

**BRAND VALUATION OF CONDOMINIUMS
IN THE BANGKOK METROPOLITAN AREA**

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**A THEMATIC PAPER SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR
THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION
(BUSINESS MODELING AND ANALYSIS)
FACULTY OF GRADUATE STUDIES
MAHIDOL UNIVERSITY
2010**

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ACKNOWLEDGEMENTS

I would like to sincerely thank Asst. Prof. Yingyot Chiaravutthi for all of his recommendation, encouragement, and advices including my co-advisor, Lect. Malinvisa Sakdiyakorn and Asst. Prof. Sittisak Leelahanon as well. Their experiences are so valuable to the success and completion of this thematic paper.

I would thank my friends at MBA, MUIC for all sharing especially Mr. Kanis Charntaweekhun, who direct me to the right way along my learning here. Besides, my thanks also go to all my colleagues at ExxonMobil Limited, transportation team including Mr. Natchaphol Chalao and Ms. Nat-rada Ngamprong for their great contributions.

Last but not least, this paper cannot be succeeded without my loved family. They always understand and support what I am doing.

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ABSTRACT

The purpose of this paper was to study the value of a condominium's brand in the Bangkok Metropolitan Area and condominiums' attributes that influence buyers' decision making. 246 data sets of available rooms were collected and estimated using the Hedonic Pricing method. The results showed that Ananda Development had the highest price premium. Nevertheless, Asian Property, LPN Development, and Supalai had negative brand values, whilst Areeya Property had the lowest brand value. Some features of rooms were statistically significant as expected, such as interior decoration, area of the room, and the floor. Furthermore, maintenance fees which was one of the financial variables was positively significant as well. Consequently, besides the brand, developers should be aware that only some attributes have desirable impacts on price and should be carefully considered when constructing a new project.

**KEY WORDS : HEDONIC PRICING / CONDOMINIUM / BRAND
VALUATION / BANGKOK METROPOLITAN AREA**

27 pages

มูลค่าตราสินค้าของห้องชุดพักอาศัยในเขตกรุงเทพมหานครและปริมณฑล
BRAND VALUATION OF CONDOMINIUMS IN THE BANGKOK
METROPOLITAN AREA

ปีระกษณั คลัังจตุรเวทย์ 5038694 ICMA/M

บช.ม. (การวิเคราะห์และการสร้างตัวแบบธุรกิจ)

คณะกรรมการที่ปริกษาสารนิพนธ์: ยัังยศ เจียรวุทฒิ Ph.D. (ECONOMICS),
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บทคััดย่อ

รายงานฉบับนี้ศึกษาถึงมูลค่าตราสินค้าที่ส่งผลต่อราคาของห้องชุดพักอาศัยในเขตกรุงเทพมหานครและปริมณฑล รวมถึงตัวแปรหลักอื่นๆ ที่มีผลต่อการตัดสินใจซื้อของผู้บริโภคจากการรวบรวมข้อมูลและประมวลผลห้องชุดพักอาศัย 246 ห้องชุดโดยใช้เทคนิค Hedonic Pricing ผลจากการศึกษาพบว่า อนันดา มีมูลค่าตราสินค้าสูงที่สุด อย่างไรก็ตาม เอเชียน พร็อพเพอร์ตี้ แอลพี เอ็น และ สุภาลัย มีมูลค่าตราสินค้าติดลบ ในขณะที่ อารีญา พร็อพเพอร์ตี้ มีมูลค่าตราสินค้าต่ำที่สุด ลักษณะหลายประการของห้องชุดมีนัยสำคัญทางสถิติตามคาดการณ์ ตัวอย่างเช่น การตกแต่งภายใน ขนาดพื้นที่ของห้องชุด และตำแหน่งชั้นที่ตั้งของห้องชุด นอกจากนี้ ค่าส่วนกลางซึ่งเป็นตัวแปรทางการเงินก็มีผลทางบวกต่อราคาเช่นกัน ดังนั้น ผู้พัฒนาอสังหาริมทรัพย์จึงควรตระหนักและพิจารณาอย่างรอบคอบถึงองค์ประกอบอื่นนอกจากตราสินค้าที่มีผลต่อราคาห้องชุดพักอาศัย เพื่อให้เหมาะสมต่อความต้องการของผู้บริโภคในกรณีมีแผนการพัฒนาโครงการใหม่ออกสู่ตลาด

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LIST OF ABBREVIATIONS

BKK	Bangkok
BMA	Bangkok Metropolitan Area
BRT	Bus Rapid Transit
BTS	Mass Transit System
CBRE	CB Richard Ellis
GBE	Global Brand Equity
MRT	Mass Rapid Transit
REIC	Real Estate Information Center
SET	Stock Exchange of Thailand
USA	United States of American
VPI	Valid Private Islands Society
WTP	Willingness to pay

CHAPTER I

INTRODUCTION

1.1 Overview

Because of its convenience and alternative lifestyle offered, condominium market in Bangkok Metropolitan Area (BMA) continues rising and being the star performer in real estate industry recently. Modern lifestyle, living condition, amenities and facilities, pricing, and location influence the uprising in demand of this market. Easy access to public transportation including Bangkok Mass Transit System (BTS), Mass Rapid Transit (MRT), Bus Rapid Transit (BRT), as well as airport rail link is the main selling point and well-accepted by most target group especially young professionals and small families who live in the Bangkok Metropolitan Area. This also satisfies the need of home ownership with an affordable price while still be in the center of Bangkok (BKK) such as Sukhumvit or Sathorn areas. In addition, condominium can be a good investment that provides higher profit than earning interests form saving account. The high demand of condominium attracts not only more developers listed on Stock Exchange of Thailand (SET) to step into this market but also other local and foreign investors who are looking for expanding their business line.

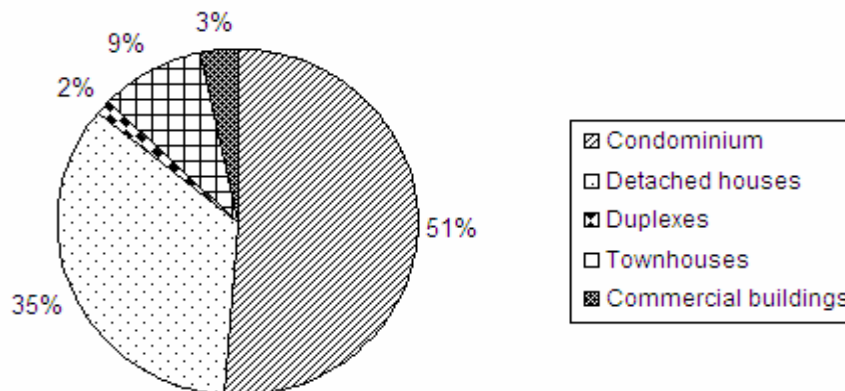


Figure.1.1 Housing market share in the first to the third quarter of year 2009 (units)
 Source: Real Estate Information Center (2009)

According to Figure 1.1, the chart report of Real Estate Information Center (REIC) shows that condominium market from the first to third quarter of the year 2009 overcomes other types of housing including detached houses, duplexes, townhouses, and commercial buildings. There is a total of 64,300 units of registered housing within BMA and vicinities and 32,800 units are condominium that includes 12,000 units of the low-price housing in vicinities developed by National Housing Authority of Thailand. Moreover, high demand in the housing segment is also owing to the tax benefit. Thai government attempts to promote the consumption of housing market by launching special tax rate and fee measurement during 2008-2010. The person who buys new housing units within year 2009 will be applicable of personal tax exemption on the price less than 300,000 Baht. The tax exemption on interest rate within 100,000 Baht is retained since 2007 as well. From 28 Mar 2008 until 30 May 2010, these three types of fee: specific business tax, transfer fee, and mortgage registration fee are reduced from original rate at 3%, 2%, and 1% respectively to only 0.1%. (Only less than 200,000 Baht of mortgage registration fee is accounted for this reduction)

The report of REIC for the first 11 months in 2009 also show that the total units of registered real estate in BMA and vicinities is 189,300, which is 3% increasing compare to the same period in 2008. The total of registered housing is 72,351 units, whilst 34,914 units or 48% are condominium in BMA only. In contrast, the total value of registered real estate decreased 4% or 478,000 million Baht compare to the year 2008. The registration of non-housing property is valued at 189,500 million Baht and 140,700 are for land only. The value of registered housing is at 288,500 million Baht. Those of condominium is the second rank after detached houses at 87,000 million Baht or 30% of the total registered property and approximately 80,000 million Baht or 19,000 units is in BMA only. It is estimated that 28,700 units or 68,700 million Baht (2.39 million Baht per unit) are newly-completed condominium whereas 16,800 units or 18,300 million Baht (0.983 million Baht per unit) are resale unit. The value of registration of condominiums in BMA and vicinities in 2009 is shown in the Figure 1.2 below.

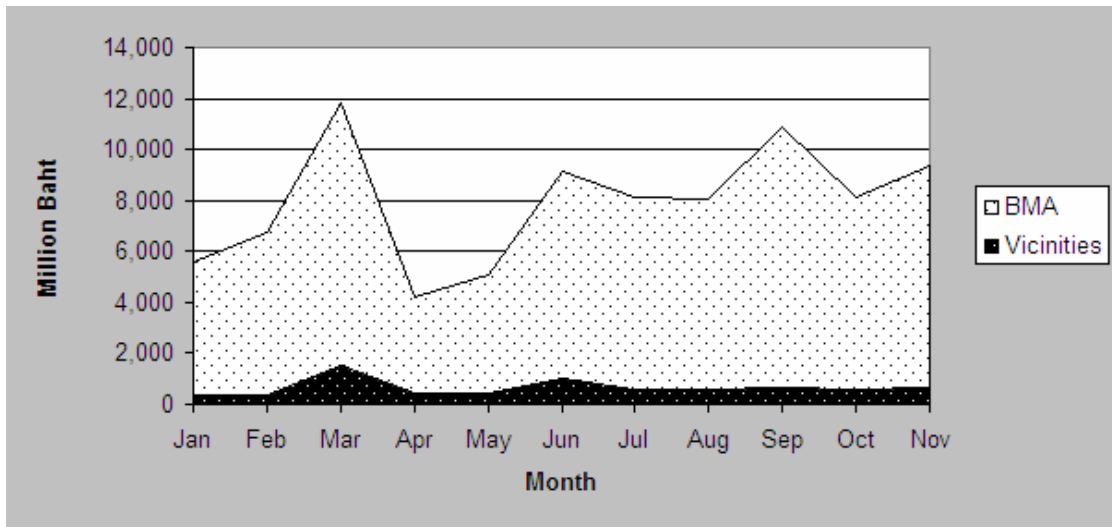


Figure 1.2 Value of registration of condominiums in 2009

Source: Real Estate Information Center (2009)

As of June 2009, there are 248 condominium projects; 220 projects or 81,800 units are in BMA only. Developers listed on SET own 76 projects (31%) and the remaining 172 projects (69%) are from developers that are not publicly trade on the SET. The units from listed developers account for 46% of the total 108,000 units while the remaining 54% is from non-listed developers. From the total unit numbers, only 73,000 units have been sold. The number of completed construction, under construction, and pre-construction are 50,600, 49,200, and 8,000 units respectively. For the last 6 month in 2009, 46 projects or 14,806 units are newly launched to the market; 27 projects (5,687 units or 38%) are from listed developers while the other 19 projects (9,119 units or 62%) are from developers that do not register in the SET.

From the data in Figure 1.3 below, the number of new condominium in BMA has been increasing since 2004, dropping slightly in 2007 from subprime crisis, high oil prices, and national political issue, and abruptly expanding in 2008 under the pressure of over supply. Mr. Samma Kitsin, Director-General of REIC said that the registered housing would be risen up to 85,000 units at end of the year 2009; about 42,000 - 45,000 units will be condominium. In 2010, more condominium projects will be introduced to the market and 50,000 units come from Ua-Ar-Thorn project.

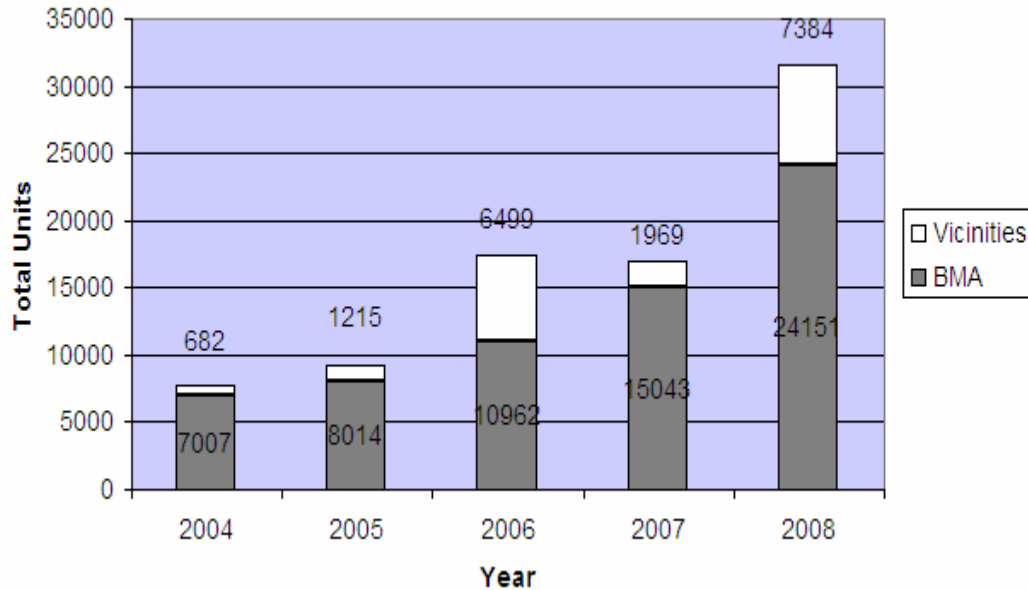


Figure 1.3 Completed and registered condominium units in BMA and vicinities
Source: Real Estate Information Center (2009)

As of now (2010), the large 5 condominium developers are LPN Development (2 new projects 3,720 units), Asian Property (4 new projects 1,530 units), Supalai (2 new projects 1,370 units), Narai Property (2 new projects 1,050 units), and Pruksa Real Estate (3 new projects 785 units) (Thaismeplus, 2010). Other developers who also share condominium market are Chaopraya Mahanakorn, TCC Capital Land, Major Development, Areeya Property, and Ananda Development as an example. LPN Development group has the biggest market share at 30%; mostly focused on middle level strategy since the economic crisis in 1997. See Table 1.1 for the key financial performance of major real estate developers, and Table 1.2 for the brand and sub brand under those developers.

Table 1.1 Performance of major real estate developers in 2008

Company	Revenue (Million Baht)	Gross Margin(%)	Net Profit (Million Baht)	EPS
LPN Development	7,303.69	30.01	1,205.44	0.62
Supalai	6,241.55	30.12	1,086.75	0.65
Asian Property	7,825.19	35.40	1,638.17	-
Pruksa Real Estate	13,033.60*	23.50	2,373.00	1.08
Areeya Property	851.58	32.83	28.10	0.04
Property Perfect	7,617.61**	31.42	802.57	1.02
Preecha Group	479.69	24.11	-17.74	-0.08

Source: Annual report of each company (2008)

*Revenue from condominium 563.90 million Baht

**Revenue from condominium 2,109.50 million Baht

Table 1.2 Brand and sub brand of condominium developers

Company	Brand and Subbrand
LPN Development	Lumpini Suite, Lumpini Place, Lumpini Ville, Lumpini Center, Lumpini Condotown
Supalai	City Home, Supalai Park, Supalai Place, Supalai Casa Riva
Asian Property	The Address , Life , Rhythm
Pruksa Real Estate	Ivy, The seed, City Ville
Areeya Property	A Space
Property Perfect	Metro Park, Metro Sky, The Pano
Ananda Development	Ideo Condominium
Major Development	Wind, Aguston, Royce, Fullerton, Collezio, Manhattan, Watermark
TCC Capital Land	Villa, The Empire Place, The Emporio, The Royal Residence
Noble Development	Solo, Remix, Reform, Reflex, Quatro
Chaopraya Mahanakorn	Chateau in Town, Bangkok Horizon, Bangkok Feliz

There is no consensus of how to segment of condominium market in Thailand. Condominium buyers can be divided into 3 categories: end uses, investors, and speculators (BangkokBiznews, 2009). Major factors that influence buyers' decision are price, location, and standard of living. There are also many factors that affect prices in the market such as amenities and facilities, neighborhood, accessibility, and the condominium conditions (unfurnished or fully-furnished). Condominium segmentation is varied depending on several resources.

For example, Sharkawy and Chotipanich (1998) divided housing product into five levels by price as the table below:

Table 1.3 Housing segmentation by Sharkawy and Chotipanich

Level	Price (Million Baht)
A	More than 3
B	2.1-3
C	1.1-2
D	0.6-1
E	Up to 0.6

Condominium can also be graded by average price (BangkokBiznews, 2009) as the table below:

Table 1.4 Housing segmentation by BangkokBiznews

Grade	Price (Baht per square meter)
A	156,200
B+	112,500
B	79,400
C	45,400

LPN Development classified its condominium into 3 levels: A, B and C. The average price per unit for Level A, B and C are 3 million Baht and above, 1 to 3 million Baht, and lower than 1 million Baht respectively.

1.2 Objectives

The objective of this study is to quantify the brand equity and the attributes of condominium located in the Bangkok Metropolitan Area that affect consumer's decision making.

1.3 Benefits

This study will be beneficial to condominium developers to understand the factors the buyers' value, and to set up the appropriate pricing strategy. The results from the analysis can be a helpful guidance for existing developers and new developers who are planning to enter condominium market.

1.4 Scope of Study

This study focuses on one-bedroom type condominiums in the Bangkok metropolitan area which are currently available for sale. The price is based on the first quarter of the year 2010 and is not included the resale price. The prices of rooms that are already finished or will be finished and ready to move in within July 2010 are included in this sample.

1.5 Limitations

Due to the fact that this study focuses on completed condominiums which are currently available for sale, some major developers are not analyzed here. For example, Land and Houses and Sansiri are other two developers that do not have any completed construction project at this time. Moreover, some variables such as scenery does not include in this paper because it can be changed after the project has been launched.

CHAPTER II

LITERATURE REVIEW

Nowadays, brand is more important and becomes a business valuable asset for a period of time. Brand can lead to higher demand and future cash flows when customer loyalty exists. Branding can help customer to differentiate the products offered in the market since it presents the unique, the quality and also creates a chance of transferring its identity to other products or services (Motameni and Shahrokhi, 1998). Significantly, brands are used by firms to differentiate the products or services from competitors. Brand has many meanings, depending on whether the focus is on the broad or narrow perspective. According to Murphy (1990), “Brand is a complex phenomenon: not only it is the actual product, but it is also the unique property of a specific owner and has been developed over time so as to embrace a set of values and attributes – both tangible and intangible – which meaning fully and appropriately differentiate products which are otherwise very similar”. Kotler (2009) defines brand as “A name, term, sign, symbol, or design, or a combination of them, intended to identify the goods or services of one seller or group of sellers and to differentiate them from those of competitors”. The value of brand for global company will be greater than company restricted only on regional or local levels (Keller, 1998).

Brand has three primary functions: navigation, reassurance and engagement (Haigh, 2007). Brands help customer to select from a bewildering array of alternatives in the view of navigation. They also communicate the essential quality of the product or service and so reassure customers at the point of purchase. For engagement, they communicate unique imagery and associations that encourage customers to recognize with the brand.

2.1 Brand Equity

Several definitions of “brand equity” have been proposed by many researchers. Aaker (1991) provides the comprehensive definition as any linkage of brand – both asset and liabilities – including symbol or name that increase or decrease the value of firm’s products or services. Simon and Sullivan define brand as the incremental cash flows which accrue to branded products over unbranded products. Lassar, Mittal, and Sharma (1995) also agree that brand equity is important since it provides a chance to charge for a premium or higher price in relation to the brand strength. Brand equity is operationalized as an improvement in the perceived utility and attraction that a brand name bestows on a product. There are five considerations to defining brand equity. First, brand equity generally alludes to consumer perception rather than any intent indicators. Second, brand equity refers to a comprehensive value linked with the brand. Third, the comprehensive value also linked with the brand stalks from the brand name, not only from physical aspects of the brand. Fourth, brand equity is not relative to absolute, but allied with competition. Finally, brand equity influences financial performance and generally, adds value to the product.

Brand equity can be mostly valued in two perspectives - finance and marketing. There are also other alternatives such as combined perspective (Kim, Kim, and An, 2003). Financial-based brand equity is expressed numerically. It is the incremental cash flows of branded product in comparison with unbranded product (Motameni and Shahrokhi, 1998; Kim, Kim, and An, 2003). More details are referred to Simon and Sullivan (1993) who extract brand equity from the firm’s intangible assets. The second perspective, marketing or customer-based brand equity, is defined as the discrepant effects of brand awareness on consumer reaction to the marketing of the brand. It takes place when the consumers is familiar with the brand and embraces some favorable, strong, and distinctive brand associations in their mind (Keller, 1993). Combined perspective incorporates both financial-based and consumer-based brand equity. This approach has been built up to compensate for any inadequacy that may exist when only one of the two perspectives is emphasized (Kim, Kim, and An, 2003).

Motameni and Shahrokhi (1998) has studied the brand equity valuation in a global perspective using global brand equity (GBE), the product of brand’s strength

that determined its net earnings and multiple. They found that successful brand name is a valuable asset since it creates customer loyalty which leads to future cash flows. It supported both the effectiveness of marketing plan and incremental finance. The firm's money paid to acquire brands demonstrated the value of a brand; however, this is not as easy as the tangible asset valuation. Brands will be at greater value for a global brand. This can be seen from the consolidation of major brands into large consumer goods group such as Procter & Gamble, Unilever, and Nestle. Moreover, brand valuation should also incorporate other factors into consideration such as style, culture, and attitude.

Myers (2003) studied the consequences of tangible and intangible attributes on brand equity including overall preferences and the impact of other variables on the top nine national soft drinks brands. The sample consisted of 43 students from university in the southwest of the US. From the adaptive conjoint analysis, the brand equity in the higher levels yielded the higher market share which considerably generated higher performance. Differently said, brands with the highest weight are the ones consumers trust in their superior quality and often choose. Both tangible and intangible are all significant and equally important to the choice situation, except carbonation which is insignificant. The study reminds managers to be aware of some beneficial attributes and the usage of a subcategory in order to generate high brand equity and market share. In summary, knowledge had more influence on brand equity than consumer preference; and intangibles attributes might contribute to brand equity more than tangible attributes.

Kim, Kim, and An (2003) studied the effect of brand equity on twelve luxury hotel's financial performance, the service industry, at Kimpo airport in Seoul, South Korea. The result implied that brand loyalty, perceived quality and brand image should be carefully considered when establishing brand equity since customers primarily make a decision from the company brand, not the product brand. The hotel company should attract customers' awareness to make up their choice. Consequently, service firms should focus on these 3 issues: quality, execution of delivery, and building brand equity by establishing brand image and symbol appropriately. Brand awareness, brand loyalty, perceived quality, and brand image constituted brand equity in customer-based brand equity. Brand loyalty can lead to repeated purchasing and

satisfaction of the main target which is an important role on the financial performance. Brand image, the highest impact on performance, requires detailed knowledge of important attributes to delineate long term financial performance, whilst perceived quality is considered as complementary for the other variables of brand equity. In summary, strong brand equity leads to an increasing in revenue and avoids any damage on sales and all elements of brand equity improve financial performance.

Thanasuta, Patoomsuwan, Chaimahawong, and Chiaravutthi (2009) studied the brand valuation of automobile industry in Thailand by applying Hedonic Pricing model approach. The authors also expanded to the country of origin of those products since it seemed to have an influence on prices. The data were collected during the “Thailand International Motor Expo 2007”. Among 244 models from 20 brands, Mercedes, BMW, and Audi were ranked the highest. This implied that European cars had positive image and tended to be at the higher price. Surprisingly, Subaru, Mitsubishi and Toyota were only three Japanese brands that significantly valued by brands. The passenger car market was divided by the researchers into the luxury (average price more than 2.5 million Baht) and the economy segment. It can be assumed that the luxury segment have a strong identity contrasting to the economy segment. Hyundai, which is not very well-known in Thailand, had the highest price premium among Asian cars, whilst Toyota and Honda, the highly-accepted in the market, were ranked as the sixth and the ninth respectively. Regarding country of origin, brands from Germany had the highest price premium, followed by Sweden and France. Japan ranked the highest among Asian brands at the fourth. Brands from the highly-industrialized countries are found that they collected higher price premium except those from USA. Other attributes such as air bag and diesel capability engine were positively associated with higher car prices.

2.2 Hedonic Pricing

Morancho (2003) used the Hedonic technique as methodological approach to analyze the relationship between price of dwelling and urban green areas. The observation was conducted with 180 samples in Castellon, Spain. The author indicated

that the economic valuation of the urban green areas was not properly considered, although it performed important environmental and recreational function such as absorbing carbon dioxide. This was owing to its non-monetary value. Three environmental variables included are the existence view in the green area, the size of the nearest green area, and the distance to the green space. The result showed that the housing living area had the highest power on price, followed by the official protection, number of bathrooms, balcony size, distance from the nearest green area, elevator, and type of housing. Nevertheless, the price of the housing inversely related with the distance from an urban green space. In conclusion, the proximity to the green area is more relevant than size, whilst provision of many small open areas throughout the city is more appropriate than a few vast parks.

Bonnetain (2003) studied the relationship of differences in islands prices with respect to other characteristics. The price and the details of 240 islands to be sold were taken from Valid Private Islands Society (VPI), a broker company based in Hamburg, Germany and Halifax, Canada. In this research, there are two types of explanatory variables: structural variables and external features (economic or political) variables. The results show that size and temperature have positive effects on the island price. The values of islands in affluent and highly-populated countries are also at the greater value. The distance from the closest coast is positively valued as well. In contrast, political variables were not strongly significant in this estimation.

Kim, Kim, and An (2003) estimated the value of Internet service using the Hedonic Price Model, based on the theory of characteristics value. The authors obtained information from Internet users in Seoul, South Korea, who use super high speed Internet service enterprises through 154 questionnaires and focused only on World Wide Web. They found that an increasing level of Internet service usage resulted in the higher price on service charge. However, users who pay small monthly connection charge were frequently used the health care information or it was proved as negative sign in this estimation. Furthermore, four independent variables: transmission speed of super high way Internet, joining of Internet circle or community, the amount of e-shopping and retrieval, and the amount of health care information used are statistically significant for the price of Internet service. The

consumer's marginal willingness to pay for the extra effort of searching for the Internet information was on average of 0.046%

2.3 Housing Segmentation

Sharkawy and Chotipanich (1998) investigated residential development in Bangkok which was a developing country with emerging market economies at that time. They examined the entire entrepreneurial, legal, and institutional environments and classified segmentation by product type, price level, and spatial distribution. The result showed that most popular housing were townhouses and condominiums (at around 40% and 35% of the total sales) with the highest transactions from price level E, followed by price levels D, C, B, and A respectively. Consumers of price level E showed a preference on condominiums, whilst consumers of price level D showed an overwhelming preference on townhouses. For developing countries like Thailand, researchers suggested that open-market governmental policies such as timeliness and consistency including legal and institutional environment needed to be in place to persuade involvement from private development companies in this segment. This study indicated that upper-end housing was mostly expanded along the connection between CBD and the airport but the lower-end housing gravitated to inadequate infrastructure areas.

CHAPTER III

METHODOLOGY

The Hedonic Pricing Model will be used to determine the price premium of brands under this study. It is applicable for calculating the current price premium of a particular branded product relative to other brands or non-branded products. This model focuses on brand valuation and characteristics of products in consumers' perspective instead of estimated figures from financial statement or any subjective judgments. The general form of hedonic pricing model is composed of variables that impinge on consumers' willingness to pay (WTP) on the left-hand side as shown by the following function:

$$P_i = f(a_{1i}, a_{2i}, \dots, a_{ji}) \quad (1)$$

where P stands for WTP and a_1, a_2, \dots, a_j represent attributes or product's feature.

The equation (1) can be extended to ascertain consumers' preferences regarding product i 's characteristics where a are attributes or features while b represents dummies of different brands from 1 to k .

$$P_i = f(a_{1i}, a_{2i}, \dots, a_{ji}, b_{1i}, b_{2i}, \dots, b_{ki}) \quad (2)$$

The hedonic model is appropriate in applying to condominium pricing since there are only few recognized brands in the market. In general, brands will be consist of many sub brands. For instance, Lumpini Ville, Lumpini Place and Lumpini Condo Town are all beneath LPN brand.

The data is collected directly from developers such as LPN Development and from real estate agency such as CB Richard Ellis (CBRE), market leader in Thailand's real estate sales for more than 20 years. Furthermore, the data will be surveyed from "22th Housing and Condo Festival" which will be held during 18 and 22 February 2010. This event is organized formally by Thai Real Estate Organization. Table 3.1 shows prices and brands, along with explanations of the important features of condominiums.

Table 3.1 Results, features, explanations, variables, and descriptive statistics of condominium

Variable	Mean	Std Dev	Explanation
LPN	0.14	0.35	Lumpini brand = 1, others = 0
AP	0.03	0.17	Asian Property brand = 1, others = 0
NBL	0.09	0.28	Noble brand = 1, others = 0
ARY	0.20	0.40	Areeya brand = 1, others = 0
TCC	0.08	0.27	TCC brand = 1, others = 0
CMC	0.11	0.31	Choapraya brand = 1, others = 0
MJR	0.12	0.33	Major development brand = 1, others = 0
AND	0.02	0.15	Ananda development brand = 1, others = 0
SPL	0.05	0.22	Supalai brand = 1, others = 0
Others	0.16	0.37	Others brand = 1, other = 0
Price	3997119.85	2010242.17	Price of condominium in Baht
Areas	47.09	11.33	Total areas in square meters
Floor	11.06	8.21	The floor that the room is located
Highrise	0.70	0.46	The building consists of at least 9 floors = 1, others = 0
Furnished	0.44	0.50	Furniture included = 1, others = 0
Sanitary	0.23	0.42	The room is equipped with premier sanitary ware namely Kholer, Nahm and Mogen = 1, others = 0
Building	4.09	3.97	Total number of building in the project
Garden	0.66	0.47	Garden facilities = 1, others = 0
Playground	0.34	0.47	Playground facilities = 1, others = 1
Sauna	0.33	0.47	Sauna room = 1, others = 2
Tennis	0.13	0.34	Tennis court = 1, others = 3
Units	861.33	885.06	Total rooms of the project
CBD	0.42	0.49	Located in the central business area = 1, others = 0
Ratchada	0.39	0.49	Located on the Ratchada and Rama9 area
Fee	34.69	8.14	Monthly Maintenance Fee (Baht/ square meters)
Fund	442.28	120.38	One time sinking fund (Baht/Sq.M)
Reserve	71890.24	114348.13	Reservation charge in Baht

From the collected data, the major proportion is from Areeya group at 20%. This is due to the fact that it just launched the “A Space” condominiums which consisted of many buildings in each projects. On the other hand, Ananda Development has the lowest proportion at only 2% since it just entered into this market in 2007. Also, Asian Property contributed to only 3% of the total data since there are only a few rooms left for sale at the time of conducting this study. Interestingly, others brand dominated in this study at 10%. This reflects that there are many small developers in this market which will show an opportunity to the new entrants as well.

The average price of one bedroom condominium in the BMA is approximately at 4,000,000 Baht in this estimation. The highest price is from The

Empire Place project at 8,110,000 Baht and the lowest price is from Lumpini Town “Bodindecha” project at 1,058,000 Baht. The average area for one-bedroom type is 47 square meters. However, the area is ranging from 28 to 80.56 square meters. The data also shows that the projects mostly have around 11 stories or classified as high rising pattern. More than half are fully furnished and equipped with standard sanitary ware such as Cotto or American Standard. Each condominium projects usually consist of many buildings and possess around 861 rooms. Most projects of 66% are included garden facility, whilst playground and sauna/stream are provided by only 33% of the total. However, tennis court is the least popular facility because there is only 13% provided by developers. Most condominiums are located in CBD areas at 42%. The second rank of 39% is located in Ratchada - Rama 9 area which increased its popularity recently. This also implied that condominium projects tend to locate in the center of the city which incorporated good transportation system. For the place where transportation is less convenient, the developers decide to construct housing products instead of condominium such as townhome or detached house. The monetary variable, “Maintenance Fee”, which also has an influence in decision making process are averaged at 35 Baht per square meters per month.

CHAPTER IV

RESULTS AND ANALYSIS

Table 4.1 shows the results from the hedonic model of condominiums.

Table 4.1 Results from the Hedonic Models of condominiums

Variable	Price	Log(Price)
LPN	617,512.50 (3.81)**	-0.0347 (1.04)
AP	542,939.20 (2.26)**	0.1523 (3.39)**
NBL	1,304,909.00 (5.56)**	0.3322 (7.31)**
TCC	1,620,062.00 (5.13)**	0.3551 (5.38)**
CMC	1,488,864.00 (2.82)**	-0.1108 (1.27)
MJR	1,714,540.00 (7.18)**	0.3143 (6.76)**
ANAN	1,991,686.00 (8.34)**	0.3596 (8.94)**
SPL	1,120,517.00 (2.01)**	0.3034 (2.57)**
OTHERS	1,010,630.00 (3.94)**	0.2756 (5.69)**
AREAS	72,203.66 (7.92)**	0.0165 (8.01)**
FLOOR	18,791.09 (3.42)**	0.0053 (4.31)**
HIGHRISE	250,095.80 (1.72)*	0.1087 (4.03)**
FURNISHED	94,373.42 (0.53)	0.0269 (1.05)
SANITARY	3,598,260.00 (12.20)**	0.6549 (14.20)**
BUILDING	13,900.77 (1.04)	0.0035 (1.15)
GARDEN	-435,174.50 (2.17)**	-0.1220 (3.17)**
PLAYGROUND	845,183.40 (2.98)**	0.3818 (6.48)**
SAUNA	-384,337.00 (1.24)	-0.1755 (2.97)**
TENNIS	-1,410,913.00 (4.97)**	-0.3402 (6.78)**
UNITS	131.91 (0.85)	-0.0002 (5.93)**
CBD	-229,066.40 (1.31)	-0.0369 (1.16)
RATCHADA	-912,031.00 (6.31)**	-0.0680 (2.76)**
FEE	94,943.16 (5.86)**	0.0151 (6.38)**
FUND	666.03 (0.75)	0.0001 (0.63)
RESERVE	-6.53 (4.93)**	-3.2752 (1.48)
N	246	246
Adjusted R ²	0.978	0.985
Durbin – Watson	1.875	1.649
F – statistics	427.095	659.920

Note: Reference choice is Areeya Brand. Numbers in parentheses are White Heteroskedasticity-Consistent t-statistics. ** P-value < 0.05 and * P-value < 0.10.

From Table 4.1, all brands dummies carry significant premium. The results from the Hedonic Price models indicate that some important features also affect on the price of condominiums. Those certain features are layout, facilities, and location. In other words, the larger rooms on the higher floor will be more expensive. The value of the areas is 72,204 Baht per square meter, while each higher floor is worth 18,791 Baht higher than Areeya brand (A Space) which is the reference brand. Regarding interior design, the condominiums equipped with premium sanitary ware is worth 3,598,260 Baht relative to the reference brand. Nevertheless, furniture does not significantly result in higher price. This is due to the fact that most projects offer furniture as a promotion, or buyers could ask for it as a complementary. Among facilities function, although all features except sauna are significant, only playground has the positive sign and valued at 845,183 Baht, apart from swimming pool and fitness center which considered as basic facilities since they are already provided by almost all projects. The other facilities from this result are viewed as unnecessary by consumers and lower the price of the condominiums. For example, tennis court and garden will cost 1,410,913 and 435,175 Baht lower than the reference brand, respectively. Although the price of condominiums in the central business area (CBD) is not significant, somewhat surprisingly, condominiums price in Rama 9 – Ratchada area will be lower at 956,121 Baht. All variables of projects' detail which are number of floors, buildings, and rooms are insignificant. This implies that consumers do not pay much attention on the overall pattern of the projects. In fact, the detail of room that they intended to buy will affect on the price more than projects' element. Regarding financial variables, the maintenance fee is worth 94,943 Baht above the reference brand. The amount of the reservation charge is negatively related to the price, implying that the lower the charge, the higher the price by 6.53 Baht.

For the log price model, Lumpini and Chaopraya Mahanakorn brands are now negatively insignificant including reservation charge, contrasting to the condominiums consist of more than 9 floors which are now significant. Moreover, sauna facilities and total units are significant with negative sign. Table 4.2 represents brand valuation on price.

Table 4.2 Brand valuation on the price of condominiums

Brand	Brand Value in Baht (Absolute)	Brand Value in Baht (Relative)
Areeya Property	-4,160,548.00	0
Asian Property	-3,617,608.80	542,939.20
LPN Development	-3,000,096.30	617,512.50
Others	-1,989,466.30	1,010,630.00
Supalai	-868,949.30	1,120,517.00
Noble	435,959.70	1,304,909.00
Chaopraya Mahanakorn	1,924,823.70	1,488,864.00
TCC Capital Land	3,544,885.70	1,620,062.00
Major development	5,259,425.70	1,714,540.00
Ananda development	7,251,111.70	1,991,686.00

Brand dummies are clearly one of the important factors in determining the price of the condominiums. Nevertheless, some brands have negative values which mean that the price depends on other features as well. The constant from the Hedonic Model is included in the analysis, as shown in Table 4.2 above. A constant of negative 4,160,548 Baht represents the premium for the Areeya brand, our reference choice, which is the lowest rank. The negative brand value of Asian Property, Lumpini, Others, and Supalai means that features of the condominiums are more important than the brand themselves, whilst the other brands are positively significant. Obviously, negative values of Asian Property, Lumpini, and Supalai indicate that they choose to lower the price and provide all important features on their projects with their aim to compensate their revenues by sales volume. This can be assured by their widely acceptance by consumers and push them to be the leaders in this market. Noble Development, Chaopraya Mahanakorn and TCC CapitalLand are all have positive brand values. This is because they will carefully select the prime location for their projects. For Major Development, the second ranked, the high price premium is obviously results from its intension to be the leader in Luxury condominium. Ananda Development commands the highest premium at 7,251,111.70 Baht. This may due to

its target to be above Major development that currently focusing on luxury condominiums. This developer just started the condominium project 3 years ago (2007) focusing on mass transit rail line for the residences of young generation in Bangkok. However, its highest price may become the weakness that causes the downturn on the revenue. Most of the projects are still being in the construction and on the marketing process. Therefore, the success of this developer in the future is still suspicious and has to be proven by consumers.

CHAPTER V

CONCLUSIONS

The Hedonic Price Model has proven to be an effective tool to evaluate brand premiums of condominiums. All brands are positively related to price, and certain brands variables are statistically significant. Some brands possess negative values which suggest that brands are by themselves important, but less than the other critical features. This implies that developers are recommended to provide those features in order to charge for the premiums. Brands are still part of competitive advantage which can be ascertained by the wide range of brand value between the top brand and the lowest brand at 1,991,686 Baht.

Many new developers always step into the market; however, an entry barrier is still high because of the high-investment requirement. The new entrants should thoroughly consider all key features to set up the condominium price. Despite the fact that there are many large and well-accepted developers in this industry, consumers tends to open for the new comers as shown by Others brand, the forth rank in this study. It is worth noting that developers should carefully decided on condominiums' features in accordance with their positioning. Otherwise, they are at risk of failure from under pricing if they offer luxury condominiums at too low price or over pricing from unqualified condominiums into luxury market. For the existing players, the implications provide not only a better understanding of consumers' perception but also real consumers' need that leads to price premiums. For instance, developers may avoid non value-added facilities which have no impact on price (or maybe lower the price) like sauna room or tennis court. On the other hand, the existing brands may need to differentiate their products by creating other sub brand. This will enable them to charge at various price levels according to each target group. For instance, LPN Development may have to build another luxury sub brand to compete in the higher price market. Asian Property has already separated its offerings as Life and The Address, for the middle income people and for the high price

condominium respectively. This can be proved by the popularity of its products especially Address brand which is mostly reserved after grand opening.

Areeya Property has placed itself as the low price brand. The campaign of A Space brand is “Affordable price” and “Ready to move in”. Therefore, its condominiums will be introduced at the lower price and included only important facilities which are swimming pool and garden. The surroundings normally and easily set up without any superior decoration to lower the cost. Asian Property, now ranked at the second negative brand, can increase the price to catch up all willingness to pay from consumers. The current selling price may be too low for its currently provided condominiums. This could be the reason that its condominiums are the best seller in the market and only few rooms are left and available for sale when the document was conducted. LPN Development is widely known as reasonable price condominium developer. It chooses to limit the spaces of the room and excludes unnecessary attributes as much as possible like parking spaces or air-conditioning. Supalai still has negative value in this estimation. This may be because it has no any uniquely outstanding image of brand. It expands another project, Casa Riva, along Choapraya River and charge at the higher price; however, this may be perceived by consumers as a confusion comparing to other projects that target on the lower price level. Apart from LPN development and Supalai’s intention to get the profit from large sales volume, they also shift the location to the edge of Bangkok instead. This should be one of the reasons that cause both of them to be on the negative side. Regarding Noble Development, the first developer on the positive side, a number of its condominiums have been developed nearby mass transportation system such as Reform, Refine, Revent and Reveal. Most of its projects have been fully reserved only after the opening date. The convenient transportation is the major reason of its high value. Although TCC Capital Land is not highly recognized by the buyers, its strategy to develop projects in the heart of business zone enables it to charge for the premium. The Empire Place project which located next to The Empire Tower, one of the tallest office building in Bangkok, is a good example. Apart from Major Development’s emphasis on luxury market, its project also provide superior facilities like bowling lanes which lead to the high brand value. Nevertheless, the highest position at present may too risky to survive in this industry in the long run. The

consumers may finally slow the purchasing decision on Ananda development's condominium. Otherwise, it has to provide all expected components in its projects to prove the worthiness of this price level.

Owing to its simple methodology and based on secondary data, the Hedonic price model can be used to quantify the current brand value. Nevertheless, in-depth research should be done to reassure the brand equity assessment such as customer-based approach. Besides, some important attributes can be captured from other methods. Scenery is a good example that is excluded here since it can be changed later if there is any construction emerged on surroundings.

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