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# An Examination of Factors Affecting Japanese Tourism in Hawaii

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"Catch The Wave – Tourism Research"  
June 21-29, 2009- Honolulu, HI  
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# **An Examination of Factors Affecting Japanese Tourism in Hawaii**

Presented at Annual TTRA Conference in Honolulu, Hawaii, June 21-24, 2009

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### **ABSTRACT**

*The Japanese tourist market is a crucial component of the Hawaii tourism economy due to both market size and higher per capita expenditures in comparison with other key markets for the state. Over the past decade, annual Japanese tourist arrivals have decreased significantly off a peak in 1997. This study examines various supply and demand factors, which may be influencing Japanese tourist arrivals to Hawaii using regression analysis. Results show that five of eight variables significantly influence the monthly Japanese tourist numbers to Hawaii: monthly total Japanese overseas tourists, available air seats, average room rates, available room units, and change in security checking procedure. Meanwhile, three variables were not found to be significant influencers: mean monthly exchange rate (\$/100 Yen), anti-smoking law, and airline fuel surcharges. These results do not support the anecdotes and conjectures about the decreasing number of Japanese tourists to Hawaii.*

### **INTRODUCTION**

According to Department of Business, Economic Development and Tourism (DBEDT) (2006), over the past decade since 1997, Hawaii has experienced a steady decline in the number

of tourist arrivals from Japan at an annual average of 4.9 percent or approximately 93,604 tourists. This decline has created an obvious concern for Hawaii's tourism industry, because Japan is one of the state's most lucrative tourist markets in terms of tourist numbers and expenditures. Historically, Japanese tourists account for approximately 70 percent of total international arrivals or 25 percent of total tourist arrivals in Hawaii. The Japanese market's significance is especially evidenced by daily destination expenditure per person higher than other tourists (\$267 of Japanese tourist vs. \$169 of U.S. mainland tourist) (DEBEDT, 2006). The state government officials, tourism industry representatives, and residents have considered many factors that influence the past decade's decline in Japanese tourist arrivals. However, there is a lack of empirical analysis to more clearly understand this phenomenon. Beyond drawing upon speculation and anecdotal-evidence based assessments, this study analyzes both supply and demand factors that may have influenced Japanese tourist arrivals to Hawaii. As studies on international tourism demand (e.g., Crouch, 1994; Gang, Song, & Witt, 2005; Lee, 1996; Lim, 1999; Uysal & Crompton, 1984) have suggested, economic variables in the origin as well as the destination influence demand. In this study, exchange rates and fuel surcharges are examined for their effects on Japanese tourist arrivals. Although the *effect* of transportation costs have been inconclusive (e.g., Lee, 1996; Lim, 1999; Mervar & Payne, 2007), fuel surcharges are included in this study, because the media and tourism organizations have claimed that they are one of the most important deterrents for Japanese travelers to choose Hawaii as a destination. Further, a continuous rise in accommodation rates, which increases the overall cost of trip to Hawaii, may have played a significant role in decreasing Japanese tourist arrivals. This seemed important, because most Japanese tourists (89% in

2006) visited Hawaii via group tour or package. According to previous study results and demand theory, Japanese tourist arrivals would be negatively influenced by fuel surcharges because of higher travel costs to Hawaii, and positively influenced by exchange rates due to stronger purchasing power of Yen. As destination or supply-side factors, the capacity of air seats from Japan to Hawaii and available accommodation units and room rates in Hawaii are examined in this study. There was an average annual decrease of 4.7 percent from 1995 to 2006 in air seat capacity from Japan to Hawaii. Except for the years of 1997, 2004 and 2005, every year in this period showed a decline in capacity. Compared to 1995 (2.9 million seats), the capacity from Japan to Hawaii showed a 61.8 percent decrease in 2006 (1.8 million seats). This continuous decrease may have a detrimental long-term effect on the tourist volume. Other variables included in this study as dummy variables are: 1) increased airport security commenced in 2002 after the 9-11 event; and 2) smoke-free ordinance which went in effect in November 2006. There are some concerns that the increased airport security and more burdensome entry procedures (e.g., finger printing, interviews by unfriendly immigration officers) after the 9-11 event may have contributed to the decrease, because these may be viewed as an unpleasant nuisance to Japanese tourists. Finally, there has been a speculation that the restrictions on smoking in public places, first implemented by a variety of county ordinances since 2002, and later by a comprehensive statewide law in effect since November 2006, have influenced Japanese tourist dynamics. Some have suggested the policy would, or has been a net detractor for Japanese tourists, hypothesizing that since Japanese males have a high smoking prevalence rate, not being able to smoke freely may drive them to choose other destinations with more lenient smoking policies. Contrarily, others have suggested the policy implementations

would, and may already be, net attractors for Japanese tourists who seek a different, more healthful vacation environment. Studies on the impact of a smoke-free policy on tourist arrivals have been scarce. However, potential impacts of the ordinance on the hospitality industry have been conducted. For example, Hyland, Puli, Cumming, and Sciandra (2003) found no or significant positive effect of the ordinance on sales and employment at eating and drinking places and hotels in New York State. Blecher (2006) also reported that the 1999 control amendment act of tobacco products had no significant negative effect on restaurant revenues South Africa.

#### **METHODS**

Multiple regression was used to examine the factors that may have influenced Japanese tourism to Hawaii from January 1995 through August 2007 and the data was obtained from Annual Tourist Research Reports prepared by DBEDT. The dependent variable (DV) for the study is the monthly Japanese tourist arrivals in Hawaii. We tested a total of eight independent variables (IVs) in the current study based on the literature review and data availability. The 3 months lagged IVs were used for air seat capacity, hotel room rates and hotel units, because Japanese tourists would plan their trip to Hawaii approximately 3 months. Thus, these variables will start to impact on their decision for travel at least 3 months after the fact. The continuous IVs were centered to avoid nonessential multicollinearity and to achieve easier interpretation (Cohen, Cohen, West, & Aiken, 2002). Those eight IVs are: 1) Monthly total Japanese overseas tourists to all destinations; 2) Japan Yen exchange rate averaged for each month; 3) Available air seats from Japan to Hawaii (lagged 3 months); 4) Average hotel room rates in Hawaii per month (lagged 3 months); 5) Available hotel units in Hawaii averaged for each month (lagged 3 months); 6) Adoption of stricter security checking procedure (January 2004, as dummy variable);

7) Adoption of the Hawaii smoke-free workplace law (November 06, as dummy variable); and 8) Adoption of airline fuel surcharges (January 2005, as dummy variable).

### RESULTS

When all IVs were entered together, the overall model was significant:  $F(8, 143) = 146.11, p < .001, adj.R^2 = .89$ . When each predictor was examined, monthly total Japanese overseas tourists, available air seats prior to 3 months, average room rates prior to 3 months, available room units prior to 3 months, and change in security checking procedure were significant in predicting the monthly Japanese tourist in Hawaii, while mean monthly exchange rate (\$/100 Yen), anti-smoking law, and airline fuel surcharges were not. In particular, total monthly Japanese tourist arrivals in Hawaii had positive relationships with the total monthly Japanese outbound tourists ( $\beta = .341, p < .001$ ), available air seats prior to 3 months ( $\beta = .657, p < .001$ ) and change in security checking procedure ( $\beta = .149, p < .05$ ), but negative relationships with average room rates prior to 3 months ( $\beta = -.240, p < .001$ ) and available room units prior to 3 months ( $\beta = -.154, p < .01$ ). Table 1, 2, and 3 present the results for the regression analysis.

### Table 1. Multiple Regression Analyses Results

Change Statistics  
Mode  
IR R  
Square  
Adjusted  
R Square  
Std. Error of  
the Estimate  
R Square  
Change  
F

Change df1 df2  
 Sig. F  
 Change  
 Durbin-Watson  
 1 .947  
 a

.896 .890 10657.008 .896 146.1118 135 .000 1.618

Notes: a. Predictors: (Constant), Surcharges, Doll\_per\_yen\_C, Jap\_tourist\_C, Smoking law, Air\_seats\_C, Units\_mon\_C, Room\_rate\_C, Security; Dependent Variable: Annual arrivals

## Table 2: ANOVA Results

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	1.328E11	8	1.659E10	146.111	.000a
Residual	1.533E10	135	1.136E8		
Total	1.481E11	143			

Notes: a. Predictors: (Constant), Surcharges, Doll\_per\_yen\_C, Jap\_tourist\_C, Smoking law, Air\_seats\_C, Units\_mon\_C, Room\_rate\_C, Security; Dependent Variable: Annual arrivals

## Table 3: Coefficients

Model	Unstandardized Coefficients	Standardized Coefficients	B	Std. Error	Beta	t	Sig.
(Constant)	138282.579	1535.248	90.072	.000*			
<b>Total .Japan Tourists</b>	.056	.005	.341	10.218	.000*		
\$/100 Yen	-2413.089	12647.422	-.006	-.191	.849		
<b>Air seats</b>	.564	.038	.657	14.942	.000*		
<b>Average room rates</b>	-375.439	85.787	-.240	-4.376	.000*		
<b>Available units/month</b>	-66.225	21.600	-.154	-3.066	.003*		
<b>Security</b>	10771.420	4227.722	.149	2.548	.012*		
Smoking law	-6388.875	5464.306	-.036	-1.169	.244		
Surcharges	2180.306	4380.120	.027	.498	.619		

Notes: Dependent Variable: Annual arrivals; \* significant at p<.05

## **APPLICATION OF RESULTS**

Government officials and industry members of Hawaii tourism should utilize the results of this empirical study for planning and executing their strategies for not only for recovering Japanese tourism but also for targeting other new markets. According to this study results, some ways that Hawaii can do to revitalize the number of Japanese tourists to come back to Hawaii, are to make more air seats available and to lower average room rates. These results may be also applicable to other markets of Hawaii tourism, considering prevalent renovations in recent years and the changing number of air seats to the islands. In addition, we did not find evidence to support the anecdotes and conjectures about the two main factors that many (including news reporters) believe to have caused the Japanese tourist arrivals to Hawaii to decrease. First, we did not find any significant and/or negative influence of the adoption of the anti-smoking law on the Japanese tourist arrivals to Hawaii. Second, we did not find airline fuel surcharges to have significantly caused the decline of Japanese tourist arrivals to Hawaii. It may well be that Japanese travelers choose other vacation destinations over Hawaii not because it is not only more expensive but because other destinations are perceived to render more value and/or newer. Unlike previous findings in the tourism literature (e.g., Crouch, 1994; Lim, 1999), we did not find a significant influence of the favorable exchange rate in predicting the number of Japanese tourist arrivals to Hawaii.

**CONCLUSIONS** There are many concerns regarding the declining number of tourists who visit Hawaii from Japan, who constitute a significant proportion of overall tourism in Hawaii. Rather than blindly believing conjectures or speculating why this is happening, stakeholders of Hawaii tourism should empirically examine the factors that influence this phenomenon, as done in this

study. Future studies should re-examine this study's model and expand it to include other data (e.g., tourist expenditures, tourist days, and comparative attractiveness). Results can have tremendous implications for state policy, planning, and management and the industry members' strategies in Hawaii.

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