

A Hedonic Pricing Analysis of Hotel Prices in Bangkok Using a Flexible Functional Form

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Abstract

In spite of the severe flooding that occurred in 2011, Bangkok still experienced an increase of 18.4% in international tourist visitors, and was voted as the best city in the world in 2012. As a consequence, it has seen an upward rise in the supply of new hotel rooms and high rates of hotel occupancy. This study aims to examine the most influential hotel characteristics affecting room rates in Bangkok. A hedonic pricing study, using two different linear Box-Cox transformation models, is based on online data accounting for 224 hotels in Bangkok.

Our results show that a log-linear model is an appropriate functional form after having the linear Box-Cox transformation analysis. Of hotel characteristics, the hotel chain was the most influential attribute affecting the hotel room rate in Bangkok. Chain hotels in Bangkok charged room prices at 31% higher than the independent ones. Any room provided with a complimentary breakfast was able to charge a price 16% more than a room without it. Both hotel room size and the distance to the center of Bangkok were also characteristics influencing the hotel room rates in Bangkok.

Keywords : Hedonic, Bangkok, Hotel, Box-Cox Transformation

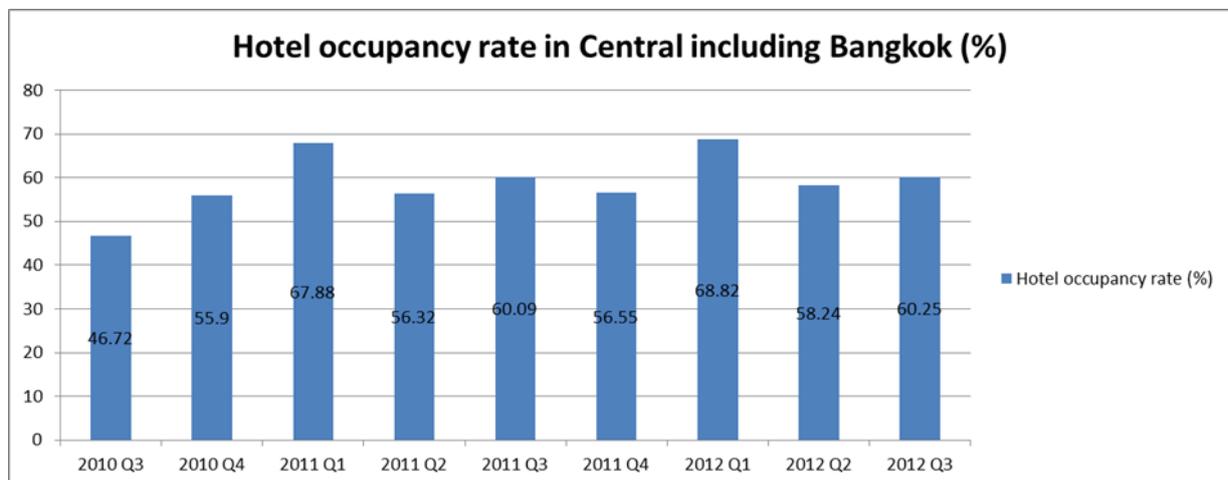
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1. Introduction

In 2012, Bangkok, the capital of Thailand was voted the best city in the world for three consecutive years by Travel and Leisure magazine (2012). In spite of the massive floods in Bangkok between October and November 2011, there was an increase of 18.4% in the number of international tourist arrivals in Bangkok to 12.1 million tourists in 2011. At the same time, the domestic tourism market in Bangkok also increased 4.5% in 2011 (Murray, 2012). Thus the hotel occupancy rate in central areas including Bangkok for the fourth quarter of 2011 totaled 56.55%, an increase of 1.16%, compared to the same quarter of 2010 (See Figure 1).

Figure 1: Hotel occupancy rate in Central including Bangkok



Source: Bank of Thailand (2013)

This demonstrates that the tourism market in Bangkok is bouncing back quickly because many tourists keep coming with number of arrivals increasing even in an unstable year. Furthermore, the first-quarter of 2012 saw the percentage of the share of foreign tourists to total guests increasing to 77.77%, a rise of 3.37% for the same quarter in the previous year (Bank of Thailand, 2013). Because of this, many new hotels have been flocking to open their chains in Bangkok. As of August 2012, there is an additional rise of registered hotels totaling 2,768 rooms according to a Jones Lang LaSalle report.

Hedonic price analysis has been commonly applied to analyze the hotel market because hotel products have a bundle of characteristics or attributes which are inseparable and cannot be sold separately. Hence every hotel has different hotel characteristics. A hedonic price then refers to the implicit price of a specific hotel attribute as revealed by the sale price of a hotel room. In other words, it concerns the relationship between the hotel room price and its

hotel characteristics because to estimate the price-characteristic relationships provides useful information for hotel market studies (Zhang et al., 2011).

To date, none of the previous hedonic price studies in hotels has applied a Box-Cox transformation function as the flexible function form to investigate the price-hotel characteristics relationship despite the Box-Cox functional form being seen as the best fit function to examine the hedonic price model (Cropper, Deck & McConnell, 1988). Therefore the purpose of this study is to use a linear Box-Cox functional form to examine the influential hotel characteristics affecting the hotel room rate in Bangkok and to develop a new method to analyze hotel room pricing.

2. Theoretical background

The hedonic pricing method was at first used for the analysis of quality factors affecting asparagus pricing by Waugh (1928) and then has been extensively applied in other markets such as land, property, cars, and hotels. Hedonic methods used in hotel studies is an indirect valuation method in which we do not observe the value clients have for the hotel characteristics directly but infer it from observable market transactions because the value of characteristics or attributes is non-observable as it can not be traded separately in the market (Rosen, 1974). Only hotel room rates, incorporating the specific combinations of their characteristics are observable. In other words, this method refers to the implicit price of a certain hotel characteristic as revealed by the sale price of the hotel room (Haab & McConnell, 2002; Champ & Boyle, 2003; Espinet et al., 2003).

Many hotel studies have attempted to determine the factors influencing hotel room rates by using hedonic analysis but none of them has ever applied the Box-Cox transformation technique in their analysis (Zhang et al., 2011). To estimate the hedonic model, Haab & McConnell (2002) recommend that a linear Box-Cox transformation function is the best choice because it performs well in the presence of a misspecification. However, the studies related to the Box-Cox transformation hedonic price method in Bangkok are mostly found in condominium price and property price markets (Sirikolsarn, 2008; Thamrongsrisook, 2011). Despite many hedonic price studies estimating the effect of hotel characteristics on the room rates, there are few studies analyzing on the hotels located in the metropolitan cities.

A study (Israeli, 2002) examining 215 Israeli hotels located in nine locations, including the capital, Tel Aviv, showed that the star rating system and larger hotels in terms of number of rooms had positive impacts on the hotel room rate. A star-rating system is thus an influential

factor not only to predict the room price but also the quality. However, Thrane (2007) argued that including star-rating in the study will cause the problem of multicollinearity and also there is the no official star-rating classification rating in data provided.

A similar study by Thrane (2007) revealed that hotel characteristics significantly affected the hotel room rate in Oslo included the minibar, free parking, hair dryer and room services. The distance from hotel to the center as a locational effect also had an impact on their double-room rate. So for any hotel, located near the center of Oslo, the double room rates were higher than those further away. Chen & Rothschild (2010) investigated the hotel attributes impacting hotel room rates in both weekend and weekday in Taipei. Based on 73 hotels with data obtained from internet reervation agents, the study found that location, LED television, and conference facilities had a great impact on both weekend and weekday room prices.

Of particular significance is that the effect of the location influcing negatively on the room rate in Taipei. If any hotel room was located near the heart of Taipei, its room rates became much cheaper than the one located further away. In contrast, a study by Lee & Jang (2011) found that location was a significant factor affecting a hotel room in Chicago. During the high season, any hotel located close to the central business district in Chicago enjoyed higher revenue resulting from the higher room rate. Both hotel chains and valet parking had a significant influence on the room rate in Chicago.

Consistent with this, Zhang et al. (2011) emphasized that location, one of the significant hotel attributes, had a positive influence on the room rate in Beijing. A hotel located near the transport hub will be able to charge the rate much higher than one located further away. Based on the study of 228 hotels in Beijing, the star rate, hotel age, and number of rooms all had major impacts on the room price. Of particular interest is that the log-linear functional form performed the best in the analysis of the hedonic price model based on the hotel study in Beijing. This study was quite distinguished from many prior hotel studies using a hedonic price method. Therefore, the unique approach was to use a linear Box-Cox transformation function, as the fitting functional form, to estimate the hedonic price model.

In spite of natural disasters and political troubles in recent years, Thailand has long been one of the world's most visited and tourist friendly countries (Mahtani, 2013). So this study attempts to investigate the hotel characteristics affecting room prices in Bangkok. The analysis provides useful information particular to hotel investors, hotel pricing planners and other stakeholders.

3. Methodology

As for a price-decision made in this hotel study, the hedonic price model is one of the key approaches, which has been used to determine factors influencing the pricing of hotel room rate and to analyze the relationship between hotel room prices and their characteristics. To estimate how hotel characteristics influence the room rate, it is important to specify which variables belong in the hedonic regression as well as the functional form. A previous study by Cropper, Deck & McConnell (1988) confirmed that among the different functional forms, the linear Box-Cox not only performs well in the presence of misspecification but also provides the precise marginal price estimates when estimating the hedonic price analysis.

A linear Box-Cox transformation in general describes as (Box & Cox, 1964; Kmenta, 1986)

$$\frac{Y_i^\lambda - 1}{\lambda} = \alpha + \beta \left(\frac{X_i^\lambda - 1}{\lambda} \right) + \theta Z + \varepsilon_i \quad (1)$$

where Y is the hotel room rate as the dependent variable, X is the hotel characteristics, an explanation variable and λ is the specific transformation for both X and Y variables, while Z is a non-transformed hotel characteristic, an independent variable which is defined as the dummy variable. Also α , β and θ are unknown coefficients and $\varepsilon \sim N(0, \sigma^2)$. Thus different values of λ result in different functional specifications of the regression model.

If $\lambda = 0$, then it becomes a log-linear model while if $\lambda = 1$, then it is a simple linear regression. However when the functional form is in doubt, it can be generalized to have the transformation of the independent variable differing from that of the dependent variable.

Therefore

$$\frac{Y_i^\lambda - 1}{\lambda} = \alpha + \beta \left(\frac{X_i^\mu - 1}{\mu} \right) + \theta Z + \varepsilon_i \quad (2)$$

where μ differs from λ . Compared with (1), this covers more varieties of the particular functional forms. If $\lambda = 1$ and $\mu = 0$, it represents the semi-log model; when $\lambda = 1$ and $\mu = -1$, it becomes the reciprocal model; when both λ and μ are equal to 1, it yields a simple linear model; and when both λ and μ are equal to 0, it becomes a log-linear model.

Then both (1) and (2) are estimated by the maximum likelihood to obtain the value of all unknown parameters of λ and μ . To obtain standard errors, it estimates by creating the suitable information matrix for all unknown parameters, and replaces all of them by their particular maximum likelihood estimates and then inverts the matrix to get their estimated standard errors. In spite of no difficulty to acquire the standard error, their interpretive expressions are hard to work out and are quite complicated (Kmenta, 1986).

4. Data

The data, including hotel room rates and the associated hotel characteristics in Bangkok, were obtained between October and November 2012 representing the change from low to high season, based on the Agoda internet hotel reservation website (www.agoda.com). Previous hotel studies (Chen & Rothschild, 2010; Lee & Jang, 2012) suggested that gathering the hotel data from online booking is an appropriate method. Many hotel reservation websites provide travelers with access to correct and reliable information, provided in less time, incurring less expense, and providing more convenience than the conventional survey method. Also it offers the lowest possible room rate for each night to their customers, which they regarded as fair, acceptable and honest (Rohlf's & Kimes, 1997; Crnojevac, Gusic & Karlovcan, 2010).

Our study comprised 224 hotels in Bangkok. Data was derived from a single-night weekend stay in a single or double room. Room rate (PRICE), regarded as the dependent variable, was obtained from an online booking made two weeks before arrival because most hotel rooms were ordered in the time window of two weeks (Kisilevich et al., 2011). Furthermore PRICE used in this study was the room rate before taxes or any service charge. The hotel characteristics as the independent variables were selected based on several prior published studies.

The studies by Monty & Skidmore (2003) and Chen & Rothschild (2010) discovered that room size (SIZE) has a positive influence on the room rate, therefore a bigger room size is significantly more expensive than the smaller one for both weekend and weekday room rates. The distance from the hotel to the center (CEN) had been regarded one of the influential factors on hotel pricing because a recent study by Lee & Jang (2012) revealed that room rate located in central business district in Chicago was quite high regardless of low and high seasons. A similar study (Thrane, 2007) confirmed that a double room hotel near the central of Oslo was more expensive than the one, which was far away from the center. Also, another study by Shoval (2006) found that an individual tourist preferred to pay more money in order to stay in hotel located near the center than the group-typed tourist. As for CEN, an independent variable, our study used the internet-based application, Google Maps to calculate the distance on average between the hotel and the Siam Square Bangkok Transit System (BTS) station as the proxy of Bangkok city center in kilometers. The area of Siam Square BTS station is considered as the center of Bangkok, which not only provides the accessibility to other major business districts in Bangkok, but also has all major shopping malls, shops, and services in that location.

Many studies identified that the hotel chain (CHAIN) is one of the most crucial determinants affecting the hotel price. Wu (1998) and Lee & Jang (2011; 2012) revealed that room rates of hotel chains was more expensive than those of independent hotels. In addition, the hotel chains have influenced on the high price range of the room rate in both low and high seasons. To classify the hotel chain variable, we selected the hotels under the ensign of a hotel group both international and local brand names.

Although several studies included the hotel star-rating into their consideration, this study did not use this variable because there is a lack of common, formalized official rating classification which will cause problems for data reliability. Other hotel characteristics including a LCD/Plasma (TV), the complimentary wifi, (WIFI), complimentary breakfast, (BREAK), and the business center (BUSINES) were all incorporated into our study because previous studies (White & Mulligan, 2002; Chen & Rothschild, 2010; Lee & Jang 2011) showed that they have an impact on the hotel room rate. Therefore Table 1 describes the details on the hotel characteristic variables and also provided the mean and the standard deviations.

Table 1: Descriptive statistics for hotel characteristic variables (N =224)

Variable	Description of variable	Mean	S.D.
PRICE	Room rate per night (US\$)	77.91	40.16
LOGPRICE	Price, logged	4.23	0.50
SIZE	Hotel room size in square meter	37.28	12.60
LOGSIZE	Size, logged	3.57	0.31
CEN	Distance from the center (in kilometers)	4.33	3.31
LOGCEN	Cen, logged	1.20	0.78
TV ¹	Room with a LCD/Plasma Television =1, if not =0	0.71	0.45
WIFI ¹	Complimentary wifi =1, if not =0	0.74	0.44
BREAK ¹	Complimentary breakfast =1, if not =0	0.30	0.46
BAR ¹	Number of bars =1, if not = 0	0.38	0.49
BUSINES ¹	Hotel has a business center =1, if not =0	0.70	0.46
CHAIN ¹	Hotel is associated with a hotel chain =1, if not = 0	0.31	0.46

1 – Dummy variable

Therefore our two specific Box-Cox transformation models were

$$\frac{PRICE^{\lambda-1}}{\lambda} = \alpha + \beta_1 \left(\frac{SIZE^{\lambda-1}}{\lambda} \right) + \beta_2 \left(\frac{CEN^{\lambda-1}}{\lambda} \right) + \beta_3 TV + \beta_4 WIFI + \beta_5 BREAK + \beta_6 BAR + \beta_7 BUSINESS + \beta_8 CHAIN + \varepsilon \quad (1)$$

$$\frac{PRICE^{\lambda-1}}{\lambda} = \alpha + \beta_1 \left(\frac{SIZE^{\mu-1}}{\mu} \right) + \beta_2 \left(\frac{CEN^{\mu-1}}{\mu} \right) + \beta_3 TV + \beta_4 WIFI + \beta_5 BREAK + \beta_6 BAR + \beta_7 BUSINESS + \beta_8 CHAIN + \varepsilon \quad (2)$$

Dependent variable, PRICE was a subject to a Box-Cox transformation with parameter λ . Two independent variables SIZE and CEN were transformed by the Box-Cox transformation with either all parameters λ in (1) or both parameters λ and μ in (2) which we assumed that transformation of them were different. TV, WIFI, BREAK, BAR, BUSINESS, and CHAIN were not transformed because they are dummy variables (Kennedy, 2003).

5. Estimation and Empirical results

Before estimating two Box-Cox transformation models, we diagnosed the outliers because they can lead into faulty statistical estimates, so removing outliers will increase the accuracy of the statistical analysis (Osborne & Overbay, 2004). Our sample size of 224 was large enough to prove as the normality based on the central limit theorem, so the sample mean statistic is asymptotically normally distributed (Kmenta, 1986; Kennedy, 2003). With the use of STATA statistical package, with its boxcox command to find the maximum likelihood estimates of the parameters λ and μ of Box-Cox transformation, the coefficients on the explanatory variables, and the standard error of the normally distributed errors for both two Box Cox transformed models.

The results given in Table 2 shows that as for model I the best fitting transformed parameter λ was -0.039, however, it was not statistically significant at any level. In addition, STATA provided the likelihood ratio tests for the hypotheses to check whether the Box-Cox parameter of λ was -1, 0, or 1, indicating the reciprocal, the log, or no transformation at all, respectively. The output revealed only the null hypothesis of that λ is equal to zero was accepted at any level of statistical significance, demonstrating that there was evidence that we needed to transform the model I into a log-linear model, while the reciprocal and no transformation were statistically rejected.

Table 2: Estimation results of Box-Cox hedonic model

Model I				Model II				
	Coefficient	S.E.		Coefficient	S.E.			
Lambda	-0.039	0.090	Lambda	0.686	0.399			
			Theta	-0.085	0.093			
Characteristic	Coeff.	Chi2 (df)	P >	Chi2(df)	Coeff.	Chi2 (df)	P >	Chi2(df)
SIZE	0.540	39.351	0.000	0.029	34.531	0.000		
CEN	-0.074	6.797	0.009	-0.032	9.476	0.002		
The following variables are not transformed								
TV	0.176	13.735	0.000	0.151	15.074	0.000		
BREAK	0.127	7.415	0.006	0.100	6.969	0.008		
BUSINES	0.147	9.057	0.003	0.136	11.194	0.001		
CHAIN	0.232	22.110	0.000	0.199	24.164	0.000		
BAR	0.106	5.947	0.015	0.086	5.899	0.015		
WIFI	0.015	0.096	0.756	0.01	0.064	0.800		
Constant	1.799			2.837				
Log-like	-1036.655			-1035.036				
Prob> Chi2	0.000			0.000				
BIC	2078.722			2080.89				
Test H0:	Chi2	P >	Chi2	Test H0:	Chi2	P >	Chi2	
lambda = -1	116.310	0.000		theta=lambda = -1	119.54	0.000		
lambda = 0	0.180	0.670		theta=lambda = 0	3.42	0.064		
lambda = 1	110.510	0.000		theta=lambda = 1	113.75	0.00		

As for the estimated coefficients in model I, STATA provided the resulting coefficient, not the standard error. Then we again applied a likelihood ratio test to check whether each coefficient of the explanatory variable was significant. As expected, the independent variables were statistically highly significant with the right signs except for WIFI, which was not statistically significant. Among significant explanatory variables, most of them had a major positive impact on the hotel price, whereas only CEN had the negative influence on the room rate.

As for the model II, assuming the transformed parameters of λ and μ are different. The outcome showed that the fitting parameters for both λ and μ were 0.686 and -0.085, but not statistically significant at any level. Furthermore, the likelihood ratio test was used to check the hypotheses of whether both λ and μ , Box-Cox transforms were -1, 0 or 1. It confirmed that model II must transform into the log-linear model because only the null hypothesis of which both λ and μ are equal to zero was accepted at the 5% level. This was consistent with the result of model I, so the both Box-Cox transformation models suggested that the correct model was a log-linear one.

Regarding the result of the estimated coefficients, most explanatory variables in model II were significant at the 5% level and their signs were accurate. Similar to the result on model I, most independent variables were statistically significant except for WIFI, which had a positive effect on the price but not significant. It has been noted that the both two Box-Cox transformation models yielded the same results that the appropriate hedonic functional form after having log-likelihood test was the log-linear model. After that we again regressed PRICE as dependent variable in logarithm on SIZE and CEN, both transformed in logarithm, as well as TV, WIFI, BREAK, BAR, BUSINESS, and CHAIN, which all of them were not transformed.

Using the STATA command, we used a Huber-White sandwich estimator on the ordinary least square (OLS) method to estimate our log-linear model because it increases the efficiency on the estimation and guards against the problem of heteroskedasticity in case if it occurs (Verbeek, 2008). Before interpreting the results, it is useful to check for the possibility of multicollinearity and heteroskedasticity. First, a multicollinearity problem presents when the model has an approximate linear relationship between its independent variables resulting in erroneous regression estimates. To diagnosis this problem, Gujarati & Porter (2009) suggested variance inflation factor (VIF) is used to detect and if VIF is higher than 10, it is a signal of multicollinearity. As a result, our independent variables all had values of VIF less than 1.20, which was free from this problem.

Second, heteroskedasticity mostly occurs when the data are cross-sectional, so the variance of the disturbance varies from observation to observation. The presence of a heteroskedasticity problem does not make the least squares estimators unbiased, but inefficient (Kmenta, 1986). To test the heteroskedasticity, we used the Breusch-Pagen test or the Lagrange multiplier test for heteroskedasticity examination. Our model consequently was clearly exempt from this problem.

Table 3: Estimation results of hedonic model

(1) $\lambda = 0$				
(2) $\lambda = \mu = 0$				
Dependent variable: LOGPRICE				
	Coefficient	Robust S.E.	95% Confidence interval	
Characteristics				
LOGSIZE	0.551 ^{***}	0.074	0.405	0.697
LOGCEN	-0.085 ^{**}	0.030	-0.143	-0.027
TV	0.207 ^{***}	0.055	0.099	0.315
BREAK	0.147 ^{**}	0.053	0.042	0.251
BUSINES	0.172 ^{**}	0.054	0.064	0.279
CHAIN	0.272 ^{**}	0.056	0.163	0.382
BAR	0.127 ^{**}	0.055	0.018	0.236
WIFI	0.020	0.051	-0.081	0.121
Constant	1.910 ^{***}	0.250	1.416	2.404
R-Square	0.473			
N	224			
BIC	225.275			
AIC	194.570			

Remark: As for two-tail tests: ***p < 0.001, **p < 0.05

The OLS estimation results for the log-linear model are given in Table 3. Recall that in the log-linear model the coefficients of SIZE and CEN have the interpretation of elasticity, while the coefficients of non-transformed dummy variables will be interpreted either in the percentage term calculated by $(e^{\beta} - 1) * 100$, where β is the coefficient and e is the base of natural logarithm, or in the dollar unit, the calculation will be $(e^{\beta} - 1)$ multiplied by the mean of the room rate in the sample (Kennedy, 2003; Monty & Skidmore, 2003; Verbeek, 2008).

With an R^2 of 0.473, the robust standard errors and the 95% confidence intervals, the outcome showed that SIZE had statistically positive influence on the room rate. It implied that a 10% increase in room size in square meters, ceteris paribus, would raise the room rate 5.5% accordingly. As for the distance between the hotel and the center, the elasticity of the room rate

with respect to CEN had a negative sign with any level of statistical significance, thus a 10% in kilometer of hotel located close to the Bangkok center, its room price raised up about 0.84% or almost 1% in US dollar.

Among non-transformed hotel characteristics, the hotel chain was the most influential factor affecting the hotel room rate. Therefore, a hotel chain in Bangkok will charge room prices 31% higher than the one, which was a non-branded hotel. The room rate on brand named hotels is on average more expensive by about \$ 24 compared with the non-hotel chain.

Of particular significance is any hotel room equipped with a LCD or plasma television, the rate was much higher than the one which did not have it, by 23% or an increase of \$18 on the average of the room price. The existence of a business center and a complimentary breakfast both had major influences on the room rate in Bangkok. If any hotel provided the business center, its room rate on average was \$15 higher than the hotel, which did not. Similarly, for any room with the complimentary breakfast, the rate was higher of 16% than the room without it.

Last, for any hotel which has its own bar facility, the room price was *ceteris paribus* more costly than the one, which did not have. A room rate, whose hotel had a bar will charge 13.5% higher. Of particular interested was a hotel room with complementary wifi, the rate became more expensive, however, the result t-test statistic was 0.39, which was not statistically significant at any level. Overall, most hotel characteristics in this study were statistically significant with the correct signs as expected, except for WIFI. Although the coefficient of complementary wifi was not statistically significant, it depicted the right sign.

6. Conclusion and Discussion

Among the hedonic price analysis of hotel studies, this study is the first attempt to determine the factors influencing a hotel room rate in Bangkok with the linear Box-Cox transformation technique, justified because Cropper, Deck & McConnell (1988) suggested that the linear Box-Cox transformation model is the best and performs well in the hedonic price study. After undertaking alikelihood test on the Box-Cox transformation models, it evidently showed that the our Box-Cox models should statsitcally be transformed into the log-linear, depicitng the best fitting functional form. This principal finding is also consistent with the previous study by Zhang et al. (2011) that log-linear is the optimal form to be used for estimaitng the hotel room rate.

As for the dominant hotel characteristics, room size has a positive influence on the room rate. A similar result (Chen & Rothschild 2010) revealed that given a one night stay in Taipei, the hotel size is more important for the a weekend leisure client to stay longer than a weekend business customer. Also Monty & Skidmore (2003) confirmed that room size is one of the significant amenity characteristics to affect the bed and breakfast room price.

The distance from the hotel to the center is one of the crucial determinants. Many researchers found the hotel close to the center charged the room rate higher than the one is further from the center (Monty & Skidmore, 2003; Shoval, 2006; Thrane, 2007; Lee & Jeng, 2011; 2012). Also, Lee & Jang (2012) found that the hotels located in central business districts (CBD) face with a dual effect on their room rates. During the high-season, the CBD hotels enjoy their big revenue from the sales of high room rates, but during the low season they give the big discounts on their room rates as a result of high competition with neighbour hotels.

Hotel chain figures prominently in the price strategy of the hotel business. One recent study by Lee & Jang (2012) affirmed that regardless of the season, the room rate in hotel chains is always higher than in the non hotel chains. Likewise, Trane (2007) showed that a single hotel chain room rate in Oslo is more expensive than unbrandname one by around 15%. More importantly, Wu (1998) pointed out that regarding the franchisee fee on the hotel chain, the higher fee is set off by being able to charge a higher price to the customers. Because of this, there are many new hotel chains flocking to open, adding more almost 6,000 new rooms in Bangkok including The Sofitel So, Okura Prestige, Sofitel Sukhumvit, Grand Eastin and the W hotel, making Bangkok one of the most hotel-packed cities in South East Asia.

Chen & Rothschild (2010) found that a room with LCD/plasma television has a higher rate than the one without it by about 19.1%. This confirms that LCD/plasma television is the driving force behind the strategic hotel price. For a hotel with the bar facility, its room rate is more expensive than the one whose hotel has no bar by about 15.6%, implying a bar is one of the major hotel characteristics influencing the room rate. Despite that some studies that found complimentary breakfast had a negative sign, this study confirmed that a hotel room providing complimentary breakfast charges a higher rate than one without it. Therefore a 2011 publication by a Carlson Wagonlit travel reported that many hotels now are offering the higher rate if the complementary amenities are already incorporated because they need to increase their revenues.

Based on our results, CHAIN is the most influential hotel characteristic, affecting on the room rate. Any hotel under chain will be regarded with more expensive than the one without the

brand because most customers believed that hotel chain can provide more standardization as well as the excellence of services, as it meets their expectation, so they are willing to pay more. In spite of many international hotel chains in this industry, Thailand still has many locally-owned hotel chains such as Dusit international, Sukosol hotels and Centara hotels and resorts. This evidently shows that we need to establish and expand more local hotel chains with international standardization. Moreover, Thailand soon will join Asean Economic Community (AEC) with other 9 countries in 2015 and hotel industry is also being part of the hospitality and spa section, one of the four major sections under AEC agreement.

The hotel industry in Bangkok will not only benefit more growing popularity of tourism in Asia, but also has to face the significant challenges associated with the liberalization of trade in service, investment, labor mobility and greater harmonization of rules and regulations. With our competence in the service industry based on our traditional serviced-culture and human resource advantage, Thailand has greater opportunity to increase more local hotel chains under AEC and also expand them to other Asean countries.

Although there are many interesting results consistent with prior work, this study has some limitations. This study is conducted only in Bangkok hotels, so it provides only information on crucial determinants affecting on the hotel room pricing in Bangkok. Consequently, this limits the knowledge of the hotel price strategies because it considers only the hotel market in Bangkok. According to our Box-Cox transformation results, we recommend that log-linear function form should be better and applied extensively more in hotel studies with in different cities, so that it can provide more results that are diverse as well as useful information for the hotel developers, tourism strategic planners and other stakeholders. Further studies are recommended to expand the investigations in terms of high and low season periods. This will help determine which hotel characteristics have a major impact on the room rate in Bangkok for the two different periods.

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