Using Multidimensional Scaling to Discuss Consumer’s Cognition Towards Motels in Taoyuan

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ABSTRACT

The rise and development of motels in Taiwan initiated by the Hotel California in 1988. The new fresh concept has led to a trend in the hotel industry in Taiwan. With the policy of weekend holidays and the trend of domestic tourism, the motel industry upgrades its quality and service, as well as improving its functionalities for the life of leisure culture in the twenty-first century. Although the general public may have negative image on motels for its relation with the erotic industry, however, the business operators of motels dedicate to change this stereotype image by changing the operation model and enhancing services that meets customer’s needs.

This study aims to discuss the thoughts and views from residents in Taoyuan, as well as their considerations and requirements in terms of choosing motels in Taoyuan. This study uses Multidimensional Scaling and Cluster Analysis to handle the data on 300 questionnaires from residents in Taoyuan. With deduction of three incomplete questionnaires, the total number of valid questionnaires is 297 which make the valid return rate is about 99%.

From the results of Multidimensional Scaling and Cluster Analysis, we conclude five different groups: “iDo supreme motel, York supreme motel”, “iLai leisure motel, Arousing scenario hotel”, “Bird of paradise motel”, “Li-Star International motel, Wego Hotel” and “168 motel”.

We summarize and analyze different concerned aspects towards motels from residents in Taoyuan to understand consumer’s consideration factors. This study can be used as reference for motel’s business operators.

Keywords: motel, Multidimensional Scaling, consumer’s cognition.

INTRODUCTION

In the seventeenth century, the prototype of modern hotels started to form but it varied with the changes of transportation tools and its speed of evolution accelerated. The accommodation industry plays an important role in tourism industry, to meet the needs of different types of consumers, and gradually developed into a variety of hotel services. With the evolution of patterns of leisure traveling, hotels have more functionality and they have become important leisure and cultural scenic spots in the twenty-first century (ShiChang Lee, 2005).

The rapid development process of a wide range of hotels in Taiwan has accomplished with diversified development of economic growth, regards of their business scale and management style (RuZhi Zuo, 2002). According to the current present regulations for development of tourism, the current domestic lodging industry can be divided into: the international tourist hotels, guest houses, and bed and breakfasts. The international tourist hotels are mainly for business travelers, and general hotels (including
The motels) are mostly located in the city for people’s needs of rest and accommodation, while the B & B customer group is based on tourist attractions. The motels are established with low cost, high privacy, high room turnover rate so that the profit can be increased and it has become a new trend of hotel operation (Ming Yao Chen, 1998).

In recent years, the number of motels in Taiwan has significantly increased form one hundred in 1980, to three hundred and fifty in 1995, to six hundred in 2002, and it is expected to one thousand and two hundred in 2006 (Taiwan motel Yearbook, 2004), and the growth figure is expected to be doubled in the next few years. The motel development in Taiwan can be divided into four generations (Gong Weijun, 2005), from the first generation of copying U.S. motel, Japanese hotel’s love concept, to evolution of fourth generation with luxurious boutique; within a few years of time, the number has exceeded one thousand. The current hotel owners use elements such as fashion and luxury resort. The book “motel onslaught” mentions that Taiwan has different customs and the motel generally give the public stereotype of erotic industry; however, the business operators of motels dedicate to change this stereotype image by changing the operation model and enhancing services that meets customer’s needs. This makes the motel is no longer just a space of accommodation and booming the development of the industry.

The purpose of this research is to discuss consumer’s cognition towards motels in Taoyuan, and to understand the needs and options for their motel selection through questionnaire survey. Following research purposes:

I. To understand consumer’s considerations for selecting models in Taoyuan
II. To understand whether consumer has erotic link when selecting models in Taoyuan
III. To understand what are the reasons for consumer to stay in motels in Taoyuan
IV. To discuss what will be the future trend for the motel market

RESEARCH SCOPE AND OBJECT

Research Scope

The County area is about one thousand two hundred and twenty square kilometers, and it is divided into administrative regions and four municipalities as two towns and seven townships, namely, Taoyuan City, Chungli City, Pingjhen City, Bade City; big town, Yangmei; Great Park Township, Guanyin Township, XingWu town, Turtle Mountain Township, Longtan Township, and Fusing Township; the largest township in which the revival of rural area of three hundred and fifty square miles, which is about one-third of the county area; the smallest township Bade City, an area of only 33 square kilometers. As close to Taipei metropolitan area, the rapid development of Taoyuan County in recent years, attracting a large number of people into other counties to form a metropolitan area in Chungli, Taoyuan, but also because of industrial development, but also the largest number of foreign workers into Taiwan cities and counties (Taoyuan County Government, 2010).

In addition, Taoyuan is in the key position of northern Taiwan; from the Qing dynasty, has been an important commercial, or the exchange of goods and information, so that make rich and colorful of Taoyuan; but also because the important position, Taoyuan has been transportation hub, with high and easy accessible. With the vigorous development of Taoyuan County, the potential for future high-speed rail, the counties of development priorities will focus on promoting tourism development and improvement of quality of life in two aspects, and now led to the rise of the motel development. However, motels are mainly located at important transportation sections, such as: trail that connecting cities and
counties, expressways or highways interchange/entrance or near the shopping districts with crowds. Signs and clear directional signs allow customer to clearly see the location of the motels.

Research Object

The research object of this study focuses on residence in Taoyuan. There were one hundred and three motels in Taoyuan County, in which we selected eight motel: iDo supreme motel (#299, State Road, Taoyuan City), iLai leisure motel (#215, Taoyuan County, New Delhi Street), Bird of paradise motel (#160, Chungli Rd, Taoyuan County), Wego Hotel (#1433 Taoyuan City, Wanshoulu Sec III), 168 motel (#191, Taoyuan County Zhengguang Street, Chungli City), York supreme motel (#58, Taishan Street, Taoyuan City), Arousing scenario hotel (#168, Lu Chu Hsiang, Taoyuan County), Li-Star International motel (#152, Taoyuan County, Chungwha Rd. section II) as research objects.

The selection of “iDo supreme motel”, “iLai leisure motel”, “Bird of paradise motel”, “Wego Hotel”, “168 motel”, “York supreme motel”, “Arousing scenario hotel” and “Li-Star International motel” as the research objects, is for the following reasons:

The research is based on motel properties and consumer demand, so the use of the above reasons, the selected sample were similar in order to reduce the consumer variables from the motel in Taoyuan, thereby increasing comparative research and analysis. This research is mainly using the questionnaire method, whereby motel empirical investigation and analysis of the properties for the needs of consumers and other relevant factors.

THE DEVELOPMENT OF MOTELS IN TAIWAN

The first domestic motel was established in 1980, by Wang, which was built along Tainan highways; but it did not apply for a license, in 1988, the California motel in Taichung become the first motel that applied for license. The construction style is mainly garden-style, similar to the log cabin pattern; the first generation motel and business operators began to strongly emphasize the privacy of their hotel. In 1990’s, the motel developed to the second generation, construction began to focus on interior decorating, in addition to emphasis on privacy, the motel also emphasis the clean and comfortable feelings, with Jacuzzi become essential equipment. The rise of third-generation motel is popular with the rise of national tourism; the diversity of styles and characteristics at this time, especially late by the Taipei “Wego” reach the peak of the motel industry; it emphasizes on visual effects, and each room have a clear theme design. The current motel industry is in the fourth generation, the so-called six-star, seven-star boutique motel, and the elements such as fashion, taste and leisure are added. In addition to customer services, the motels pay more attention to consumer privacy and confidentiality issue of the motels.

The evolution of the domestic motel development is an evolution of products appearing and it can be divided into four generations (Xu, 2003) which is described as follows:

1. The first generation: introduction of foreign motel concept
   (1) Characteristics: convenience of transportation
   (2) Location: at Highway Interchange or next to the main road
2. The second generation: integration with local motel
   (1) Characteristics: high privacy, clean and comfortable rooms
   (2) Location: at highway interchange or near the main interchange
3. The third generation: imitated from Japan's love hotels
   (1) Characteristics: focus on the luxury interior decoration, thematic, and privacy issues
   (2) Location: in business district or residential area of a city

   With the policy of weekend holidays and the trend of domestic tourism, the motel industry upgrades its quality and service, as well as improving its functionalities for the life of leisure culture in the twenty-first century. The imitation from Japan's love hotels has become a new trend and number of luxury motels has significantly increased.

   Due to the narrow houses in Japan, it is a tradition for couples to use hotels from the ancient time. In 1973, Tokyo's “Meguro Emperor” started the trend of luxury hotels with fancy facilities, especially the Western-style suites are just like the Versailles palace. Greek temple-like decor, impressive large hotel, which are imitation of European palaces and temples of the guesthouse, “Meguro Emperor” is an imitation of the appearance of Western medieval castle building. (Huang Bang Ji, 2005)

4. The fourth generation: new style motel
   (1) Characteristics: enhancement of the indoor facilities
   (2) Location: Suburban’s residential area

   The early stage of fourth generation motel emphasis on taste and leisure, so gorgeous fancy decoration but also claim to return to simple style (Lirong Wei, 2005). Whether software services or hardware devices are all in the style of fashion, luxury and other styles. The motel business operators are beginning to use marketing advertising hype, and stressed that the increment of indoor floor to a hundred square meters, swimming pool and also upgraded to SPA facilities and elevators. Motels have evolved into the stylish hotels, boutique hotels, fine hotels, classic hotels, and also became synonymous with the new style motel.

CUSTOMER’S COGNITION TOWARDS MOTEL

   Glock (1963) defines the consumer behavior as the selection or purchase behavior adopted in a particular time or period of time. Engel, Miniard and Blackwell (1995) that consumer behavior can be defined as directly related to the acquisition, consumption and disposal of products and services, activities, and include actions triggered by the decision-making process before and after. Berkman and Gilson (1981)

   Consumer behavior is the way people use or will be engaged in with the activities of market goods, and commodities including tangible and intangible products, services and knowledge.

   Consumer behavior is one of the human behaviors; Reynolds (1974) put forward by the SOR concept of psychological theory, in which S (Stimulus) on behalf of the consumer response led to the stimulation, O (Organism) is expressed shock or to reflect the main body, R (Response) that the reaction caused by stimulation, Figure 1 shows that when consumers receive in the purchase situation on the external stimuli (product or service), consumers may have purchased reaction.

   Sheth, Mittal and Newman (1999) pointed out that consumers have different cognition towards different products. This difference arises from the characteristics of the product itself to give consumers the response generated by different stimuli, so the product attributes affect the consumer an important factor in the product evaluation. Bilkey and Nes (1982) the message conveyed by the product into two parts, and the intrinsic and extrinsic. The intrinsic messages include product design, function and so on. The extrinsic messages include price, brand, guarantees, consumers often use information to evaluate products. However, consumers may be because of the time and cost considerations or subject to limited knowledge, and in assessing the product does not use all of the information, paying attention to those who
can bring important benefits to the property, which is the consumer product involvement extent there is a difference.

Attitude of consumers proposed process includes two states: one is the emotional one is cognition. Each person involved in the purchase decision-making process in making a purchase decision, the total can not help but mixed with personal motivation, perception and preference factors. These personal factors are affected by age, income, education, personal style and attitudes of risk. Thus, consumer's cognition can be defined as individuals of the same things, are subject to different environmental situations and personal characteristics of the external and internal factors, which have different perception and buying behavior. (Shyh-Rong Fang, 1995)

RESEARCH METHOD

Multidimensional Scaling Analysis-MDS is also known as ALSCAL (Alternative least-Square Scaling); it is often used in psychological measurement study (Psychometrics), is the analysis of measurement of psychological the dissimilarity data (distance-like data), and can be The results show a way to geometry (Schiffman & Ronoids, 1981). Schiffman et al ideal of multidimensional scaling experiments including the collection of four types of information: 1. All the stimulation the body in pairs between the similarity judgments volume number, 2. According to described the word as an adjective, to stimulate the body of the commentary equivalent, 3. With these stimulation on the body of the perceived characteristics of the objective capacity Figure 1. on the subjects of the information.

Research Design

The research design was divided into two phases, the first preliminary interviews with 93 people on the motel perceptions, feelings and suggestions will be recorded oral brief description, in response to continued series out some questionnaire items, data integration, the If duplicate entries are all single question asked items. Asked the first stage of the preliminary interview questionnaire design as the basis for entry information. The research results will be 138 initial interview item asked each classified document, divided into nine attributes, the most well-known properties, price, theme design sense, facilities, erotic industry associations, health quality, convenient transportation, climate, security 9, identified by the consumers in Taoyuan subjective score to give the properties of individual cognition score 1-7, with higher scores indicating better the rating.

The second phase of the research from the start of the 10 respondents who completed the research questionnaire, respondents were then made 10 recommendations Jiayixiuagai. By modifying, by the members of the group of consumers in Taoyuan for the research survey and recovery. The research survey work in January 2010 to March conducted, a total of 300 questionnaires. Information to Multidimensional Scaling Analysis and Cluster Analysis to analyze the data.

EMPIRICAL ANALYSIS

This section is divided into two parts; the first part of the formal questionnaire describes the feedback scenario, the second part of the basic data for the analysis of the respondents.
1. Formal questionnaire feedback scenario

The questionnaires of 300 were issued, net of all respondents did not complete and fill out the same questionnaire scores of 3 were invalid, 297 valid questionnaires, the effective rate was 99%.
2. Basic data analysis on respondents

The collected 297 valid questionnaires were to be sorted and analyzed by descriptive statistical methods, basic information on the sample of respondents: gender, age, educational level, occupation, and personal consumption attributes: whether they have been, most want to hotel and other projects to analyze.

(1) Basic information

In terms of gender, women accounted for 52.9%, slightly more than the male sample of 47.1%; in age, 21 years old to 30 years of age to a maximum of 40.7%, 24.2% below 20 years of age occupied the second; in education, junior college accounting Up 52.5%; Also in the occupation, the students 46.5%, the largest industry has occupied the second 24.6%.

(2) Personal consumption factors

Whether they have visited before, accommodation is accounting for 66.0%, 33.5% more than the rest samples; want to go to the motel in the area, iDo 18.2%, the largest, the Li-Star second occupies 17.5%.

With the application of Cluster Analysis, the object points can be integrated with similar groups, competition analysis. As shown in Figure IV. The research in two dimensions (K = 2) to analyze, when repeated five times, the pressure coefficient has been reduced to 0.00433, will stop over and over again, get the Stress coefficient to 0.00483, and RSQ (R square) is 0.99987 This means that the results of Kruskal stress coefficient is less than 0.025, so are very good results with the degree.

As shown in Figure 1, Arousing scenario and iLai a group, iDo and York as a group, Li-Star and Wego a group, these three groups perceived brand positioning presented no significant difference in the points inside the circle represents the two brands for each other close to competition groups. The figure shows, Bird of paradise and 168 brand positioning is significantly different from the perception of other three groups, Bird of paradise is a group of 168 self-contained groups.

By the perceptual map (Figure 1), we can understand that similarity of each brand, but did not provide the advantages and disadvantages between the brand and how to improve. Using multiple regression analysis can highlight a brand attribute, X, Y axis significant, and compare the merits of the order of the brand. Perceptual map can show the brand of a brand to compete with the approximate position, if the brand positioning far away from each other, can explain less direct competition; otherwise showed each other competition. The research used multiple regression analysis to understand the
perception of the brand and attributes off the graph, as well as attributes of the brand in every competitive advantage, this information will help improve the brand's development.

Table 1: Cluster Analysis result of Cluster 2, 3, 4 and 5

<table>
<thead>
<tr>
<th>motel type</th>
<th>Cluster 2</th>
<th>Cluster 3</th>
<th>Cluster 4</th>
<th>Cluster 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>iDo</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>iLai</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Bird of paradise</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Wego</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>168</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>York</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Arousing scenario</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Li-Star</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

With the Cluster Analysis on the eight selected motels, and grouping them into cluster 2, 3, 4 and 5, respectively, the three groups, four groups and five groups, summarized in the table. As can be seen from Table 1, the difference between two groups was not clear; three groups, four groups, we found iLai and Arousing scenario is the same group, Wego with Li-Star also all belong to the same group, as iDo, Bird of paradise , 168, and York is not; divided into five groups, the more clear understanding of, 168 and Bird of paradise differences, and the other motel greater brand differentiation, it is divided into different clusters.

CONCLUSION AND SUGGESTION

Through the results of questionnaire survey and we use Multidimensional Scaling Analysis and Cluster Analysis to understand consumer’s cognition towards different motels in Taoyuan. The following is the description of consumer’s cognition towards motels in Taoyuan:

Group 1: iDo Supreme Motel, York Supreme Motel: Design Oriented

This is the most design oriented motel among all groups. These two motels have similar design and pricing; the difference from other motel group is the design style which is out of the stereo type. This type of model is young people’s favorite and often used for parting. Sometimes it is also hosted as the year-end party by companies; the general public has changed their impression on motels in recent years which lead to the increasing of demand of motels.

Group 2: iLai Leisure Motel, Arousing Scenario Hotel: Scenario Style

This group of motels is suitable for life enhancement, birthday party, or thematic party. From the figure, we can find that this is a group which gives people higher imagination. Most of the respondents said that the names and photographs give people unlimited imagination. The diverse themes of motel are widely accepted by different age group of consumers.

Group 3: Bird of Paradise Motel: Affordable Pricing

This group of motels has affordable pricing and is widely accepted by all age group of consumers, whether it is to rest or accommodation. It is just like staying in the home of eighties which gives people comfortable and warm feeling. As one respondent’s feedback: Although it is not as special as other type of motels, but it surely provides people with comfortable and warm feeling.
Group 4: Li-Star International Motel, Wego Hotel: Premium Class

This group of motels is well-known, luxurious and high class, and most of people would say: “they would like to stay for one night if they have the money”. The figure shows that these motels have higher pricing and quality. As one respondent’s feedback: High prices, equipment, excellent service and quality.

Group 5: 168 Motel: Business Motel

Among all groups, this group of motels most emphasis on business-type customers while other groups might ignore this type of consumer groups. From the figure, we can clearly see that the affordable pricing and convenient location is what concern the businessman when going to business trips. The equipments are designed for business people and the multi-functional computer platform saves them some unnecessary troubles.

The above results show that the resident’s cognition towards motel in Taoyuan, which are divided into five groups based on the conditions of comfortable environment, romantic interest factors. From Figure five, consumers in Taoyuan evaluate motels based on four aspects such as facilities, atmosphere, reputation and price. These five different groups have their own advantages and strengths and customers can make their motel selection based on their personal interests.

The aim of this study focus on consumers who live in Taoyuan, regardless of their professions, ages and education. However, some conditions or personal factors may affect their evaluation such as ability to read and listen to, their needs, moods, memories, experiences and values.

Consumers in Taoyuan believe that the motel properties are what affect consumers choice of motels. Bilkey and Nes (1982) divided the message conveyed into two parts, which are intrinsic and extrinsic. The intrinsic messages include product design, function and so on. The extrinsic messages include price, brand and guarantees. The motel properties presented in this paper include preliminary interview by the consumers in Taoyuan, a brief description for recorded speaking, data integration discussion, and then proceed to divide into nine properties such as reputation, price, theme design sense, facilities, erotic associations, health quality, transport facilities, atmosphere and security; in which facilities, atmosphere, reputation and price are consumer’ major consideration for selection of motels in Taoyuan.

In the process of completing the questionnaires, whether the respondents they have been to motel or not, they still have some reservation attitudes; as the stereotype of motels is often link to erotic industry and some negative impression from the media. However, some respondents also completing the process with positive messages that the motel are to create a good atmosphere, advanced equipment, new theme, design quality, and private place for consumer’s selection.

From this study, we find that there is a market has not yet developed in the current motel market, which is an accommodation that suitable families for the holidays. The accommodation must build in the equipment for the children’s needs and entertainment facilities for adults, so that both children and adults can experience and enjoy the motel. If this market can be successfully developed, then the motels can be just like the popularity of hotels in the future, and the consumers will overcome the previous negative impression of motels. This will make motels become consumer’s first choice when traveling and more motels that meet consumer’s expectations and needs will be created in the future.
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