# A Discriminant Analysis on Tourist Behaviour with Reference to Hotels in Odisha

Mr. Subrat Kumar Panigrahi\*

Mrs. Amrita Rout \*\*

#### **Key Words:**

- 1. Customer Relationship
- 2. Tourism Service
- 3. Service quality
- 4. Discriminant analysis

#### Abstract

The present study attempts to identify three important factors that makes a customer distinguish between three major hotels in Bhubaneswar. Respective weights to these factors has also been derived. More over a model has been established that predicts the customer-ship of a tourist of three prominent hotels in Bhubaneswar. This customer-ship can be predicted based on the scores of some important factors which are responsible for the choice of a particular hotel. The study has been conducted in Bhubaneswar the capital city of Odisha. The major factors identified were "Service Quality", "Food Quality", and "Tourism Facility" given by the hotels which makes the customer distinguish between the three hotels. The result thus confirms a number of preliminary studies which indicates wide spread care on the three factors by different hotels. Taking care of these three factors has enabled the hotels to satisfy their quests..

#### INTRODUCTION

#### Introduction to hotel industry in Odisha

Odisha was among the first to declare hotels as an industry. Hotels in the private sector play an important role as government or public sector-owned tourist bungalows, lodges, etc. There are present nearly 350 private hotels and many more are coming up. There are nearly 30 hotels with different star ratings offering more than 1000 air conditioned rooms. A recent addition has been the hotel Oberoi, Bhubaneswar constructed in the temple style of architecture amidst modern settings of the state.

#### Importance of Service quality

The quality of service in hotel industry is an important factor of successful business. The existing trend of complete quality management in hotel industry ensures the achievement of competitive advantage of hotels and is therefore the subject of contemporary research into service quality in hotel industry. The concept and the conceptual model of service quality is indispensable if we wish to understand the genesis of service quality and potential gaps in quality.

## About importance of food

To support the focus on food and beverage development, many companies are expanding expertise in this area by

\* Assistant Professor, Saraswata Institute of Management, Bhubaneswar and can be reached at spgrhy@gmail.com \*\* Assistant Professor, Rajdhani College of Engineering and Management, Bhubaneswar and can be reached at amritarout23@gmail.com increasing the number of corporate staff members or adding senior level positions where none existed before. Overall, the executives agreed that in the past five to ten years, consumers from nearly all market segments have become more demanding when it comes to food and beverage quality and the dining experience. This shift is partially credited to the increased presence of specialized media content such as the Food Network, which has elevated chefs from people traditionally hidden away in the kitchen to innovators with celebrity status. Further, hotel food & beverage has been recognized as an important contributor to a hotel's positioning within its market. As such, a guest's experience with food & beverage plays a critical role in his or her overall hotel experience, and has been credited as an important driver for rooms revenue as well as overall asset value. This explains why, in recent years, corporate food and beverage departments are either hiring or remaining intact while other departments have faced downsizing.

# Importance of Tourism service

Hotel sector is the key segment of tourism industry to earn foreign exchange. Realising the importance of hotel segment the government has taken initiatives to encourage hotel industry by providing tax benefits and other incentives. Foreign investment and collaboration are now facilitated under new economic policy. The hotel industry has shown a spectacular growth during the last one and half decades. In the approved list of Department of Tourism the classified hotels are 125 in One Star, 286 Two Star, 274 Three Star, 73 Four Star, 56 Five Star, 42 Five Star Deluxe, and 41 of heritage hotel category. Inspite of rapid strides

© Vishwakarma Institute of Management INM ISSN: 2229-6514 (Print),2230-8237(Online) made by the hotel industry since last one decade or so, the hotel accommodation falls short of the requirement of growing inflow of the tourists.

# Importance of Security

Excellent hotel security is an absolute necessity, and must be designed and implemented to ensure guests feel safe, but not restricted or inconvenienced. Hotel security is a never-ending task of balancing guest security and guest comfort. Ongoing media coverage of terrorist attacks and crime keep security issues in the spotlight and guests are very conscious of their security needs.

Managing security in hotels is a delicate balancing act. On one hand, guests want to know that their rooms and possessions are secure and that processes are in place to ensure that any undesirables who wander in off the street are dealt with. On the other hand, they don't want to see blatant signs of oppressive security measures wherever they go. They want to feel they're in a welcoming place with an air of luxury, not a prison.

#### Importance of Ambience

We define ambiance as the mood or the atmosphere that we encounter in a particular place at a particular instance of time. Ambiance, in this context, is a very important aspect of the hotel experience. It's not really something guests see, but rather something that is felt, something that is experienced. Ambiance helps transform the hotel from a building with accommodations to a home away from home, an establishment where guests can be alive and well. When it comes to creating that perfect atmosphere, well-appointed rooms that complement the hotel's desired theme or character are always a big plus. Every tiny little detail should be able to work with every other detail as well as the environment, in order to create a unified mood that meshes together perfectly to achieve the desired result.

Sometimes it's all about getting all things perfectly matched. From the food to the furnishings to the music played in the dining hall, these details all help create a unique ambiance. Lighting, of course, has a big effect on the ambiance. Even the decorations on the doors and the intricate tapestries adorning the walls play a significant role in establishing a mood inside the hotel.

# Importance of Staff behaviour

The behavior of employees who have contact with

customers presents a management challenge, due to the importance and complexity of these employees' perceptions and roles. Customer contact employees themselves must manage relationships both within the internal organization (e.g., their immediate supervisors), and external to the organization (e.g., customers). These relationships influence contact employees' perceptions of how fairly they are treated. In their roles as boundary spanners, contact employees deliver the organization's products and services to customers, and transmit customer feedback back to the organization. These job conditions often give contact employees considerable discretion regarding their actions toward customers.

Looking at the importance of all the factors for a successful hotel business this study has identified some important factors and its relative weight. Empirically this study has analysed 7 major factors and out of which it has selected 3 major factors which has the discriminating power among the three hotels in Bhubaneswar. This study help executives to focus on the those particular demanding factors. More over this study separates the customers from one another basing on the requirements in three groups. The separation is done by a statistical equation called Discriminant function.

#### **OBJECTIVE**

To make a in-depth analysis of factors responsible for the choice of customer in choosing the hotels.

To find the factor which discriminates the three hotels.

To find a statistical function to predict the customer-ship of a person.

#### LITERATURE REVIEW

With advancement of technology and new amenities the requirement of guests keeps on changing over time. It is important to identify these new hotel attributes and measure their relative importance. Dube and Renaghan (1999) stated Increasing occupancy rates and revenue by improving customer experience is the aim of modern hospitality organizations. Business and leisure travelers' perceived importance and performance of six hotel selection factors in the Hong Kong hotel industry. The six hotel selection factors identified were: Service Quality, Business Facilities, Value, Room and Front Desk, Food and Recreation, and Security (Chu and Choi, 2000).

Alternatives	Highly satisfied	Satisfied	Neither Satisfied	Dissatisfied	Highly Dissatisfied
			Nor Dissatisfied		
Weights	5	4	3	2	1

Comfortable mattresses and pillows, beds in side the room. Good lighting to read/work Security and comfort factors, inroom business service amenities shown significance to business travelers (Witchanee Vuthipongse, 2001). Quality of Staff Performance was the most influential factor followed by Quality of Room Facilities, Value for Money, Variety and Efficient Services, Business Related Services, and Safety and Security respectively (Qu, Ryan, Chu 2000). Customer that perceives an attribute that is important believes that the particular attribute will attempt a significant role in influencing the selection of a product or service (MacKenzie, 1986). Tangibles was the most important area when evaluating service quality James E. Bartlett, II and Peter W. Cardon, 2007). Hotel attributes are known as the services and facilities offered by the hotel hence, features of the attributes could lead towards customer selection process (Lewis, 1983). Hotel attributes that would be considered when choosing a hotel include cleanliness (Atkinson, 1988), comfortable, convenient location and accessibility (Ananth, DeMicco, Moreo, & Howey, 1992), safety and security (Ananth et al., 1992; Atkinson, 1988). Wilensky and Buttle (1988) highlighted the significant elements evaluated by travellers which were personal service, physical attractiveness, opportunities for relaxation, standard of services, appealing image, and value for money. Barsky and Labagh (1992) examined the three attributes that had been considered by travellers as important in choosing a hotel and leads to loyalty. They were (a) employee attitude; (b) location and (c) rooms condition. Price, Quality, Security and convenience of location were the most important attributes in selective a hotel (Ananth et. al ,1992). The main features in choosing hotel for business travellers were (a) location followed by (b) price and finally (c) level of service accommodations (Lewis, 1984). According to McCleary, Weaver and Lan (1994) the top five business travellers attributes includes business facilities, basic facilities, personal services, free extras and convenient eating facilities. Cobanoglu et al. (2003) examined Turkish business travellers' hotel selection attributes. Their findings revealed that there were twelve major factors of hotel selection components which were service, price and value, security, extra amenities, technology, room comfort, food and beverage, complimentary goods, parking, location, health sensitivity, and single sensitivity. In addition, both leisure and business travellers had chosen general amenities to be the most significant determinants for hotel selection in a study conducted by Yavas and Babakus (2005).

Aspects of the basic hotel product have been ranked as most important across much of the research and in particular cleanliness has been often placed as most important (Callan & Bowman, 2000; Knutson, 1998; Lockyer, 2002; Weaver & Mc Cleary, 1991; Weaver & Oh, 1993) with Weaver and Mc Cleary (1991) reporting that ovber ninety percent of business travelers ranked cleaniness as the most important aspect. Following cleanliness, other aspects of the core hotel product such as comfortable beds and rooms and good quality towels (Knutson, 1988; Weaver & McCleary, 1991; Weaver & Oh, 1993) were ranked highly. Other aspects of the hotel that were reported as important for hotel selection included quality staff and service (Knutson, 1988; Lockyer, 2002; Weaver & McCleary, 1991; Weaver & Oh, 1993), safety and Security (Kuntson, 1988; Lockyer, 2002; Weaver & McCleary, 1991) and added value extras such as free newspapers and cable TV (Weaver and McCleary, 1991, Weaver & Oh. 1993).

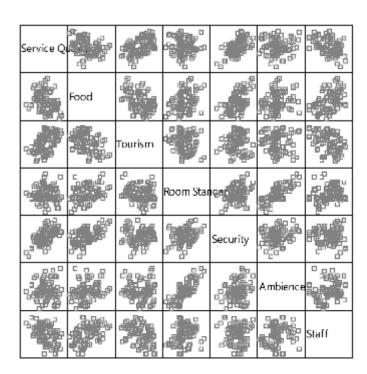
#### RESEARCH METHODOLOGY

This study has been conducted in Bhubaneswar. The sample size in this study is 100. A web based structured questionnaire was prepared and sent to respondents through email. Three group Discriminant analysis has been conducted to find out the variables which discriminate the three groups of customers who belongs to the three distinguished hotels in Bhubaneswar.

#### **RESEARCH FINDINGS**

# Figure-1

Having computed a scatter plot (Figure-1) for all combinations of metric independent variables we identify all of the variables that appear in any plot that shows a



nonlinear trend. We will call these variables our non linear candidates. To identify which of the non linear candidates is producing the non linear pattern, we look at all of the plots for each of the candidate variables. It is found that non of our metric independent variables show a strong nonlinear pattern, so no transformations done in this analysis.

Table of Eigenvalues (Table-1) presents the information on each of the discriminant function produced. The last column labeled as Canonical correlation is the multiple correlation between the predictors and the discriminant function. Here a canonical correlatin of .812 for function-1 suggests the model explains 65.93% of the variation while function 2 25.2% of the variance of the grouping variable.

Here there are two discriminant functions because number of groups in the dependent variable is 3. In the wilks' Lambda table(Table-2) SPSS successively tests models with an increasing number of functions. Since the probability of the chi-square statistic for this test is less than 0.0001, we reject the null hypothesis and conclude that there is at least one statistically significant function.

The second line of Wilks' Lambda table tests the null hypothesis that the mean discriminant scores for the second possible discriminant are equal in the subgroups of the dependent variable. Since the probability of the Chi-

square statistic for this test is less than 0.0001, we reject the null hypothesis and conclude that the second discriminant function, as well as the first, is statistically significant. Therefore there are two statistically discriminant functions for the problem.

Box's M statistics (Table-3) used here to test whether or not we meet the assumption of equal dispersion of the covariance matrices. The alpha value is 0.01. At that alpha value we reject the null hypothesis for this analysis. Therefore we got equal dispersion of the for the dependent variable groups.

- a Cross validation is done only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case.
- b 82.0% of selected original grouped cases correctly classified.
- c .0% of unselected original grouped cases correctly classified.
- d 79.0% of selected cross-validated grouped cases correctly classified.

The classification result (Table-4) shows that 82.0% of respondents were classified correctly into three groups. So the Hit-ratio is 82%. The respondents of May fair hotel

Table-1: Eigenvalues

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	1.937(a)	84.9	84.9	.812
2	.346(a)	15.1	100.0	.507

a First 2 canonical discriminant functions were used in the analysis.

Table-2 Wilks' Lambda

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1 through 2	.253	131.954	6	.000
2	.743	28.517	2	.000

a First 2 canonical discriminant functions were used in the analysis.

Table-3: Test Results: Box's M test

Box's M	39.316	
F	Approx.	3.129
	df1	12
	df2	45247.127
	Sig.	.000

Tests null hypothesis of equal population covariance matrices.

were classified with slightly better accuracy (91.2%). The required model accuracy is  $0.345 \times 1.25 = 0.431$ . our accuracy rate of hold out sample is 75% which exceeds 0.431

In the table of Prior Probabilities for Groups(Table-5), we see that the three groups contained .35, .25, and .40 of the sample of sixty cases used to derive the discriminant model. The maximum chance criteria use the proportion of cases in the largest group, 40% in this problem. Based on the requirement that model accuracy be 25% better than the chance criteria, the standard to use for comparing the

model's accuracy is 1.25 x 40% = 50%. Our model accuracy rate of 75% exceeds this standard

The combined group scatter plot (Figure-2) enables us to link the discriminant functions to the categories of the independent variable. The SPSS output have been modified by changing the symbols for the different points to make it easier to detect the group members. In addition gridlines have been at the zero value for both function.

The first discriminant function is plotted on the horizontal axis. If the vertical axis above its zero points is seen it

Table-4: Classification Results(b,c,d)

			Hotel service availed	Predicte	Predicted Group Membership		Total
				swosti	trident hilton	may fair	
Cases Selected	Original	Count	Swosti	27	5	2	34
			trident Hilton	4	23	5	32
			may fair	0	2	32	34
		%	swosti	79.4	14.7	5.9	100.0
			trident hilton	12.5	71.9	15.6	100.0
			may fair	.0	5.9	94.1	100.0
	Cross-validated(a)	Count	swosti	27	5	2	34
			trident hilton	5	21	6	32
			may fair	0	3	31	34
		%	swosti	79.4	14.7	5.9	100.0
			trident hilton	15.6	65.6	18.8	100.0
			may fair	.0	8.8	91.2	100.0
Cases Not Selected	Original	Count	swosti	0	0	0	0
			trident hilton	0	0	0	0
			may fair	0	0	0	0
		%	swosti	.0	.0	.0	100.0
			trident hilton	.0	.0	.0	100.0
			may fair	.0	.0	.0	100.0

Table-5: Prior Probabilities for Groups

Hotel service availed	Prior	Cases Used in Analysis	
		Unweighted	Weighted
Swosti	.340	34	34.000
Trident hilton	.320	32	32.000
may fair	.340	34	34.000
Total	1.000	100	100.000

would be seen that Swosti lies left to it and trident Hilton lies on the line while may fair lies right to it. Therefore the 1st discriminant function is distinguishing the may fair customers from other customers. (Unfortunately the line goes through the Trident Hilton title)

The second discriminant function is plotted on the vertical axis. It is seen that the horizontal line separates trident Hilton from swosti and may fair customers.

The table Function at the group centroids (Table-6) presents

the centroids or mean for each group on each discriminant score. It can be seen that in the column labeled function 1 the swosti and trident Hilton are negative while the centroid values of may fair is positive. The first function separating swosti and trident Hilton from may fair. Next it can be seen from the column 2 which is labeled as function 2 that swosti and may fair is negative and trident Hilton is positive which means the second discriminant function is separating these two groups.

At each step, the variable that maximizes the Mahalanobis

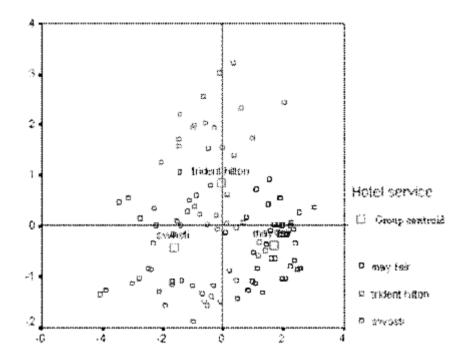


Table -6 : Functions at Group Centroids

Hotel service availed	Function	
	1	2
Swosti	-1.636	416
Trident hilton	054	.844
may fair	1.687	378

Unstandardized canonical discriminant functions evaluated at group means

Table-7: Variables Entered/Removed(a,b,c,d)

Step	Entered	Min. D Squared					
		Statistic	Between Groups			Exact F	
				Statistic	df1	df2	Sig.
1	service quality	.916	swosti and trident hilton	15.099	1	97.000	.000
2	Food	2.157	trident hilton and may fair	17.599	2	96.000	3.080E-07
3	tourism	4.090	swosti and trident hilton	22.013	3	95.000	6.599E-11

distance between the two closest groups is entered.

- a Maximum number of steps is 14.
- b Minimum partial F to enter is 3.84.
- c Maximum partial F to remove is 2.71.
- d F level, tolerance, or VIN insufficient for further computation.

The summary table of variables entering and leaving the discriminant functions (Table-7) shows the three independent variables included in the analysis in the order shown in the table. We would conclude that three of our seven predictor variables, service quality, restaurant, tourism, are useful in distinguishing between the different hotels.

To determine which predictor variables are more important in predicting group membership stepwise method of variable selection was used, we can simply look at the order in which the variables entered, as shown in the table variables entered and removed. From this table, we see that service quality, restaurant, tourism are the three most important predictors.

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions Variables ordered by absolute size of correlation within function.

- \* Largest absolute correlation between each variable and any discriminant function
- a This variable not used in the analysis.

Structure matrix(Table-8) is a rotated correlation matrix containing the correlations between each of the independent variables and the discriminant function scores. It can be seen that one of the two variables entered into the functions( service quality) is important variables in the first discriminant function, while food and tourism are the only

Table -8: Structure Matrix

	Function		
	1	2	
Service quality	.661(*)	070	
Food	076	.908(*)	
Security(a)	.482	.817(*)	
Tourism	.624	656(*)	
Staff(a)	113	.389(*)	
Room Standard(a)	007	.248(*)	
Ambience(a)	.146	.224(*)	

important variables on the second function that is also statistically significant.

The mean for the may fair group on tourism (9.215) is higher than the means for the other two groups (7.297 and 7.135). The mean for the may fair group on Service quality (4.635) is higher than the means for the other two groups (3.422 and 2.482). The mean for the may fair on Staff (6.003) is lower than the means for the other two groups (7.316 and 7.615).(Table-9)

The third statistically significant independent variable (Food) was important to the second discriminant function, which distinguished the trident hilton group from the other two groups. The mean for the trident hilton group on the variable Food (3.181) is larger than the mean for the other two groups (2.094 and 1.865).

So it can be said that a customer is concerned with service quality and tourism, he or she would probably favor a may fair. If Food is the major consideration, the buyer would favor trident Hilton.

The canonical discriminant function coefficient table (Table-10) gives the structure of two discriminant functions used in this analysis as

- D1 = (0.836 x service quality) + (0.613 x Food) + (0.8 x tourism) 10.706
- D2 = (0.369 x service quality) + (0.880 x restaurant) + (-0.266 x tourism) -1.274

By the above two discriminant function (canonical discriminant function coefficient table) we can predict the group membership. These equations are framed in such a way that each of the groups (hotel customers) differes as much as possible on the values of the discriminant function. If The score of one customer is nearer to -1.636 (Function at group centroid table) is predicted as Swosti customer, if he has the score nearer to -.054 is predicted as trident Hilton customer and so on.

# Conclusion:

This research provides a valuable contribution to understanding the relationship that exist between the customers of three different hotels in Bhubaneswar. The hotel industry is becoming progressively more competitive as the context of travel becomes more global and the industry structure changes. The research has value, not only in academic context, but also for hotel managers at the unit and group level. Whilst several elements of the overall research have been evaluated previously on hotels other than the hotels mentions in the study.

The advantage of discriminant analysis, in this context, is

that it enables identification of important factors contributing the distinguishing characteristic of hotels. This allows finding the differences of two hotels which is separated by a certain parameter. Whilst not detracting

from previous research this research has implications for both academics and managers in understanding the importance of individual factors in different dimension

Table-9: Group Statistics

Hotel service availed		Mean	Std. Deviation	Valid N (listwise	)
				Unweighted	Weighted
Swosti	service quality	2.482	.9928	34	34.000
	Food	2.094	.9512	34	34.000
	Tourism	7.135	1.0233	34	34.000
	Room Standard	4.959	1.0237	34	34.000
	Security	2.229	.6250	34	34.000
	Ambience	2.615	.7110	34	34.000
	Staff	7.615	1.3087	34	34.000
trident Hilton	service quality	3.422	.9931	32	32.000
	Food	3.181	1.3651	32	32.000
	Tourism	7.297	1.3054	32	32.000
	Room Standard	5.566	1.0216	32	32.000
	Security	3.284	.6541	32	32.000
	Ambience	2.713	.6964	32	32.000
	Staff	7.316	1.6316	32	32.000
may fair	service quality	4.635	.9594	34	34.000
	Food	1.865	.8086	34	34.000
	Tourism	9.215	.6190	34	34.000
	Room Standard	5.238	1.2759	34	34.000
	Security	3.256	.4054	34	34.000
	Ambience	2.671	.9037	34	34.000
	Staff	6.003	1.3483	34	34.000
Total	service quality	3.515	1.3207	100	100.000
	Food	2.364	1.1957	100	100.000
	Tourism	7.894	1.3865	100	100.000
	Room Standard	5.248	1.1314	100	100.000
	Security	2.916	.7513	100	100.000
	Ambience	2.665	.7709	100	100.000
	Staff	6.971	1.5852	100	100.000

Table -10 Canonical Discriminant Function Coefficients

	Function		
	1	2	
Service quality	.836	.369	
Food	.613	.880	
Tourism	.800	266	
(Constant)	-10.706	-1.274	

Unstandardized coefficients

Table -11 Functions at Group Centroids

Hotel service availed	Function	
	1	2
Swosti	-1.636	416
trident Hilton	054	.844
may fair	1.687	378

Unstandardized canonical discriminant functions evaluated at group means

#### REFERENCE

Alpert, M.I. (1971). Identification of determinant attributes: A comparison of models, Journal of Marketing Research, 8, 184-191.

Ananth, M., DeMicco, F.J., Moreo, P.J., & Howey, R.M. (1992). Marketplace lodging needs of mature travelers. The Cornell Hotel Restaurant Administration Quarterly, August, 12-24.

Atkinson, A. (1988). Answering the eternal question: What does the customer want?. The Cornell Hotel and Restaurant Administration Quarterly, August 1988, 12-14.

Bartlett, J.E., II and Cardon, P.W., 2007, "Restaurant Service Quality in China as Perceived by Western Visitors: Implications for Training and Development", Journal of China Research, February, 15-23

Barsky, J.D., & Labagh, R. (1992). A Strategy For Customer Satisfaction. The Cornell Hotel and Restaurant Administration Quarterly, 35 (5), 32-40.

Cobanoglu, C., Corbaci, K., Moreo, P.J. & Ekinci, Y. (2003). A Comparative Study of the Importance of Hotel Selection Components by Turkish Business Travelers. International. Journal of Hospitality and Tourism Administration, 4 (1), 1-22.

Callan, R.J. & Bowman, L. (2000). "Selecting a hoel and determining salient quality attributes: A preliminary study of mature British travelers." International Journal of Tourism Research. 2(2): 97-118.

Chu, R.K.S, Choi, T. (2000) "An Importance Performance Analhsis of Hotel selection factors in the Hong Cong Hotel Industry: A Comparison of Business and leisure travelers" Journal of Tourism Management, 21 (2000), 363-377.

Dube, L., & Renaghan, L.M. (1999). Building customer Loyalty.

The cornell Hotel and Restaurant Administration quarterly, October 1999, 78-88

Knutson, B.J. (1988). "Frequent travelers: Making them happy and bringing them back. "Cornell Hotel and Restaurant Administration Quartely. 2991): 83-87.

Lewis, R. C. (1983). Getting the Most From Marketing Research Part 1. The Cornell Hotel and Restaurant Administration Quarterly, 24 (3), 25-35.

Lewis, R.C. (1984a). The Basis Of Hotel Selection. The Cornell Hotel and Restaurant Administration Quarterly, 25, 54-69.

Lockyer, T. (2002), "Development and validation of a perceived business quality measurement instrument." The Quality Management Journal. 9(4): 23-38.

McCleary, M.W., Weaver, P.A. & Lan, L., (1994). Gender-based Differences in Business Travellers Lodging Preferences. The Cornell Hotel and Restaurant Administration Quarterly, 35 (2), 51-58.

MacKenzie, S. B. (1986). The Role of Attention in Mediating The Effect of Advertising on Attribute Importance. Journal of Consumer Research, 13, 174-195.

Qu, H., Ryan, B., Chu, R. (2008), "The Importance of Hotel attributes in Contributing to Travelers' Satisfaction in the Hong Cong Hotel Industry", Journal of Quality Assurance in Hospitality and Tourism, Volume 1, Issue 3

Vuthipungse, W. 2001, "What Business Travellers require in Hotel room while Travelling on Business trip", A research paper submitted in partial fulfillment of the requirements for the master of science degree to the Graduate College of university of Wisconsion Stout, May 2001.

Weaver, P.A. & McCleary, K.W. 91991). Basics bring 'em back. Hotel and Motel Management. Dululth: 29-38.

Weaver, P.A. & Oh, H.C. (1993). "Do American business travelers have different hotel service requirements? Internation Journal of contemporary Hospitality Management. 5(3): 16-21.

Wilensky, L., & Buttle, F. (1988). A Multivariate Analysis of Hotel

Benefit Bundles and Choice Trade-offs. International Journal of Hospitality Management, 7 (1), 29-41.

Yavas, U., & Babakus, E. (2005). Dimensions of Hotel Choice Criteria: Congruence Between Business and Leisure Travelers. Journal of Hospitality Management, 24, 359-367.