Abstract: The objective of research is to examine the effect of product’s factors which are product quality, service quality, brand image, and product design of condominium toward purchase intention of condominiums in Bangkok. In Thailand, due to the popularity of condominiums, the expansion of investment on this market has continually grown year by year and the condominium market has become highly competitive. This current research is significant in that it would help condominium developers know about what kind of condominiums preferred by potential buyers in greatly competitive market as in Bangkok. A survey questionnaire was utilized and it was distributed via online platforms. Data were collected from sample of 400 people who are considering to purchase condominiums in Bangkok. Findings of this research show that product design, product quality, and brand image are statistically significant predictors for purchase intention. Critical and practical recommendations for condominium developers and marketers are suggested to secure their competitiveness in the condominium market.

Keywords: Brand Image, Condominium, Product Design, Product Quality, Purchase Intention, Service Quality

1. Introduction

The theory of ‘Maslow's Hierarchy of Needs’ stated that shelter is one of the basic needs of humans in terms of ‘physiological needs’ which is the first stage of Maslow’s pyramid (Simply Psychology, 2014). According to Maslow’s theory, housing is one of the necessary things humans try to acquire because achieving this step allows them to move to the next step of the hierarchy of needs. To that point, condominium is good choice for people who want to have their own shelter due to the affordable price of condominium. Moreover, Kennedy (2013) stated that living in a condominium makes people reduce their troubles from maintenance and replacement of their home equipment or structures compared with living in a ‘single house’. Furthermore, another important factor causing condominiums to become popular is the convenience of transportation because condominiums are mostly located nearby public transit systems (Wardrip, 2011).

In Thailand, due to the popularity of condominiums, many developers have paid attention to this market. The expansion of investment on this market has continually grown due to the belief in its continued demand. Moreover, CBRE (2015) projected that the total supply of condominiums in Bangkok would be more than 12,000 units in 2015 and its market has gotten high level of competition as highlighted in CB Richard Ellis.

Thus, condominium developers may want to know the product’s influences on purchase intention of condominiums for the purpose of competitive advantage. This research examines the product’s factors affecting purchase intention of condominiums in Bangkok. There are few previous studies focused on product’s factors but they mainly shed light on the overall effect of the 4P’s marketing mix on purchase intention of condominiums in Bangkok (Mahatriapop, 2010). As a matter of fact, while many units of condominium

---

1MBA graduate at Assumption University, Graduate School of Business.
2Lecturer at Assumption University, Graduate School of Business.
have been developed, there are quite a lot of existing units which are still unsold. (CBRE, 2015).

Therefore, the aim of this research is to better understand product’s factors affecting purchase intention that would be beneficial to condominium developers. Therefore, knowing the factors that buyers prefer about products and services could be helpful for condominium developers to survive in this highly competitive and oversupplied market.

2. Literature Review

One model and one theory were utilized in this current study; the 4 P’s marketing mix and theory of consumer behavior.

- The 4P’s Marketing Mix Model

McCarthy (1960) stated that the main elements of marketing mix are consisted of (1) Product (2) Price (3) Place and (4) Promotion as cited in Dogra and Ghuman (2010).

(1) Product: A product could be either physical products or any kind of services. Singh (2012) stated that the main element of a product could be design, quality, service quality, and brand image.

(2) Price: Price aspect could be involved in price level, credit term, price changes and discount.

(3) Place: In general, it involves inventory, a distribution channel, and a number of intermediaries. This aspect relates to the availability of products and services in the distribution channel.

(4) Promotion: The aspect of promotion consists of advertising, publicity, sales promotions, and personal selling. Generally, the main purpose of promotional activities is to make the products and services become well-known among target customers.

- The Theory of Consumer Behavior

The model of consumer behavior proposed by Kotler (2000) identified the process of buyers’ decision making as shown in Figure 1. The model proposed that there are external factors affecting the buyer’s mind (Black Box of buyers). Those factors are separated into two main groups as (1) marketing mix factors (4P’s: product, price, place, and promotion) and (2) other factors such as demographic, economic situation, etc.

The process would move onto the level of six steps of decision making based on their internal influences. After the decision making process, buyers would then finalize their decision on whether or not to purchase the products and services.

Figure 1: The Model of Consumer Behavior (Kotler, 2000 as cited in Rutenberg, 2003)

- (Perceived) Product Quality

Chinimina et al (2013) stated that product quality of physical products normally involves the quality of ‘physical characteristic’ and their ‘performance’. Also product quality is evaluated by how easy the product can be used and how suitable it is for each individual. Moreover, product quality includes aspects like durability, appearance, and perfection (Chinimina et al, 2013). Some researchers stated that product quality is identified as perceived product quality that could be measured easier than the term of ‘product quality’ as stated in Saleem et al (2015), Ergin and Akbay (2010) and Naing and Chaipoopirutana (2014). Moreover, they
found that product quality affects purchase intention in the positive direction.

- **(Perceived) Service Quality**

  Service quality is a customers’ evaluation on the level of service provided by the service provider (Sharma, 2014). Generally, the service quality is evaluated by the attitude of the customers, also known as ‘perceived service quality’ (Sharma, 2014). On the other hand, Hassan et al (2014) noted that the perceived service value is the level of service performance perceived by customers based on their expectations and experiences. Moreover, Rahman (2012) revealed that service quality normally is based on five-main aspects such as touchable level, reliability, attentiveness, assurance, and response. Many researchers found that the service quality affects purchase intention positively as identified in the findings of Sharma (2014), Fen and Lian (2007), and Laroche et al (2005).

- **Brand Image**

  Brand image is identified as a type of customers’ perception about each brand based on remembrance regarding products and services of each brand (Lin & Lin, 2007). Generally, brand image is not the thing attached with the physical products but it is generated by marketing activities such as advertising, sales promotion, etc. (Lin & Lin, 2007). Generally, perceptions about brand image are separated into three aspects: product involved benefits (benefits of using the product), non-product involved benefits (image of buyers), and experience benefits (feeling when using the product) as mentioned in Chi et al (2009). Furthermore, the findings of several researchers revealed that brand image affects purchase intention in the positive direction as stated in Shah et al (2012), Khan et al (2015), and Arslan and Zaman (2014).

- **Product Design**

  Design is the term representing the characteristic or the feature of things and is a factor making products distinguishable (Ana & Julio, 2004). In general, the benefits of design could be considered as; (1) usability benefits; touchable or technical benefits as; ease-of-use, convenience of use, etc. (2) hedonic benefits; involving consumer enjoyment while being used; shape, color, and smell etc. (Hanzaee & Baghi, 2011). Moreover, design factors positively affect the purchase intention directly as found in many studies such as Boudreaux and Palmer (2007), Hanzaee and Baghi (2011), and Hsiao (2013).

3. **Conceptual Framework**

   Based on aforementioned model and theory and previous research, the proposed of the conceptual framework for this current research is presented in Figure 2. The independent variables are the product factors consisting of product quality, service quality, brand image, and product design. The dependent variable is the purchase intention reflecting people’s level of purchase willingness of condominium.

**Figure 2: Conceptual Framework**

(Source: Developed by the researcher)

Four hypotheses to answer the research question as follows.

H1: Product quality affects the purchase intention of condominium.

H2: Service quality affects the purchase intention of condominium.
H3a: Brand image affects the purchase intention of condominium.
H4a: Product design affects the purchase intention of condominium.

- Research Methodology
The quantitative approach was used to investigate the hypotheses. The method of collecting primary data was a survey questionnaire that was constructed to measure the level of response in each variable.

There were three types of analyses utilized in this research. First, descriptive analysis was used to examine the characteristics of samples. Second, a reliability test was run to ensure that the questions are reliable and consistent. Third, the hypotheses were tested by multiple-linear regression to investigate the effect of product’s factors on purchase intention. All three analyses were conducted with the Statistical Package for the Social Sciences (SPSS) program version 17.0.

- Target Population and Sampling Size
The target population for this current research was the people who are considering to buy their own condominium units located in the Bangkok area. There were 400 respondents participated in the on-line survey.

- Sampling and Data Collection Procedure
Nonprobability sampling method (convenience) was utilized in the current study. The questionnaires were distributed to respondents via online platforms that are Facebook and the Line application.

- Pilot Study
The reliability of the survey questions was conducted utilizing the Cronbach’s Alpha test to 29 people and the results are presented in Table 1. Each reliability value was higher than the acceptable value of 0.6 (Epsein, 2012). The reliability of product quality, service quality, brand image, product design, and purchase intention were 0.701, 0.857, 0.835, 0.784, and 0.748 respectively. The results of reliability proved that all questions are reliable to be used.

<table>
<thead>
<tr>
<th>Table 1. Reliability Test (N=29)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Variable</strong></td>
</tr>
<tr>
<td>Product Quality</td>
</tr>
<tr>
<td>Service Quality</td>
</tr>
<tr>
<td>Brand Image</td>
</tr>
<tr>
<td>Product Design</td>
</tr>
<tr>
<td>Purchase Intention</td>
</tr>
<tr>
<td><strong>All Variables</strong></td>
</tr>
</tbody>
</table>

4. Data Analysis
As aforementioned, data from 400 sample was collected. Among 400, male respondents are accounted for 55.3% (N=221) and females were 44.7% (N=179). They belonged to the age range between 21-30 most at 47.3% (N=189), followed by 31-40 at 34.3% (N=137). The biggest portion of respondents has an income range between 20,001-30,000 baht at 23% (N=92), followed by 30,001-40,000 baht at 16.5% (N=66). For general information, most of respondents were considering condominiums for the residential purpose (57%) as show in Table 2.

<table>
<thead>
<tr>
<th>Table 2. Summary of Descriptive Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Variable</strong></td>
</tr>
<tr>
<td>Gender</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Age</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Monthly Income</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Hypothesis Testing

To answer the research hypotheses, the effect of the product’s factors on purchase intention was examined by multiple linear regression method. For this current research, the variance inflation factor (VIF) was also run to examine multicollinearity among independent variables. Result showed that the VIF value of each independent variable was less than two as noted in Table 3 which is much less than the upper boundary of the acceptable range at five (Martz, 2013).

As shown in Table 3, the adjusted r square was 0.43. Hence, 43 percent of variance in purchase intention is explained by product quality, service quality brand image, and product design (p<0.001).

Table 3. Summary of Hypotheses Testing (N=400)

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Beta (β)</th>
<th>Sig. Value</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>0.2</td>
<td>0.05</td>
<td>0.23</td>
<td>0.000</td>
<td>1.946</td>
</tr>
<tr>
<td>Quality</td>
<td>0.0</td>
<td>0.03</td>
<td>0.06</td>
<td>0.121</td>
<td>1.362</td>
</tr>
<tr>
<td>Service</td>
<td>0.2</td>
<td>0.04</td>
<td>0.21</td>
<td>0.000</td>
<td>1.690</td>
</tr>
<tr>
<td>Image</td>
<td>0.1</td>
<td>0.04</td>
<td>0.28</td>
<td>0.000</td>
<td>1.878</td>
</tr>
<tr>
<td>Product</td>
<td>0.2</td>
<td>0.04</td>
<td>0.28</td>
<td>0.000</td>
<td>1.878</td>
</tr>
<tr>
<td>Design</td>
<td>0.1</td>
<td>0.04</td>
<td>0.21</td>
<td>0.000</td>
<td>1.690</td>
</tr>
<tr>
<td>Purpose</td>
<td>buy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residence</td>
<td>0.2</td>
<td>0.05</td>
<td>0.23</td>
<td>0.000</td>
<td>1.946</td>
</tr>
<tr>
<td>For resell</td>
<td>0.2</td>
<td>0.05</td>
<td>0.23</td>
<td>0.000</td>
<td>1.946</td>
</tr>
<tr>
<td>Being assets</td>
<td>0.2</td>
<td>0.05</td>
<td>0.23</td>
<td>0.000</td>
<td>1.946</td>
</tr>
<tr>
<td>For rent</td>
<td>0.2</td>
<td>0.05</td>
<td>0.23</td>
<td>0.000</td>
<td>1.946</td>
</tr>
<tr>
<td>Others</td>
<td>0.2</td>
<td>0.05</td>
<td>0.23</td>
<td>0.000</td>
<td>1.946</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
<td>100%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Dependent Variable: Purchase Intention, R^2=0.436, Adjusted R^2 = 0.43

According to the results, three hypotheses, except hypothesis 2, were supported by the multiple linear regression model as presented in Table 4.

Table 4. Hypothesis Testing Results

<table>
<thead>
<tr>
<th>H(a)</th>
<th>Statement</th>
<th>Testing results</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1a</td>
<td>Product quality affects the purchase intention of condominium</td>
<td>Supported</td>
</tr>
<tr>
<td>H2a</td>
<td>Service quality affects the purchase intention of condominium</td>
<td>Rejected</td>
</tr>
<tr>
<td>H3a</td>
<td>Brand image affects the purchase intention of condominium</td>
<td>Supported</td>
</tr>
<tr>
<td>H4a</td>
<td>Design affects the purchase intention of condominium</td>
<td>Supported</td>
</tr>
</tbody>
</table>

Hypothesis 1:
As shown in Table 3, multiple linear regression was tested at a significant level of 0.001. Also, the standardized coefficient (β) was 0.234. Thus, the hypothesis 1 was supported and the beta value reveals a positive effect of product quality toward purchase intention.

Hypothesis 2:
According to Table I, there was no significant effect of service quality on purchase intention (p>0.001). Thus, the hypothesis 2 was rejected.

Hypothesis 3:
There was a significant effect of brand image on purchase intention (p<0.001). Moreover, the standardized coefficient (β) was 0.218 illustrating a significant positive effect on purchase intention. Thus, the hypothesis 3 was supported by the multiple linear regression analysis.
Hypothesis 4:
There was a statistically significant effect of product design on purchase intention (p<0.001). Also, the standardized coefficient (β) was 0.28 showing the positive effect of design toward purchase intention with its power. Thus, the hypothesis 4 was supported.

5. Conclusion and Discussion
The aim of the current research was to examine relationships between product’s factors and purchase intention of condominium in Bangkok.

Regarding the first hypothesis, findings of the current research revealed that there is a positive effect of product quality on purchase intention. Thus, this finding supported the hypothesis one. This finding is consistent with previous studies. For example, Naing and Chaipoopirutana (2014) conducting the research about purchase intention of a smart phone in Myanmar found that product quality has a positive effect toward purchase intention of IPhone. Moreover, Saleem et al (2015) and Ergin and Akbay (2010) found similar findings of positive effect of quality on purchase intention in other markets. In addition, Ergin and Akbay (2010) stated that product quality was a factor influencing buyers to purchase the product in most industries including apparel industry, personal care industry, and food product industry.

As for the second hypothesis, there was no significant effect of service quality on the purchase intention. This finding is inconsistent with previous studies. Several studies as Sharma (2014), Fen and Lian (2007), and Laroche et al (2005) revealed that there is a significant effect of service quality on purchase intention. However, all of these studies examined either consumer product or retailing product. That is, a condominium has different characteristics compared to it and is neither a simple product as consumer product nor retail product. The result of the current study implies that even if a salesperson did not take care of customer well enough, sometimes buyers are still willing to buy that condominium if other preferences about quality, brand image, and design are high enough. This is because all of these factors would involve their long term living more than short-term service quality delivered by projects’ salespersons.

The third hypothesis was supported by the findings of the current research. This findings showed that brand image is a factor affecting condominium purchase intention in Bangkok supporting several existing literature. Khan et al (2015) conducted a study of purchase intention in a fashion business and noted that brand image positively affected purchase intention directly and also affected purchase intention through perceived quality and brand loyalty. Furthermore, Shah et al (2012) and Arslan and Zaman (2014) supported this finding in that brand image actually affects purchase intention by heightening buyers’ brand awareness and brand preference.

Lastly, the fourth hypothesis was also supported by the multiple linear regression analysis. The relationship between product design and purchase intention was positively associated. There was no surprise on this finding because several studies’ findings revealed similar results. For example, Hanzae and Baghi (2011) found that product design affects the purchase intention of customers, because it made buyers aware on the benefit of uses both in hedonic benefits and utilitarian benefits. Besides, Boudreaux and Palmer (2007) shared their findings that label design is a factor influencing people to buy the wine which has a beautiful label on it.

6. Recommendation
The results of the current research found that product quality, brand image and design have a statistically positive association with purchase intention while service quality has not. As seen in Table 3,
product design had the strongest positive effect toward purchase intention, followed by product quality and brand image.

Findings of the current research may benefit for both project developers and marketing managers in the condominium industry and detailed recommendations for them to consider follow.

- **Product Design**

  Condominium project developers should focus on the benefits of designs both in aspects of usage benefits and feeling benefits as suggested by Hanzaee and Beghi (2011) and Ana and Julio (2004)’s findings. The appearance of building and landscape should be attractive; also, the usage functions should match to the customer needs as well. The area size of the project is also important as appropriate size of the project can affect people’s perception on convenience and comfortableness for living there.

- **Product Quality**

  Product quality is another important factor that managers should not overlook. The materials used in the project should have a good quality and the facilities should meet the needs of people living there. Managers should ensure that project locations are conveniently reached by both public and private transportation, because it is related to the quality of product. Moreover, project managers should seek land, having lively neighborhoods and environments because that is another crucial factor of the condominium’s product quality as revealed by Saleem et al (2015), Ergin and Akbay (2010) and Naing and Chaipoopirutana (2014).

- **Brand Image**

  The brand image of the company should be an important concern of marketing managers. The managers should pay more attention to building up the goodwill and positive awareness of their brands by launching advertising to heighten brand image, providing good experiences to customers visiting the showrooms, and creating positive word of mouth among media as suggested by Lin and Lin (2007) and Chi et al (2009).

- **Service Quality**

  Even though the service quality has no significant effect toward purchase intention in this current research, marketing managers still may concern about it, because it leads to customer satisfaction as mentioned by Fen and Lian (2007) and Sharma (2014). The companies could focus on five aspects of service: touchable level, reliability, attentiveness, assurance, and response. As a result, companies may gain higher satisfaction of customers that probably leads to purchase willingness in the long run as noted by Hassan et al (2014), Sharma (2014), and Rahman (2012).

**Further Research**

Future research may examine other aspects of 4P’s marketing mix in-depth: price, place, and promotion. Accordingly, its findings could clarify comprehensive effect of every marketing mix aspect. Furthermore, the scope of the research should be expanded to other regions including Chonburi, and Chaingmai in order for marketers of condominium developing companies to get insight about their prospective markets and set different kinds of marketing strategies. Lastly, future research should consider to collect data from both on-line and off-line platforms to cover extended samples.

**References:**


