: Teenager	-2.157	1.050	-2.054	.047	.779	1.284
Target Customer: Family	.243	1.195	.203	.840	.850	1.177

a. Dependent Variable: Attendance

Annual Attendance = 0.74 + 0.255 ARC + 0.046 PLC

- 0.004 AAP + 2.425 SC + 2.817 FP - 2.157 TCT + 0.243 TCF

Move on to our coefficient, we need to check if there is the problem of multicollinearity or not. The table.4 shows all the tolerance of each variable is more then 0.2, and the value of VIF (Variance Inflation Factor) is less than 4. Therefore, there isn't the problem of multicollinearity in our model.

From the equation and table above, we can conclude that amount of roller coaster,

population of location city, with symbol character or not, and with firework or parade or

not have a strong positive impact on annual attendance while whether the target

customer is teenager or not has the negative influence on annual attendance. As to area

of amusement park and the target customer is family or not, the result shows that it is

rejected in this model. Consequently, they will not be considered in the equation above.

Table.5   Relationship with Annual Attendance

Factor	Hypothesis	Result
Amount of Roller Coaster		Positive Relationship
Population of Location City		
Area of Amusement Park		Not Significant
Y/N with Symbol Character	Positive Relationship	Positive Relationship
Y/N with Firework or Parade		
Target Customer: Teenager		Not Significant
Target Customer: Family		Negative Relationship

As the table.5 shows us, when we look on the coefficient, most of them has positive

relationship with annual attendance, just like our hypothesis, only except for the

coefficient of whether the target customer is teenager or not. It is negative 1.527. We

think that it is because teenager can go to amusement park by themselves. Hence, if you

only focus on teenager, you will lose the customer of parents.

There are two variables not significant: area of amusement park and whether the

target customer is family or not. For the amusement park, we think it is because there is

not significant differentiation between the areas of each amusement park. Hence, it doesn't have the strong impact on the annual attendance. As for whether the target customer is family or not, in our database, around 70% of amusement parks' target customers are family, and the coefficient also shows that there's a positive relationship between attendance and the target customer to be family. However, due to the size of our database, there is no convincing evidence that if the target customer to be family have an effect on annual attendance.

Table.6   Policy Suggestion for Amusement Park

Factor	Suggestion
Site	Population of location city should be large enough.
Facility	Build more thrill roller coaster.
Target Customer	Do **NOT ONLY** focus on teenager
Additional Feature	Firework, parade, and symbol character will attract more customers.

We sum up all the result we just mentioned into policy suggestion for amusement park's company as you can see in table.5. First, when you want to build a new amusement park, you should find the location with large population size. Because the great proportion of attendance is local customer. Next, for the amusement park under the poor management now, you can build more thrill roller coaster to attract and bring more customers. Move on to target customer, do not focus on teenager. There is negative relationship between them. Finally, for the additional features, firework and

parade show will be your best choice, and so is symbol character. Hence, the theme park with symbol character is better than amusement park.

IV.   Conclusion

The world is filled with lots of amusement parks, in Asia; in North America; in Latin America; in Europe. There are the places that ten and thousands of people will go and have fun. However, we have no idea what will affect the attendance to the Amusement Parks. Hence, with all the research above, we came up several factors that we thought would influence the attendance to the Amusement Parks. Then, among all these factors we chose, we found out that there are five factors that would influence the attendance to the Amusement Parks.

Firstly, the amount of roller coasters plays an important role to attendance; people enjoy the thrilling feeling while riding roller coasters. Moreover, with more activities such as fireworks and parades attracts more tourists, which means with more diversity people will be more willing to go to the amusement parks. In addition, with more "Symbol Character" and "Location Population", would also have positive impact. Nevertheless, there is one special factor that plays an opposite role to other factors which is whether should the amusement park target on "Teenagers". Our research shows that it would reduce the amount of attendance if the amusement park focuses on "Teenagers".

As we recall, there is another question that we discuss, which is, "Is it possible to have a world famous amusement park in Taiwan?"   We all know that Disney

Company once considered Taiwan as a location to build Disneyland; however,

Disney chose Japan as the perfect spot. We believe that Taiwan may not be possible

to have Disneyland since there are already 3 Disneyland in Asia which are really

close to Taiwan. But with the vital location of Taiwan and we can focus on the

positive factors that will influence attendance, Taiwan would definitely be possible

to have a world famous amusement park.

V.   Data Sources

✓   Annual Estimates of the Resident Population from United States Census Bureau

✓   Top 20 amusement parks in each area from TEA Global Attractions Attendance
     Report

✓   Average exchange rate from Central Bank

✓   Ticket prices from Each amusement parks' website

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