# Analysis of House Purchase Intention

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## Abstract

Most housing market models are based upon rational choice and optimizing behaviour, which, however, fail to account for observed behaviour in the housing market. Available theoretical efforts are, therefore, insufficient to understand house-purchasing behaviour. The purpose of this research, therefore, is to further enhance the theoretical efforts made thus far, and firstly, to develop a conceptual model, that matches the observed behavior in the housing market arena that diverges from rationality, to better understand the house-purchasing intention and secondly, to test the model empirically. Thus, two constructs were identified, namely, self-image and reference group influence. A judgmental sample of 260 individuals who had an intention of buying a house was used to collect primary data through a structured questionnaire survey. PLS was used to determine the nature of buying behaviour. Empirical analysis disclosed that the reference group influence as a social construct had a higher impact on the purchasing intention than self-image, thus normative influence diverges rational beahviour in purchasing a house.

**Keywords:** Consumer buying behaviour, Housing market, Purchase intention, Self – concept, Reference group influence, Theory of self-congruity, Informational influences, Normative influences.

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## Introduction

Consumer behaviour is a comparatively recent area of study and, therefore, should be further developed and discovered (Kernan, 1995, as cited in Demirdjian and Mokatsian, 2014). Accordingly, Gibler and Nelson, (2003) have recognized the importance of understanding individual decision making in a real estate context. Gibler and Nelson, (2003) state that there is a lack of theoretical and empirical explanation regarding individual decision making in the real estate context. Furthermore, the theoretical underpinnings of consumer decision making indicate a clear shift from rational decision making to psychological and social decision factors (Koklic and Vida, 2009; 2011). It is also observed that the recent models in the decision making arena have not been adequate to gather all the knowledge in this field (Bargh, 2002; Koklic and Vida, 2011). Further, analysis of the housing market, (Cho, 1996; DiPasquale and Wheaton 1994; Meen 1996; Marsh and Gibb, 2011; Koklic and Vida, 2009; 2011; Levy and Lee 2004) reveals that most housing market models are based upon rational choice and optimizing behaviour, which have failed notably to account for observed behaviour. Accordingly, this failure motivates one to study alternative theoretical approaches to understand the observed behaviour. Further, at the theoretical level, researchers have recognized many difficulties in applying the standard consumer theory to housing for many years (Marsh and Gibb, 2011), where the standard consumer theory considers decision making under uncertainty, and uses the maximization of subjective expected utility.

Traditionally, this economic analysis of consumer behaviour in housing markets has been dominated by expected utility maximization and rational choice (Marsh and Gibb, 2011; Levy and Lee, 2004). This expected utility theory is suitable primarily for "small world" problems (Savage, 1954, as cited in Marsh and Gibb, 2011): those are problems comprising a limited range of easily identifiable and well-understood prospects. Purchase of a house cannot be considered a small world problem as it has a range of alternatives available, as the complexity of the information and the pervasive uncertainty surrounding key variables are existent. Thus, standard theories based on utility maximization and rational choices do not fit into the understanding of the housing market decision processes (Marsh and Gibb, 2011). In addition, it is noted that application of the standard theories are not practical due to a number of reasons (Marsh and Gibb, 2011), such as infrequent transaction by individuals, imperfect information in the market and utility maximization. Furthermore, many researchers believe that a specific situation and product oriented models are needed in studying

purchasing behaviour (Erasmus, Boshoff, and Rousseau, 2001; Koklic and Vida, 2011) when considering purchase of housing. This argument can be further supported in the area of housing because research done in this domain identifies (Koklic and Vida, 2009; 2011; Marsh and Gibb, 2011) a house as a special product under the durables. Hence, it can be identified that for decision making in the housing market, a specific situation and product oriented models need to be developed. Accordingly, this indicates that available theoretical efforts are insufficient to understand the behaviour of house purchase.

Further, in this regard some psychologists and sociologists have suggested alternative perspectives to new conceptual models such as the role of subconscious factors, the context and the product, alternative decision-making strategies, and the consumer's cognitive and social/psychological factors etc. (Erasmus, Boshoff, and Rousseau 2001; Loewenstein2001; Koklic and Vida, 2009). In this scenario, Marsh and Gibb, (2011); Bazerman, (2001); Levy and Lee (2004) argue that the influence of reference groups diverge from rationality. A person's reference group consists of all groups in which the person's attitudes or behaviours are influenced by direct or indirect factors (Kotler, 2003). In addition, Belk, (1988); Zia-ur-Rehman and Dost (2013) argue that purchases and ownership that may appear economically irrational may be explained through the concept of self-image, where objects may take on characteristics that go far beyond their utilitarian features, and people may develop deep and complex attachments to them. Further, Levy (1959) as cited in Heath and Scott, (1998) has suggested that consumers are not functionally oriented, and that their behaviour is significantly affected by the symbols which identify goods in the marketplace. This concept has produced the idea that consumers purchase goods in order to develop a particular self-image. According to Koklic and Vida, (2009), self-image as a psychological construct, plays a significant role in the housing market. Accordingly, this research study intends to consider reference group influence and self-image of the consumer as two constructs that influence house purchasing behaviour. According to this perspective, the intention of the researcher is to understand house purchasing behaviour. Therefore, house purchase intention is taken as the dependent variable for the study, where a person's behaviour can be determined by his intention to perform that particular behaviour (Ajezn, 1991). Accordingly, two specific objectives are developed; one is to examine the relationship between the consumer's self-image and his house purchase intention; the next is to examine the relationship between a house consumer's reference group influence and his/her house purchase intention.

The present study contributes to the advancement of knowledge on consumer behaviour, with special reference to the purchase intention of a house. As discussed under the theoretical gap, most of the housing market models are developed based on utility maximization and rational choice. Therefore, identifying factors that alter this dominant understanding is significance to this study. Accordingly, reference group influence and self-image are considered as two variables that diversity the economic and rational behaviour in the housing market. Additionally, Bazerman (2001) urges researchers to further explore the field of purchasing and dealings in houses as a special product category. Further, according to Luo and James, (2013), researchers should embrace the study of consumer behaviour in the real estate context to better understand buying behaviour. Moreover, the high growth of the industry and increased investment in the real estate sector can be seen in Sri Lanka as well as all over the world. Therefore, the outcome of this research will be significant to academia, policy makers, property investors and marketers in real estate market to better understand the factors that influence the house consumers' purchase intentions.

The rest of this paper is organized as follows: the next section is the theoretical background, beginning with house purchase intention, house buyers' self-image, and reference group influences and going on to hypothesis development and conceptual framework. The next section will discuss the research methodology and data analysis. The final section delineates with a brief discussion on the theoretical/ managerial implications of the study, and this is followed by the conclusion.

## Literature review

### *House purchase intention*

A person's behaviour is determined by his intention to perform that behaviour (Ajezn, 1991). It is important to identify and measure the behaviour of interest that is to be understood, predicted, or even changed. The construct of behavioural intention represents a person's motivation or decision to enact behaviour (Conner and Armitage, 1998). Further, intentions represent a person's motivation of his or her conscious plan or decision to exert effort to enact the behaviour. The intentions and behaviour are held to be strongly related when measured at the same level of specificity in relation to the action, target, context, and time frame (Fishbein and Ajzen, 1975, as cited in Conner and Armitage, 1998). In fact, Conner and Armitage,

(1998); Francis, et al., (2004) suggest that once you have a good understanding of the intention, the behaviour is not that difficult to predict. The intention is assumed to capture the motivational variables that influence a certain behaviour. They are indicators of how people are willing to perform their behaviour.

In the housing market, home-ownership intention has greater association with the actual buying behaviour. This has been proved by Choen et al., (2009) in their empirical study that home ownership intentions, in turn, are associated with purchasing a home during the following year. This relationship remains significant even after controlling for numerous demographic and economic variables (Cohen et al, 2009). Therefore, intentions represent a person's motivation in the sense of his or her conscious plan or decision to exert effort to enact a behaviour (Conner and Armitag, 1998).

### *Self-image and house consumers' purchase intention*

Self-concept or self-image is defined as "the totality of the individual's thoughts and feelings having reference to themselves as subjects as well as objects" (Malhotra, 1988; Hawkins, Mothersbaugh, and Best 2007, as cited in Luo and James, 2013). Further, Musanje (2012) defined self-image as "the individual as perceived by that individual in a socially determined frame of reference". In this context, people often consider that their houses should also reflect their personal identities (Luo and James, 2013).

Self-image is generally viewed in several dimensions: ideal self (what one aspires to be), real self (the way one thinks one actually is), self in context (how one sees oneself in different social settings), and extended self (possessions and artifacts help define who one is) (Walker, 1992). Some investigators have argued that self-concept has to be treated as having two components - that of the actual self-concept and the ideal self-concept (Abdallat, 2012). Accordingly, there is some evidence that consumers purchase products that are mostly consistent with the actual self or that are expected to help achieve the ideal (Sirgy, 1982).

Since Landon (1974) highlighted the role of self-concept in consumer behaviour, researchers have explained various constructs (including attitude, preference and choice) in terms of the relationship between one's self-image and one's perceived image of a particular product or service. This notion has become known as the self-

congruity theory. It is based on the assumption that consumers prefer brands/ products they associate with a set of personality traits congruent with their own (Malhotra, 1988; Sirgy, 1982). Self-congruity is defined as the match between a brand image and an individual's self-concept (Sirgy and Su, 2000). Theoretically speaking, therefore, the effect of self-image congruence on consumer behaviour has been explained by the self-congruity theory (Sirgy 1986; Sirgy and Su, 2000). This theory proposes that consumer behaviour is determined, in part, by the congruence resulting from a psychological comparison involving the product-user image and the consumer's self-concept (actual self-image, ideal self-image, social self-image) (Sirgy 1986; Sirgy and Su, 2000).

The relationship between the actual self-image/product-image congruity (self-congruity) and the purchase intention has been supported by numerous studies. The relationship between ideal self-image/product-image congruity (ideal congruity) and purchase intention has also been generally supported (Sirgy, 1982; Mengxia 2007; Malhotra, 1988; Landon, 1974). In this context, according to Belk (1988); Koklic and Vida, (2009) a house presents a strong source of personal identity. There, the extended self as a part of the self-concept also plays a major role in a custom-made house. A house is a place, where a person can express himself or herself (Marcus, 1997, as cited in Shafiei, 2010; Ariyawansa, 2007), develop his or her identity (Aragons, 2002, as cited in Shafiei, 2010; Ariyawansa, 2007) and imbibe a sense of continuity identified over time (Csikszentmihalyi and Rochberg-Halton, 1981, Hummon, 1989, and Somerville, 1997, as cited in Shafiei, 2010; Ariyawansa, 2007). Moreover, a house can be viewed as a part of the self-image that helps to form an identity and presents that identity to the world (Cooper, 1974, Hayward, 1977, Csikszentmihalyi and Rochberg-Halton, 1981, Sadalla, Vershure, and Burroughs, 1987, as cited in Luo, 2012).

Similarly, consumers will choose to purchase real estate that either fits their current self-image or is associated with the ideal image they want to achieve (Gibler and Nelson, 2003). Moreover, individuals buy houses that are congruent with their self-image, where they prefer, intend to purchase, or actually use houses with images they see as being congruent with their actual self-concept (Malhotra, 1988; Koklic and Vida, 2009). The findings of the analyses of Koklic and Vida, (2011); Ariyawansa (2007); Ariyawansa (2009), therefore, confirm the notion that a house is a product that closely relates to the homeowner's self-image. Accordingly, the following two hypotheses are suggested for the study:

H1a: There is a significant relationship between a house consumer's real self-image and house purchase intention

H1b: There is a significant relationship between a house consumer's ideal self-image and house purchase intention

## *Reference group influence and house consumers' purchase intention*

A reference group is a large group whose presumed perspectives or values are being used by an individual as the basis for his or her current behaviour (Hawkins, Mothersbaugh, and Best 2007, as cited in Luo and James, 2013). Further, a person's reference group consists of all groups in which the person's attitudes or behaviours are influenced by direct or indirect factors (Kotler, 2003).

From a consumer behaviour perspective, reference groups are important because they provide information and make individuals aware of specific products and brands; provide individuals with opportunities to compare their own thinking with the attitudes and behaviour of the group; and influence individuals to adopt attitudes and behaviour that are consistent with the norms of the group (Lessig and Park, 1978; Schiffman and Kanuk, 2007, as cited in Makgosa and Mohube, 2007). Consequently, consumer researchers have carried out investigations on how reference groups influence various products' and brands' purchase decisions (Bearden and Etzel, 1982; Makgosa and Mohube, 2007; Childers and Rao, 1992). Further, according to the literature, a consumer's family is considered the most influential reference group and the family is defined as "a group of two or more persons related by blood, marriage or adoption, and residing together as a household" (Lawson et a1., 1996, as cited in Levy and Lee, 2004). Influences exerted by family members are high in the decision making process (Beatty and Talpade, 1994, as cited in Levy and Lee, 2004).

Behavioural theorists such as Deutsch and Gerard (1955), according to Brinberg and Plimpton (1986) as cited in Mihic (2006), distinguish two types of reference group influence – informational and normative. In addition, based on the theories of Deutsch and Gerard (1955), three forms of influence have been recognized, namely, informational, utilitarian, and value-expressive (Bearden and Etzel, 1982; Mihic, 2006; Lessig and Park, 1978; Makgosa and Mohube, 2007; Childers and Rao, 1992). Informational influence is perceived as enhancing one's knowledge of the environment and/or the ability to cope with an aspect of the environment (Park and Lessig, 1977;

Makgosa and Mohube, 2007; Childers and Rao, 1992). Informational influence also entails observing the behaviour of others or actively searching for information from others using the appropriate expertise (Park and Lessig, 1977). Utilitarian influence means complying with the individuals' preferences or expectations of others to avoid punishments or achieve rewards (Bearden and Etzel, 1982; Lessig and Park, 1978; Park and Lessig, 1977; Makgosa and Mohube, 2007). Value expressive influence is concerned with an individual's motive to enhance his/her self-concept (Park and Lessig, 1977; Brinberg and Plimton, 1986, as cited in Makgosa andMohube, 2007). Further, value expressive influence is likely to influence an individual because of the desire to enhance one's ego (Park and Lessig, 1977; Makgosa and Mohube, 2007).

However, another school of thought recognizes two dominant influences, namely, informational and normative influence (Bearden et al., 1989; Brinberg and Plimpton, 1986, Mangleburg and Bristol, 2004, as cited in Makgosa and Mohube, 2007). Informational influence has been defined as the first school of thought. However, the unique feature of this school is that utilitarian and value expressive influences are not said to be measurably distinct. In other words, although conceptually utilitarian and value expressive influences could be separated, their measures cannot be separated (Bearden et al., 1989; Grimm et al., 1999, Subramanian and Subramanian, 1995, as cited in Makgosa and Mohube, 2007). Consequently, they have been combined together into a single concept referred to as normative influence. Normative influence is defined as the tendency to comply with the positive expectations of others (Bearden et al., 1989; Bachmann, et al., 1993, Grimm et al., 1999, as cited in Makgosa and Mohube, 2007).

In the housing market, previous research has shown that there are different reference groups influencing decision making in the real estate market such as real estate developers, investment bankers, family, peers, friends and brokers (Gibler and Nelson, 2003). On the basis of research results, family and friends can be categorized as one group and experienced experts as another group as the main influences of a person's decision regarding real estate purchase (Husić-Mehmedović, et al., 2011). Moreover, the most influential reference group in the housing market has been found to be the consumer's family (Lawson et a1., 1996, as cited in Levy and Lee, 2004). This reference group has a strong positive influence over the real estate purchase intention (Panthura, 2011, as cited in Rasak, et al.., 2013). This is supported by the result obtained in the findings of Rasak, et al., (2013). Research has indicated that there is a positive relationship between this reference group and

real estate purchasing intention. Further, according to Gibler and Nelson (2003) reference group influence can be operationalized through informational, utilitarian and value expressive forms. However, as per the discussion of literature in this paper, reference group influence is examined using informational and normative influences. Accordingly the following hypotheses are developed,

H2a: There is a relationship between informational influence and house purchase intention

H2b: There is a relationship between normative influence and house purchase intention

## Conceptualization

Considering the above hypothesis  the following conceptual framework is developed. The model indicates that the intention to purchase a house is influenced by real self-image, ideal self-image, informational influence and normative influence.

**Figure 01: Conceptual framework**
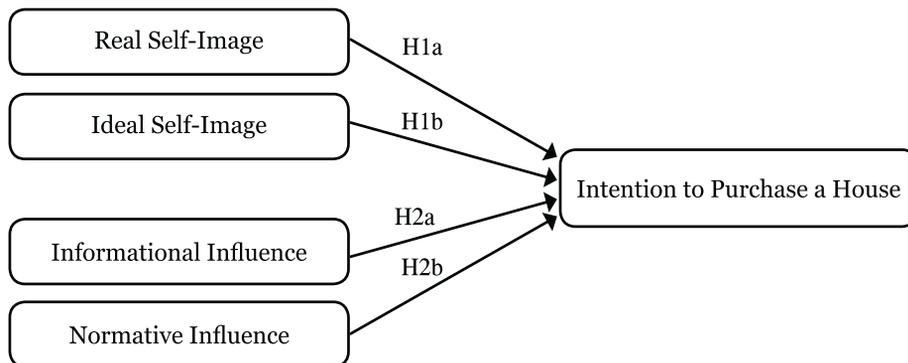


## Research methodology

In order to determine the sample for the study, the sample population is considered to be the individuals who have an intention of buying private sector developed luxury housing units in Sri Lanka. However, there is no specific definition for luxury housing units, though according to the interviews conducted with several developers/ marketers, the researchers identified houses based on the market value between Rs.

10 – 35 million as luxury houses. Subsequently, the researchers used judgmental sampling by considering the representativeness of the sampling elements.

Therefore, for this study, defining the exact number of the population was a problem and it has led to the problem of defining the sample size. Accordingly, a 'minimum sample size' was needed, as there were varying estimates of the size of the sample. However, the total sample size for this study was considered as 260. Most experienced researchers would probably consider a sample size between 200 and 1,000 respondents as adequate. Further KMO and Bartlett's test was conducted to assure the sample adequacy.

Concerning the hypothesized relationships between the constructs of the study, the Partial Least Squares (PLS) analysis via path strengths was used to determine the nature of the hypothesized relationships between the constructs (Vinzi, Chin, Henseler and Wand (Eds.), 2010). For this study PLS is appropriate due to several reasons such as the nature of the data set since Structural Equation Modeling (SEM) requires a relatively large sample, and the data should be normally distributed and free from missing values. The PLS on the other hand can be handled with a relatively small sample, and data doesn't need to be normally distributed and can have missing values (Hair et al., 2011; Fornell and Bookstein, 1982, as cited in Jayakody, 2011). Additionally, Jayakody (2011), and Fornell have recommended PLS for the early stages of theory building and testing because PLS is capable of testing the specified relationships even without good scales, and also when the scales fail to meet the criterion of convergent validity. Accordingly, the above literature provides a justification to using PLS for data analysis in the current study (Hair et al., 2011; Vinzi et al., 2010; Jayakody, 2011).

### *Measures*

Purchase intention

Based on the empirical work by several researchers, three ways to measure the intention have emerged as a joint effort to capture the essence of the intention optimally, namely: desire, behavioural intention, and self-prediction (Shepperd, Hartwick, and Warshaw, 1988; Bagozzi, 1992; Warshaw and Davis, 1985; Holst and Iversen, 2011). The first measure which is desire, as suggested by Bagozzi (1992); Holst and Iversen, (2011) was adopted as "I want to buy a luxury house". The second measure which is behavioural intention with an internal reliability of α= 0.7667

(Conner and Armitage, 1998), was adopted as "I intend to buy a luxury home" (Harris and Goode, 2010). The third measure which is self-prediction is measured in the statement "It is likely that I will perform behaviour X" (Shepperd, Hartwick, and Warshaw, 1988; Warshaw and Davis, 1985). "Perform behaviour X" of the above statement is changed to "buy a luxury house". Further, according to Harris and Goode (2010), "I expect to buy a luxury house" with internal reliability of, α= 0.7667 adopted in this study. Moreover, the measurement scale used by Warshaw and Davis, (1985) is adopted as "I plan to buy a luxury house" with internal reliability of α> 0.7. Subsequently, the scale used for measuring the responses is a 5-point Likert scale where 1 denoted strongly disagree and 5 denoted strongly agree (Francis, et al., 2004).

## House consumer's self-image

In this study, self-image is developed as real and ideal self-image. Accordingly, Sirgy and Su (2010) and Sirgy et al., (1997)'s, self-congruity measures are adopted for the study. Measuring real self-image, the statement "the house I prefer to buy is consistent with how I see myself" is adopted with Cronbach's α 0.83. The ideal-self measuring statement of "the house I prefer to buy is consistent with how I like to see myself" is adopted with Cronbach's α 0.83. Further, the following two statements are adopted for measuring the ideal image, "I like to be known as a person who lives in a luxury house" with Cronbach's α = 0.8 (Abdallat, 2012), and "I like to see myself as a person who lives in a luxury house" with Cronbach's α = 0.87 is adopted (Abdallat, 2012). Further, the following two scales are adopted from the research of Malär, Krohmer, Hoyer, and Nyffenegger, (2011) for measuring real and ideal self-image. The scale for measuring real self-image, "House is a mirror image of me" with Cronbach's α 0.7 and measuring ideal self-image, "House is a mirror image of the person I would like to be" with Cronbach's α 0.85 are adopted. Additionally, Sirgy et al., (1997) measures of real self-image, "the brand image reflects who I am" with Cronbach's α 0.83 is adopted by changing "brand image" as "the house" for measuring the real self. "People who are like me use" with Cronbach's α 0.9 is adopted as "People who are like me live in such a house," and "Other users are very much like me" with Cronbach's α 0.9 is also used as it is also useful for measuring real self-image. Subsequently, Malär, Krohmer, Hoyer, and Nyffenegger, (2011); Sirgy et al., (1997) have measured the questionnaire's constructs with five-point Likert scales anchored by "1 = strongly disagree" and "5 = strongly agree" such as those applied for this study.

Reference group influence

The original scales of Bearden, Netemeyer and Teel (1989) for measuring normative and informational influences are adopted for this study. Additionally, according to Makgosa and Mohube, (2007); Yand, He and Lee (2007) manifestation statements have also been adopted. In, Makgosa and Mohube, (2007); Yand et al., (2007) scales have also been developed by referring to the Bearden et al., (1989) scales. Here the present researcher adjusts those statements to match the current research purpose. Accordingly, the following scales are adopted from Makgosa and Mohube, (2007) for measuring normative influence: "If others can see me living in a house, I prefer to purchase the house that they expect me to buy", "I often identify myself with other people by purchasing the same products and brands they purchase", "It is important that others like the products and brands I buy" is adopted by changing "products and brands" as "house", "When buying a house, I purchase those types of houses that I think others will approve of ", "I like to know what brands and products make a good impressions on others" is adopted by changing "Brands and products" as "type of house", "I achieve a sense of belonging by purchasing the type of house that others purchase (belonging to the group I prefer to be)", "If I want to be like someone, I try to buy the same type of house that they buy/ live in." Similarly, the following scales will be used for measuring informational influence: "To make sure I buy the right house, I observe what others are buying and living in", "I often consult other people to help me chose the best alternative available for purchasing a house", "I gather information from friends or family about the house before I buy it." Accordingly, the overall Cronbach alpha of the above measurements was .92 and .85 for normative and informative influences respectively (Makgosa and Mohube, 2007). Additionally, the following scales adopted from Yand et al., (2007) for measuring informational influence with a Cronbach alpha of 0.83; is adopted as "I seek information from those who are related to the housing market", "I will collect information from those friends, neighbours and relatives, or work associates" is adopted as "I will collect information from friends, neighbours, relatives" and "My choice of house is influenced by other consumers' word of mouth or some evaluation reports from independent agencies". Consequently, based on Yand et al., (2007) in this study reference group influence scales are recorded on a widely used 5-point scale ranging from 5 - Strongly Agree, to 1 - Strongly Disagree.

## Analysis and results

A pilot study was conducted distributing 60 questionnaires, and factor analysis was conducted in the KMO and Bartlett's Test under the extraction method of Principal Components and the rotation method of Varimax. Accordingly, all the constructs were achieved as per the average level in KMO and Bartlett's Test. As per the analysis, a few statements coming under real self-image and normative influences were removed and for secondary empirical evidence, the construct of informational influence was kept because it seems to be significant for this study. Therefore, statements coming under informational influence were retained as it is by modifying those statements that further clarification of the statements was achieved. Similarly, statements coming under ideal self-image and purchase intention were also retained as they were. Consequently, in this study the most probable outliers were removed and some possible outliers were retained as per the non-parametric test used, since it is obvious that the outliers do not really exist in the Likert-scale, appearing at the extreme ends (1 or 5). Then, KMO and Bartlett's Tests were used to measure sampling adequacy. As a result, all the constructs remain between $0.7 - 0.8$ representing a good level of adequacy. Further, for assessing the normality, Kolmogorov-Smirnov statistics (K-S test) and Shapiro - Wilk statistic tests were used. But all the variables did not score the sig. value more than 0.05 (Kothari, 2004). Therefore, this data set was not normally distributed.

### *The measurement model*

The focus of this model is on establishing the validity and reliability of the measures used to represent each construct of the measurement model. According to Bohrnstedt, (1970), as cited in Vinzi, et al., (2010), principal component analysis is an appropriate method for examining the indicators' reliability underlying its factor-structure (Vinzi et al., 2003, in as cited in Vinzi, et al., 2010). As per the analysis, factor loadings of the latent constructs on indicator variable values larger than 0.7 are acceptable (Vinzi et al. 2003, as cited in Vinzi, et al., 2010). However, a few statements of informational influence and purchase intention would need to be removed according to the above criteria; but they were used for further analysis as those factors seem to be significant in the study. Then, construct reliability assessment was conducted as a measure of internal consistency. Nunnally (1978), as cited in Vinzi, et al., (2010) suggests a stricter 0.8 value for basic research. Accordingly, all the constructs have achieved a composite reliability value of more than 0.8 representing construct reliability.

Next, convergent validity was examined by using the average variance extracted (AVE) as per Fornell and Larcker (1981), as cited in Vinzi, et al., (2010). Accordingly, the AVE values of all the constructs were above the required level of 0.5 (Hair et al, 2011) except informational influence. However, according to Hair et al., (2011) the PLS is capable of testing the specified relationships even without meeting the criterion of convergent validity. Therefore, informational influence was kept for further analysis. Henceforth, discriminant validity was assessed by comparing whether the average variance extracted (AVE) is greater than the square correlations between the construct and each of the other constructs in the measured model. Referring to the result, all the constructs' square root of AVE which is represented in the diagonal, were higher than their column-wise and row-wise correlation values, which suggest a strong discriminant validity of measures except the IS – RS value. However, according to the literature, PLS is capable of testing the specified relationships even without meeting the criterion of discriminant validity (Hair et al., 2011).

Next, as Chin (1998) suggests the Variance Inflation Factor (VIF) and the condition index were used to assess multicollinearity. An indicator's information can become redundant due to high levels of multicollinearity in the formative measurement model which can cause indicators to become non-significant (Hair et al, 2011). Accordingly, all the VIF values are lower than 5 (Hair et al, 2011), which indicates that there is no multicollinearity issue. However, when considering the outer weights except the indicator of "I seek information from sources related to the housing market (Advertisements, marketers, developers, constructors, etc…)", all the other indicator values are more than 0.2 which are significantly different from zero. Therefore, the researchers decided to remove the above indicator from further analysis, which ultimately helped achieve convergent validity and increased the path coefficient of the relationship between informational influence and purchase intention.

### *Structural model*

The structural model is assessed according to the meaningfulness and significance of the hypothesized relationships. Structural model tests are: the amount of variance, the significance of the relationships, and the model's predictive relevance (Barclay et al., 1995, as cited in Vinzi et al., 2010). As discussed earlier, the theoretical model is proposed to test four hypotheses as mentioned in the conceptual framework. Figure 02 explains the structural model which is designed to test the four hypotheses developed for achieving the objectives of this study.

**Figure 02: Structural model with path coefficient**
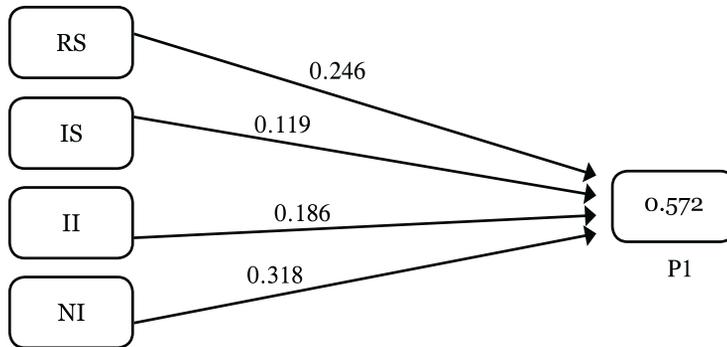


According to the Structural Model Path coefficient, exogenous constructs in predicting the dependent construct of intention to purchase house, NI (0.318) is the factor of greatest influence. The second greatest factor of influence is RS (0.246) and subsequently, II and IS respectively.

As the PLS path modeling does not rely on distributional assumptions, as a solution to this issue, bootstrapping is recommended (Chin 2010, as cited in Vinzi, et al., 2010). Bootstrapping is used to assess the path coefficients' significance. Paths that are non-significant or that show signs that in contrast to the hypothesized direction do not support a prior hypothesis, whereas significant paths showing the hypothesized direction empirically support the proposed causal relationship (Hair, et al., 2011). According to Hair, et al., (2011), in the bootstrapping criterion, the minimum number of bootstrap samples is 5,000, and the number of cases should be equal to the number of observations in the original sample. Critical t-values for a two-tailed test is 1.96 (significance level = 5 percent).

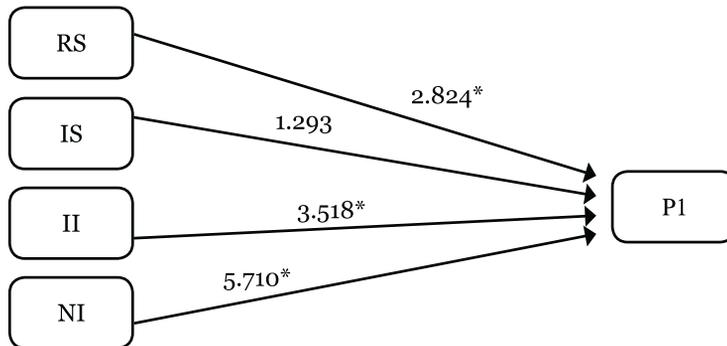**Figure 03: Structural path significance in bootstrapping**

**Table 1: Significance of path coefficients**

|            | Original Sample (O) | Sample Mean (M) | Standard Error (STERR) | T Statistics (\|O/STERR\|) | P Values |
|------------|---------------------|-----------------|------------------------|----------------------------|----------|
| II -> PI   | 0.186               | 0.190           | 0.053                  | 3.518                      | 0.000    |
| IS -> PI   | 0.119               | 0.122           | 0.092                  | 1.293                      | 0.196    |
| NI -> PI   | 0.318               | 0.315           | 0.056                  | 5.710                      | 0.000    |
| RS -> PI   | 0.246               | 0.247           | 0.087                  | 2.824                      | 0.005    |

According to Table 01 and Figure 03, except IS->PI, all the other paths are satisfactorily significant, where T statistic values are higher than 1.96 (5% significance level). Accordingly, NI->PI path is highly significant and II->PI, RS->PI paths are also significant (decreasing in order of significance respectively).

Another assessment of the structural model involves the model's capability to predict. The predominant measure of predictive relevance is the Stone–Geisser's $Q^2$ (Geisser 1974, Stone 1974, as cited in Hair, et al., 2011), which postulates that the model must be able to adequately predict each of the endogenous latent construct's indicators. The $Q^2$ value is obtained by using a blindfold procedure. According to the recommendation of Hair, et al., (2011) cross-validated redundancy is used for this study. Therefore, the resulting $Q^2$ values are larger than zero which indicate that the exogenous constructs have predictive relevance for the endogenous construct under consideration.

## Discussion

The first objective of the study is to examine the relationship between house buyer's self-image and house purchase intention, which is achieved through two hypotheses. The first one is that, there is a significant relationship between house consumer's real self-image and the house purchase intention. Accordingly, the theoretical development of the hypothesis is empirically well supported with a path coefficient of 0.246 and T-value of 2.824, which is greater than the significant critical value (>1.96, for significance at 95% level). This has been supported by the literature in the housing market arena, where people consider that their houses should have a personal identity (Csikszentmihalyi and Rochberg-Halton, 1981, Hummon, 1989, Somerville, 1997, as cited in Luo and James, 2013; Belk 1988; Koklic and Vida, 2009). In this context, individuals prefer to purchase houses that are congruent with their real self-image. When a particular product can fulfill their needs, the choice

of that product will reflect their self-identity (Koklic and Vida, 2009). Findings of analyses of Koklic and Vida, (2011), therefore, confirm the notion that a house is a product closely related to the homeowner's self-image. Therefore, as discussed under the problem statement, when purchasing a house, behaviours of buyers are not rational, and they diverge from rational behaviour with the symbolic values of the product. Hence, when it comes to purchasing a house, customers in the housing market prefer to buy a house, whose image is congruent with the image that the buyer sees of himself/ herself.

The second hypothesis is that there is a significant relationship between a house consumer's ideal self-image and his/her intention to purchase a house. As per the result, the path coefficient is 0.119 and the T-value is 1.293 which is less than the significant critical value. (>1.96, for significance at 95% level). Therefore, the aforesaid relationship is rejected empirically. Hence, this hypothesis is not supported by empirical data, though it is reinforced by the literature as a fact that consumers will choose to purchase real estate that associates with the ideal image they want to achieve (Gibler and Nelson, 2003). This contradiction may be due to the sample size or due to a misunderstanding of the measurement scales or construct and relationship. Perhaps the scales used may not be applicable to the Sri Lankan housing market context, because, the scale applied to measure ideal self-image in the housing market has not been used previously in the housing market arena. However, this relationship should be further researched in the housing market context to verify the relationship. Hence, according to the empirical data, the relationship between self-image and purchase intention of a house is partially verified.

The second objective is to examine the relationship between a house consumer's reference group influence and house purchase intention. In this regard, two hypotheses were developed; the first hypothesis is that there is a relationship between informational influence and house purchase intention. As per the empirical evidence, the path coefficient is 0.186 and the T-value is 3.518, which is greater than the significant critical value (>1.96, for significance at 95% level). The second hypothesis is that there is a relationship between normative influence and house purchase intention. There, the path coefficient is 0.318 and the T-value is 5.710 which is greater than the significant critical value (>1.96, for significance at 95% level). Hence, the above two hypotheses have been verified significantly through the analysis of empirical data. Further, the significance of these two hypotheses are higher than the self-image hypotheses. Hence, it is proved that the house purchase intention of

customers is highly influenced by the reference group and normative influence; the tendency to comply with the positive expectations of others is significant compared to informational influence, which involves observing the behaviour of others or searching for information from others with appropriate expertise. Accordingly, similar results are found in Panthura, (2011), as cited in Rasak, et al., (2013), where the reference group has a strong positive influence over the intention to purchase real estate. There, the normative reference group makes an individual aware of a certain product and also infuse their own opinions into the customer while doing so. Consequently when the customer starts developing his own opinion he develops one which is consistent with that of the group (Gillani, 2012, as cited in Rasak, et al.., (2013). The result found is similar to that of the study stating that as an informational influence, consumers often accept the opinions of others as providing credible and needed evidence about products (Burnkrant and Cousineau, 1975, as cited in Rasak, et al., 2013). Further, the most influential reference group is the consumer's family. It continues to be a point of reference even when the consumer has formed his own household. Therefore, especially when it comes to house purchase intention, family influence is greater when the decision is taken by the family unit rather than by individuals (Gibler and Nelson, 2003). Therefore, in this context, it is verified that the reference group is one of the main influencers that change the rational behaviour of customers in the housing market.

## Theoretical implications

Most theoretical knowledge of house purchasing decisions is based on utility maximization and rational choice (Marsh and Gibbs, 2011; Levy and Lee, 2004). Further it seems that economic bias and theoretical developments are dominant in this arena. Accordingly it can be considered that existing theoretical understanding of house consumers' behaviour is not sufficient to understand their real behaviour. Therefore, a conceptual framework for the study was developed using two constructs, namely, self-image and reference group influence representing psychological and social domains. Accordingly, this study is an evidence that rational behaviour can be diverted by the above two concepts. Also, the limitations of previous research studies in the area of housing markets concerning the influence of the 'reference group' and 'self-image' towards purchase intention was also addressed by this study, to some extent. Moreover, the scales used to measure the four variables in this study were not previously applied in the housing market context and those scales were used after modifying to match in this arena. Therefore, these scales are proven to

be applicable to the housing market in understanding the behaviour of the above stated constructs. In particular, the scales of normative influence and informational influence are verified in the housing market area.


## Managerial Implications

In the housing market, factors affecting house purchase intention and behaviour are most frequently discussed theoretically as well as empirically based on economically oriented factors. But according to this study, house consumers' behaviour cannot be understood only through economic bias factors and models. The influence of social and psychological factors also need to be incorporated when developing marketing/management strategies and decisions making such as communication, advertising strategies, and promotional activities. Therefore, this research study provides insights to real estate developers and marketers. It gives them a deeper understanding of consumer decision making in the housing market arena, especially concerning on reference group influence and self-image.

Firstly, self-image congruence is a significant area of research in consumer behaviour/ marketing, because it provides marketing managers with strategic insights into positioning and advertising, and may also serve as a basis for market segmentation. In respect to house purchasing, marketers can employ self-image congruence methods and measures to uncover product-user images that are the most congruent with self-images of target consumers. In this manner, self-image congruence may also be used to identify groups of consumers who perceive congruence with the product-user image as well. Measures of self-image congruence also play a significant role in advertising research (Sirgy and Su, 2000). This study focuses on buyers who are in the high end niche market. In view of managing the company to sensitively understand the requirement of customers who are in the high end niche market, managers have to identify the pull factors which influence the attraction of customers to the company. The pull factors for the particular product which satisfy the self-image of high income earners would be the involvement of leading architects/leading building and building service consultants, neighbours comprising of well-known  professionals/ businessmen and usage of elegant materials. The management has to take necessary action to highlight the pull factors and impress client by provoding a psychological support to their customers. This psychological support which emphasizes self-image is provided through various advertising and promotional strategies.

Secondly, reference group influences will also inspire marketers who focus on designing marketing/promotional strategies for houses. This study also provides marketers with a frame-work which they could use for manipulating reference group influences in their promotional appeals. Specifically, this research points to the informational and normative influence implications in the selection of houses and their relevance. According to this study, therefore, the perceptions of other people, ideas, and different sources of information influence the house purchase intention significantly. Therefore, marketers, strategy makers, and decision makers in the housing market can incorporate and give more prominence to these factors.

## Limitations and directions for future research

The findings drawn from this research are limited by several restrictions. Firstly, the researchers focused only on house purchase intention; however, future researchers can expand their studies to the final decision of purchasing a house, instead of considering only the intention. Secondly, the ability to generalize the findings of the study is limited by the use of a judgmental sample as it is a non-probability sampling technique. Therefore, future researchers can develop a more reliable probability sampling technique, and gather data in order to ensure statistical validity. Thirdly, a larger sample size should be considered and used more carefully in future research for measuring the above relationships. Researchers can also verify the above relationships empirically to expand the generalizability. Particulars as discussed earlier, ideal self-image and purchase intention of a house should be further researched to verify their relationship in the housing market context. Further, to better understand the above constructs a mixed method research should be conducted in the future.

## Conclusion

The purpose of this research is to further expand the existing theoretical efforts carried out to understand house purchase intention and the diverse economically biased theoretical discussions in the housing market arena. It attempts specifically to understand the observed behaviour of the market. Generally, the available theoretical models of the housing market are based mostly on utility maximization and rational thinking. However, this study was developed to diverge from this rational behaviour. Accordingly, four variables were identified, namely, ideal self-image, real self-image, normative influence and informational influence. As per the analysis, two variables were identified as most suitable for the housing market as divergent factors of rational

behaviour. They are normative influence and informational influence respectively. It can, therefore, be concluded that the reference group significantly influences the divergence from rational behaviour of the housing market, much more than self-image, even though real self-image also has a significant influence on the divergence from rational behaviour in the housing market.

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