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Relationship between Consumer Preferences and Value Propositions: A Study of Residential Product

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Abstract

As part of an ongoing research about value determinant factors for residential product pricing in Jakarta Metropolitan Region, this paper will analyze reasoning behind price allocation for residential products. It will also try to produce a certain pricing approach to measure the level of residential product price uniqueness. Preliminary findings from literature review analysis suggested that planned community (gated) concept, security and prestige helps to determine consumer preferences to purchase a specific residential product, while from interview analysis with property developer suggested additional factors of design, accessibility, facilities and brand also influenced the price of the product.

Keywords: Consumer preferences; environment and social influence; commercial implication; residential price uniqueness

1. Introduction

Property product is considered as unique product that cannot be compared with other commercial products, because it has two condition which sets up the price of products. The first is the given condition of the product: natural embedded condition of the product, such as location, land shape, physical condition

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and natural resources that the property owned. The second is the created condition made by property developer to enhance value of the product, such as creation of facilities, security traits, gated or non-gated, and design.

From the point of view of the property customer, when purchasing the product they looked upon several key factors form by the property given and created condition, and measures it with the subjected price of the product. Here a process of weighing and decision making takes place. At the end the price will be accepted if the key factors assumption has been accepted by the customer.

Sometimes these factors are being affected by outside influence and make biased outcome on fair price measurement. Some examples of these influences include market trend which can leads to speculation for customer that view property product as investment product, friends or family, and property developer promotion.

From the point of view of property developer, when setting price for a certain product they usually relies on their past experience when setting up the proper price. They assumed what factors which influences customer when purchasing property product, and from that created additional factors which helps to set the price up. One of the most extreme examples of value creation by property developer can be seen in BSDCity development in Tangerang area. From agriculture and swamp area, BSDCity has transformed itself through value creation to produce successful satellite city like today.

This study is intended to analyze the factors contributing these factors that influenced values, in order to optimize the price of a certain property product. Moreover, this study is intended to calculate the price range of a property product when key factors are created and added artificially to a property product by a property developer.

2. Literature Review for this Study

The review of literature is divided into five major sections and provides a context for the study. The sections review essential theories and their development as the basis of the Theoretical framework for this study: Development on Consumer Behavior Theories for Residential Products; References for Developer Perception in Residential Products; Previous and Related Studies on Consumer Preferences; Real Estate Price Modeling; and Speculative Behavior Analysis in Property Industry.

2.1. Development on Consumer Behavior Theories for Residential Products

Study made by Steggel et. al (2003) shows that there has been some development in consumer behavior theory for residential products. They are able to analyze which theories are prominent in housing research, according to the most cited references.

Based on their research, we can assume that there are six theories which influenced the housing studies. These six theories has been cited more frequently in housing studies from 1989-1999. The first theory used is the theory of Housing Adjustment. First mentioned by Morris and Winter (1975) in summary the theory discussed about households behavior when performing their daily activities. They will constantly changing and adjusting their housing situation in order to achieve satisfaction. From this theory, we can see that there are some set of behaviors and preferences which are changing to meet the standard that the household seeks. The second theory is the Person-Environment Congruence Theory. This theory in summary discussed about the relationship between human behavior and their environment. Human life is defined with sets of goals, and in order to fulfill those goals, human must interacts and adjust themselves with the condition of their environment (Ittelson, Proshansky, and Rivlin, 1970). Next is the Diffusion of Innovation Theory.

Table 1. Theory citations in housing research; Source: Steggel et. al, (2003)

Housing Theory	Number of Citations	Percents
Theory of Housing Adjustment	19	22.6
Person-Environment Congruent Theory	5	5.9
Diffusion of Innovation Theory	4	4.8
Symbolic Interaction Theory	4	4.8
Social Exchange Theory	4	4.8
Causal Model of Barriers and Incentives to Affordable Housing	4	4.8
Amenity Retirement Migration Model	2	2.4
Development Perspective on Elderly Migration	2	2.4
Social Construction Paradigm	2	2.4
Theory of Human Motivation	2	2.4
Typology of Elderly Migration	2	2.4
Transactional Model	2	2.4
Other theories	32	38.1

This theory mentioned about the innovation which happened around human life and how it is communicated and introduced to their daily activities, and based on their benefits and purpose whether it will be diffused or not (Rogers, 2003). There are four elements which are affecting the diffusion process: the innovation; communication channels; social systems; and time. The fourth theory is the Symbolic Interaction Theory. The theory itself is adopted and used based on physiological and sociologist theories, which then adapted to housing research by Erman (1996). In this context, housing selection and preference is made base on symbolic meaning which are considered common in the society. The fifth theory is the Social Exchange Theory. This theory tried to explain the relationship between social interactions and relationships and resources. It stated that social interactions and relationships is conducted in the society based on rewards and costs balance (Thibaut and Kelly, 1959; Blau, 1964; and Homans, 1961). The last theory is Causal Model of Barriers and Incentives to Affordable Housing. This theory deals with the interaction and connection between community and households based on the interacting variables (McCray et. al., 1994).

2.2. References for Developer Perception in Residential Products

As the study in developer perception in residential products are considered rare to be found, we tried to conduct a simple research in order to find initial references for developer perception. The method of research is by interview with one single question asked to the entire respondent: "Name at least three major factors which affects pricing decision for residential property developer?" Thirteen respondents answer this question with working background varied from Property developer, Property consultant, architects, and quantity surveyors. The answers shows that there are four major significant factors which affects pricing decision for residential property developer: design, developer reputation, facilities and accessibility.

Fig. 1. Residential Property Developer Perception for Pricing Decision (author interview)

2.3. Previous and Related Studies on Consumer Preferences in Real Estate Products

There are several previous and related studies concerning the consumer preferences in Real Estate products. The most coveted and cited study was being conducted by Blakely and Snyder in 1998. They suggested that there are three major factors that contribute to residential consumer purchasing decision: Lifestyle, Prestige, and Security. After their research, number of studies in residential consumer preference has increased with wider perspective, including the research by Bond (2001) which investigates effect of land contamination towards preference; the importance of consumer perception in valuation of residential products (Daly, 2003); pricing of residential product versus the building age (Smith, 2004); planned versus non-planned community development (Eves, 2006); air quality and its relationship towards price (Neill et al, 2006); Susilowati and Virojanapa (2007) who discussed about effect of green space towards price, the different price valuation between private lots and public open spaces in urban-rural fringe (Kopits et al, 2007); study about residential consumer heterogeneity behavior by Hoshino (2008); Lamond (2008) which discussed about the effect of flooding towards price; and study made by Davison et al (2009) and Shafei et al (2010) who discussed about the property developer brand and price which affects the consumer preference,

From the following research above we can see that there are several factor that affecting consumer preference when they decided to purchase a property product. Factors such as design, planned development and prestige play significant part in price setting in Indonesia. Design is affecting the price because of the trend. In Indonesia, for example in Serpong area, themed residential cluster was booming back then. Also the concept of smart house was a popular theme in the early of 2000. Planned development or clustered housing is almost become an essential product in Indonesia nowadays. Reasoning on security, privacy, safety has caused clustered housing to be able to be sold at premium price, compared with regular housing products. Prestige of one property product can be seen by the developer brand, the location, facilities embedded, and even the price tagged to the product.

2.4. Previous and Related Studies on Consumer Preferences in Real Estate Products

For this section we will discussed about approaches being used for Real Estate Valuation and several pricing model that are common to be used in Real Estate Valuation, including Hedonic Pricing Model; Spatial Analysis; and Artificial Neural Network.

2.4.1. Approaches for Real Estate Valuation

For Real Estate price modeling, there are several approaches being used by valuer. Some of the most common method for it usually being done by these three approaches: cost approach, sales comparison, and income approach. The cost approach is used properly can produce highly accurate valuations. Cost approach is to analyze cost structure of real property being estimated, and try to get the replacement price of the property. The basic steps in the sale comparison approach: find the most similar houses, located near the subject property, sold not too long ago; and select a balanced subset of the most promising comparables to derive the final estimate. The income approach is based on the idea that the current value of a property is the present worth of future benefits to be derived through income production by property over the remainder of its economic life.

2.4.2. Hedonic Pricing Model

According to Sherman Rosen in 1974 a theory of hedonic prices is formulated as a problem in the economics of spatial equilibrium in which the entire set of implicit prices guides both consumer and producer location decisions in characteristics space. This method was first introduced to calculate the different quality factors related with the price of vegetable products (Wough, 1928). After that the method was expanded to other fields such as automobile, tractor, electrical goods, and other. For Property product, the initial studies were conducted by studying historical landmark and design as quality factors for deciding the price allocation for certain real estate products (Hough & Kratz, 1983) and (Vandell & Jane, 1989).

2.4.3. Spatial Analysis

The emphasis of Spatial Analysis is to measure properties and relationships, taking into account the spatial localization of the phenomenon under study in a direct way (Camara, Monteiro, Fucks, & Carvalho, 2004). This can be used to analyze the price of a certain property products. The initial study for spatial analysis was conducted in John Snow in 1854 to analyze the relationship between locations of death by cholera compared with the location of water pump in London. After that this method was quickly spread into several fields of studies including geographic, architecture, and property.

2.4.4. Artificial Neural Network

Artificial Neural Network originates from a network of brain nervous cells (Rossini, 1997). An Artificial Neural Network (ANN) is an information processing paradigm that is inspired by the way biological nervous systems, such as the brain, process information. It is composed of a large number of highly interconnected processing elements (neurons) working in unison to solve specific problems.

2.5. Speculative Behavior Analysis in Property Industry

Real estate is an industry which is vulnerable to speculation, and speculation is one of main factors that caused property cycle. According to Malpezzi and Wachter in 2004, most of the property cycles which happened are caused due to speculative action in land or real estate markets. Property cycle is defined as a series of oscillating event in property market where in an assumed time the market will go up and down (Reed and Wu, 2010). According to Yusof (2001), property cycle will go through several steps before it recycles.

- Business upturn and development
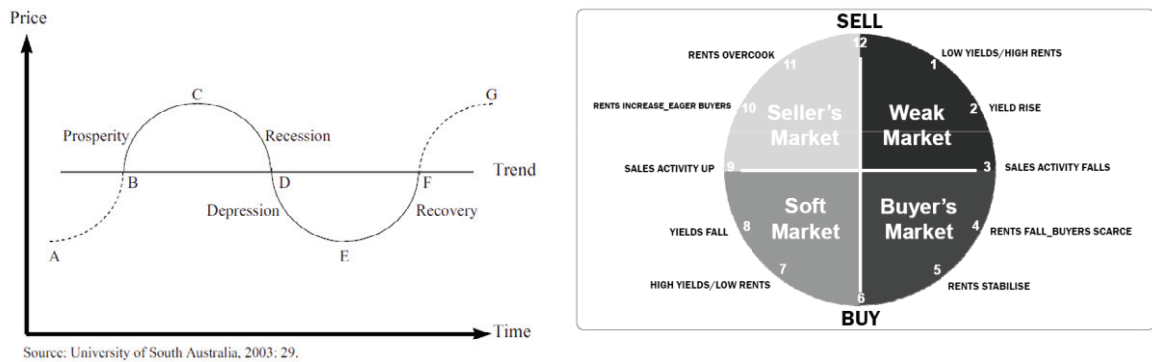- Business downturn and over building
- Adjustment
- Slump
- New Cycle

Fig. 2. (a) Property Cycle; Source: Pornchokchai, (2011); (b) Property Market Clock; Source: Simanungkalit, (2009)

The first stage of property cycle happened at the beginning of a recovery period, when excess supply has been absorbed and the demand has increased. Price of a Property product will gradually increase over time. The increase in price can be caused by four major factors (Pornchokchai, 2011):

- The market recovery, after the slump period
- Improvement of infrastructure and services
- Improvement of economy
- Availability of Property product at discounted price

According to Simanungkalit (2009), property cycle can be viewed as a clock. The clock itself can be divided into four period of time:

- Weak market: Started with market with low yields/ high rents. The yield will gradually rise and sales activity falls.
- Buyer's market: In this period of time the rent will slowly falls and stabilize. The customer started to buy the product.
- Soft market: Here, customers are enjoying high yields, and they can rent property product with low rent. The market beginning to adjust and gradually yields falls. Sales activities are going up.
- Seller's market: In this period the rent rate increasing until overcooked. This caused customer to speculate and choose to sell their product. The cycle begins again with the weak market period.

One definition of speculation is that when we invest on something in a rising market, we tend to do that to safeguard our financial condition and to provide comfort to the future, while when someone else does it, then its speculation. Speculation can mean investment, sometimes in short-time horizon. It can also define as mean of arbitrage (Malpezzi and Wachter, 2004). Speculation is seen as the driving force behind the major booms in real estate markets. In this term, if we relate with the consumer we can see that although the main driving factors behind their preference is still the same, however their purchasing behavior will be very much influenced by the market condition. In the boom period, people are very

optimistic and tend to be over-investing, while in the bust period, people become very pessimistic and panicking (Pornchakchoi, 2011).

Based on the analysis being made by Simanungkalit in 2009, we can see that Indonesia has already experienced the property market clock for several times. The cycle happened once in every ten years. Indonesia reached seller's market period in 1996, 2005, and expected to happen again in 2014. Indonesia reached buyer's market period in 2000 and 2009. Currently in 2012, we are in soft market period going to Property booming period. In seller's market period, Indonesia also suffered several crises, such as in 1999 when Asian economic meltdown happened, and in 2009 when global economic meltdown happened. In buyer's market period, Indonesian economic is also reaching out its full advantages, such as happened in 1996, 2005, and expectedly in 2014.
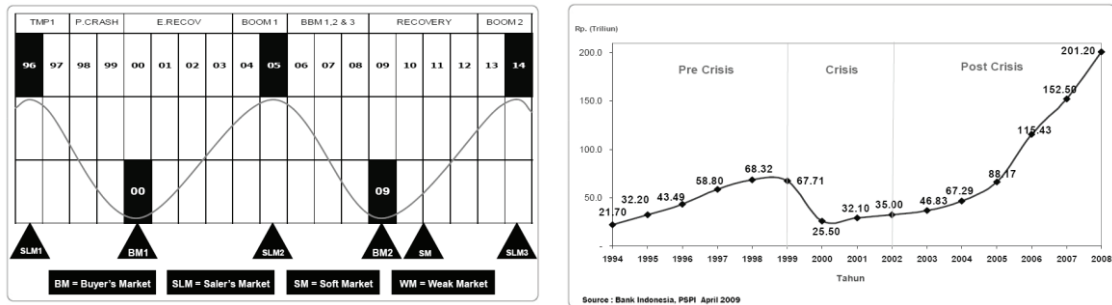

Fig. 3. (a) Property cycle in Indonesia; (b) 2009 property accumulative loans in Indonesia; Source: Simanungkalit, (2009)

This data is also supported with the property accumulative loans in Indonesia. As seen in the table below, when the Property market is bullish, most customers choose to loan money to purchase property product, and when Property market is bearish, the number of loan is reducing.

As seen in the table below, the sales turnover for property, especially for housing product is growing according with the Property cycle trend in Indonesia. For example in 2004 to 2005, when the market is booming, the sales turnover for housing product increased from 11.842,0 to 17.730,0 billion rupiah. While in 2008P to 2009P when the market is crashing, the sales turnover for housing product decreased from 29.371,0 to 25.931 billion rupiah.
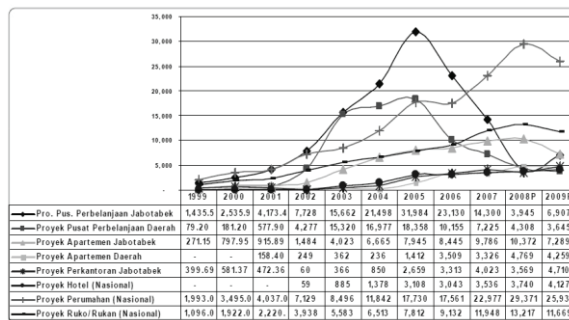

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008P	2009P
Pro. Pus. Perbelanjaan Jabotabek	1,435.5	2,535.9	4,173.4	7,728	15,662	21,498	31,984	23,130	14,300	3,945	6,907
Proyek Pusat Perbelanjaan Daerah	79.20	181.20	577.90	4,277	15,320	16,977	18,358	10,155	7,225	4,308	3,645
Proyek Apartemen Jabotabek	271.15	797.95	915.89	1,484	4,023	6,665	7,945	8,445	9,786	10,372	7,289
Proyek Apartemen Daerah	-	-	158.40	249	362	236	1,412	3,509	3,326	4,769	4,259
Proyek Perkantoran Jabotabek	399.69	581.37	472.36	60	366	850	2,659	3,313	4,023	3,569	4,710
Proyek Hotel (Nasional)	-	-	-	59	885	1,378	3,108	3,043	3,536	3,740	4,127
Proyek Perumahan (Nasional)	1,993.0	3,495.0	4,037.0	7,129	8,496	11,842	17,730	17,561	22,977	29,371	25,931
Proyek Ruko/Rukan (Nasional)	1,096.0	1,922.0	2,220.	3,938	5,583	6,513	7,812	9,132	11,948	13,217	11,669

Fig. 4. Property business sales turnover, 1999-2009; Source: Simanungkalit, (2009)

3. Analysis and Conclusion

From the literature review we can see that factors that builds developer perception and consumer preferences can be developed into price modeling. Previous studies has found many factors that

constructs the price modeling, however from the developer point of view, there are not many literature to be found. From the findings above, a general pricing model will be constructed. This is considered as the first step of our research. The next step is to analyze to speculative behavior which affecting the price externally. This is considered as the second step on our research. Final expected product would be the modified pricing model.
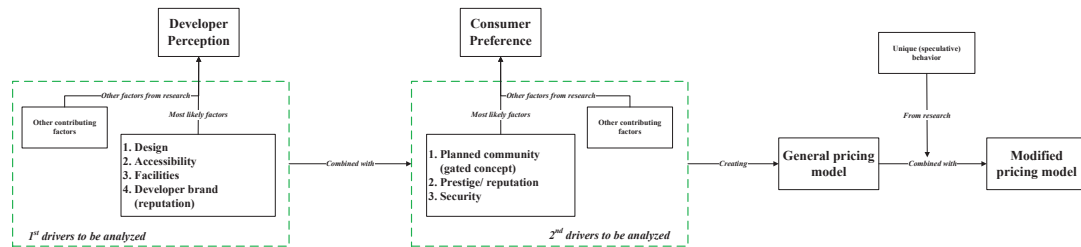

Fig. 5. Literature review mapping

As viewed in the mapping above, we have concluded the main factors which contribute to the developer perception and consumer preference for residential product pricing in Jakarta Metropolitan Region. For developer perception, based on interview result, there are four factors that affecting price: *design, accessibility, facilities, and brand*. For consumer preference, based on literature review studies and its relationship with Indonesian condition, there are three factors that affecting price: *planned community concept, prestige, and security*. These factors are generated based on the assumption made by previous working experience made by the authors as the most likely factors with Indonesian context. They will become the main hypotheses for this research. To produce more accurate result, these factors combined with the research on developer perception findings, then will be combined and retested to residential consumers via mixed-method paradigm.
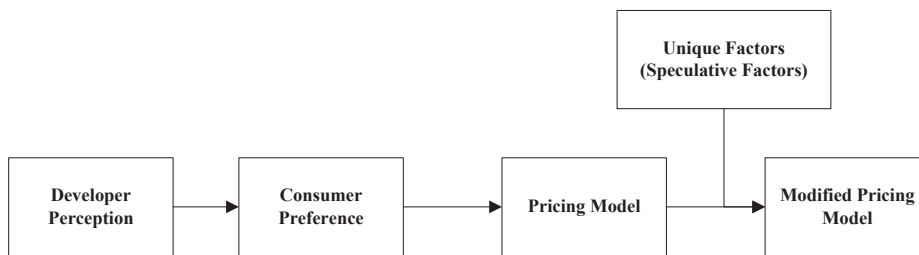

Fig. 6. Conceptual model for this research

From all of these findings a further analysis will be conducted to create a general pricing model. There are several options of pricing model to be used, with their own strengths and weaknesses. For this research, modified or combined approach will be used to produce more accurate result. After a general pricing model has been created, the next step of this research is analyzing the unique factors, which in the research we assumed being influenced by speculative behavior of the consumer and the seller. Although their consumption preference might be the same, but if influenced by the market condition in a specific time frame, their value proposition can be adjusted accordingly. If the market condition if bullish/ bearish, consumer might perceive value with more relaxed/ uptight perspective, which might biased their normal value if viewed only from their consumer preference. By integrating the unique factors with general

pricing model it is expected to produce a final modified pricing model that is suitable for Jakarta Metropolitan Region area.

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