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Abstract
This paper investigates empirically the psychology determining house buyer satisfaction in France. We examine the proposition that four dimensions of perceptions determine satisfaction in a theoretical framework adopted from the economic psychology and marketing literatures. The investigation employs structural equation modelling to assess the reliability of our measurements of perceived values and satisfaction and to establish causal relationships between them. We find that perceptions of quality, price and emotions are unambiguously important to homebuyers and investors, but weaker support for social status. Homebuyers are more emotional but satisfaction evaluations and purchasing decisions made by both groups are cognitively dominated.

JEL: D12, M3, R30.

Introduction

Housing satisfaction can greatly influence the general well-being and the quality of life of households. Housing satisfaction may be explained by realization of housing aspirations, fulfillment of expectations, and achievement of dwelling improvements (Dekker et al. 2011) and from the satisfaction derived from purchasing a house (Elsinga and Hoekstra 2005). The level of satisfaction derived from a purchase of a new house could potentially have consequences for a firm's competitive advantage in the market place, especially as opinions and perceptions, reputation and purchase recommendations are readily disseminated via mass and social media (Lai, Wang and Zhou 2004).

In the literature satisfaction is defined as a comparison between the customers' pre-purchase expectations and their post-purchase perception (Oliver 1980). The main purpose of this study is to investigate empirically the extent to which psychological factors reflecting buyer motivations, conceptualized as consumers' perceived values, influence their satisfaction evaluations of a house purchase. Our data is obtained from buyer responses to a questionnaire following the purchase of a new apartment from a major developer in France. The complexity of housing makes buyer motivations and their satisfaction evaluations unique compared to most other products. As well as for their own use, homebuyers purchase dwellings for investment, while investors are mainly concerned with the return on their equity. Housing contains a mix

of utilitarian and experiential benefits, with affect-rich and affect-poor attributes providing further differentiation between a home purchase and pure investment. Our results confirm the relevance of employing multiple dimensions of perceived values to study the satisfaction antecedents of a house purchase, and highlight the role of emotions among buyers despite purchase decisions being cognitively driven.

The next section provides a review of the literature highlighting considerations specific to this investigation. The data is described and our methodology outlined in section three. Section four presents an assessment of the reliability of our measurements of satisfaction and perceived values. Section five reports the structural model results including robustness tests, after which our conclusions are presented.

Literature Review

The economic and housing literatures have documented how housing decisions influence individuals in many aspects of their lives. Recent interest has centred on the relationships between housing, happiness and satisfaction (Diaz-Serrano 2009; Van Praag et al. 2003) but there continues to be little research about satisfaction evaluations involving a house purchase. Consumer satisfaction after purchase is an important managerial and theoretical issue for scholars in marketing and economic psychology (Meuter et al. 2000), and it is equally surprising that there are hardly any investigations involving a house purchase in these literatures, particularly since it involves a complex and risky transaction which takes up a lot of time (Larceneux et al. 2015).

This is an important topic as satisfied customers can generate positive externalities through the communication of a favorable experience about a product, purchase process and relations with the seller. Dissatisfied consumers are more likely to engage in negative communication, such as customer backlash (Chi and Qu 2008; Szymanski and Henard 2001). Positive feedback affects short and long term profits, the latter arising from loyalty towards the seller (Anderson et al. 1994; Storbaka et al. 1994), outcomes that have been empirically demonstrated in commercial real estate in a study linking feedback communication with client satisfaction, the physical and location characteristics of the property, and its maintenance and management (Westlund et al. 2005). With the increasing popularity of social networks, product and seller satisfaction evaluations and their influence on consumers' behavioral intentions, which typically include their willingness to make a recommendation, have become important considerations (Cronin et al. 2010).

Previous research into housing satisfaction typically examined the role played by observed household factors such as demographic characteristics and income (Dekker et al. 2011) and dwelling factors such as price, functionality or quality (Leigh 1987). Hardly any empirical studies have looked at the psychology behind it, in particular its relationship with perceptions. Figure 1a illustrates the standard conceptual framework applied in the marketing and economic psychology literatures.

[Insert Figure 1 Modelling Satisfaction Conceptual Frameworks about here]

The antecedent model posits that consumer purchase satisfaction is positively determined by the post-purchase perceived quality value or perceived performance, which in turn depends positively on perceptions of product quality and negatively on the purchase price (Fornell 1992). Perceived quality value represents current perceptions about the physical performance of a product relative to its price.

Earlier marketing studies focused on cognitively driven evaluations and the rational reactions to utilitarian motivations (Oliver 1980). Similarly, the standard economic analysis of a house purchase is based on a constrained optimisation problem where a buyer makes a rational decision without regard to emotion or social considerations (Dougherty and Van Order 1992). Although the recent investigations have been extended to behavioural theories (Ho et al. 1996; Marsh and Gibb 2011), this analysis continues to rely on arguments based on adopting cognitive rules of thumb. Few investigations in the housing literature have attempted to explain behaviour as being guided by emotional or social influences. Few marketing studies have examined hedonic rather than functional requirements (Holbrook and Hirshman 1982; Pham

2004), especially those involving housing (Gibler and Nelson 2003). Adopting a broader perspective could be pertinent for housing as qualitative studies have highlighted the presence of emotions linked to a purchase (Levy et al. 2008).

Sweeney and Soutar (2001), in a study of durable goods worth up to $400, developed a perceived value model which appears relevant to an investigation into the antecedents of post-purchase consumer evaluations. However this model has never been formally tested to explain a buyer's satisfaction. Figure 1b reveals the dimensions their investigation uncovered.

Originally, the perception of financial value refers to the reduction of perceived consumption costs over time, but in this research it represents the financial performance of housing as a profitable asset. Housing is a major asset held by individuals who may be entitled to tax concessions and subsidies tied to housing (Oxley and Haffner 2010). Perceived quality refers to the utility derived from the expected functional performance of the physical structure of the building, which has been found to be an important determinant of housing satisfaction (Leigh 1987). The perception or feeling on how the ownership of the product is viewed by others is represented by perceived social value, as homeownership can convey a symbol of achievement (Diaz-Serrano 2009; Rohe et al. 2002) and pride (Zahirovic-Herbert and Chatterjee 2011). Finally, the emotional value represents the perception of the enjoyment and pleasure afforded in living in a dwelling (Levy et al. 2008). For instance the opportunity to experience positive emotions and express personality (Silva and Wright 2009). Each perception should have a separate positive effect on buyers' satisfaction as well as being highly positively correlated with one another. This model has never been formally tested in the context of a housing purchase. The empirical analysis undertaken by Sweeney and Soutar (2001) did not attempt to formally establish a causal link between the perceptions with satisfaction. Only a few studies in the literature have attempted this empirically, and the existing studies which do tended to have focused on the shopping experience (Babin et al. 2005).

The marketing literature implies that consumer perceptions reflect choices made from the utilitarian and hedonic benefits yielded by the purchases. Utilitarian values are derived from the functional use of a product and are based on the consumer's need, whereas hedonic values result from experiential consumption, that is, the enjoyment, pleasure and excitement created from a purchase (Holbrook and Hirshman 1982). Following this literature, we consider that financial and quality values, and emotional and social values reflect utilitarian and hedonic benefits respectably. Our hypotheses are:

H1a: Financial and quality perceptions reflecting utilitarian considerations are important (statistically significant) in apartment satisfaction evaluations.

H1b: Social and emotional perceptions reflecting hedonic considerations are important (statistically significant) in apartment satisfaction evaluations.

Moreover, as literature suggests (Cronin et al. 2010), purchase satisfaction is likely to be an antecedent of the overall developer satisfaction. This leads naturally to the hypothesis:

H2: The satisfaction from the apartment purchased mediates the effect of four perceived values onto developer (seller) satisfaction.

For this model to be cconsistent with the theory underlying consumer satisfaction, the purchase price should not have a direct effect on apartment satisfaction but a negative effect which is mediated through perceived quality. The third set of hypotheses tested are:

H3a: The purchase price does not have a significant effect on housing purchase satisfaction

H3b: The purchase price has a significant negative effect on perceived quality

Just examining the relationship between perceived values and satisfaction assumes either satisfaction already incorporates pre-purchase expectations or a particular paradigm. Figure 2 based on Johnson et al. (1996) outlines the main alternative paradigms.

[Insert Figure 2 Alternative Customer Satisfaction Models about here]

Johnson and Fornell (1991) and Johnson et al. (1996) provided a detailed explanation of the four main models. We just summarize the main points. They pointed out that the appropriate paradigm to adopt depends on the strength of pre-purchase quality expectations relative to the current availability of information about the product performance (perceived quality value). In particular, pre-purchase expectations plays an important role as a separate term in satisfaction evaluations when current information about the product performance is scarce. Pre-purchase expectations exerts a stronger influence when: (i) the product has homogenous and uncomplicated characteristics, for example, benefits derived are primarily utilitarian or hedonic; (ii) buyers have had extensive experience in consumption; (iii) and are very familiar with an uncomplicated transaction process. The Disconfirmation model points out that it is possible for there to be discrepancies between perceived performance and pre-purchase expectations. Another significant point made by the authors is the importance of experience in influencing pre-purchase expectations. As far as we are aware, the literature does not point to a particular paradigm for a house purchase.

The complication associated with investment and consumption dimensions of housing lead to different purchase motivations and therefore present us an opportunity to examine the ‘matching principle’.

A home purchase can be considered to be utilitarian in that it provides shelter, accessibility to amenities (for example shops and parks) and jobs as well as being a form of saving, yet also hedonic since enjoyment can be derived from building design (for example, providing good views), customization (for example, layout and decoration) and quirkiness. By contrast, the motivation for buying a house to let is a financial return. It follows that we would expect homebuyers to consider housing as a utilitarian and hedonic product while investors treat it as primarily utilitarian. This idiosyncrasy of housing echoes the distinction in the literature between affect-rich and affect-poor products (Kahn et al. 2005), which are used to explain why decisions may be emotionally (Klein and Melnyk 2014) or socially (Mason 1992) driven. These concepts are also used to explain intuitive purchases - the elicitation of associative images leads to spontaneity in evaluations on the basis of liking or disliking it (Kahneman and Frederick 2002). Feelings are generally driven by experiential rather than functional and instrumental motives and benefits (Pham 1998). Although the literature used to consider hedonic products to be affect-rich and utilitarian affect-poor, this is not always the case as utilitarian dominated products can be affect-rich (for example, an *Art Deco* lift in an apartment). Research into the relationship among these concepts can be found in marketing studies examining the `matching

principle' (Kempf 1999; Klein & Melnyk 2014), whereby the satisfaction evaluation of affect-rich products have been found to be more emotionally driven while those for affect-poor goods have been cognitively driven (Chitturi et al. 2008; Holbrook and Hirschman 1982; Babin, et al. 1994; Pham 1998). More recent studies have found that affective elements improve not only hedonic products but also utilitarian product evaluations (Klein & Melnyk 2014), but few studies have empirically explored simultaneously the cognitive and affective antecedents of satisfaction (Homburg et al. 2006; Frank et al. 2014). A homebuyer is likely to employ both cognitive and affective reasoning as a dwelling provides both utilitarian and hedonic benefits. An investor is likely to treat a house purchase as a poor-affect utilitarian product. Consequently, we would expect the following consumer satisfaction evaluations:

H4a - Cognitive and affective perceived values influence home purchase satisfaction and developer satisfaction evaluations

H4b – Cognitive perceived values only influence investment purchase satisfaction and developer satisfaction evaluations

Methodology Section: Data and Empirical Implementation

The preceding section highlighted the conceptual issues and data requirements which could be important in explaining satisfaction derived from a house purchase. A questionnaire was created to evaluate distinct aspects of a new apartment purchase in France. It included multiple scale items for the four dimensions of perceived values. They are similar to that employed by Sweeney and Soutar (2001) but adapted for the case of a house purchase. The questionnaire also contained additional multiple scale items for measuring satisfaction following Fornell et al. (1996). The questions and their role in our analysis can be viewed in table 1.

[Insert Table 1: Variables here]

The online questionnaire was sent to 2,436 clients of a French national developer. This major developer plays a significant role in a number of regional development projects and engages in property advisory activities. All apartments were offered for sale off-plan. 195 questionnaires were fully completed by buyers who actually bought a new apartment in the last two years in various locations in France. Compared to similar studies in the existing housing literature this sample is a reasonable size[1] (150 questionnaires for Nahmens and Ikuma 2009; 167 for Jamal and Naser 2002; 209 for Tam 2004).

Our empirical strategy includes: (i) testing the reliability of our measurements of perceived values and satisfaction; (ii) testing for group invariance between homebuyers and investors in their measurement; (iii) establishing a causal link between perceived values and satisfaction: and (iv) testing the set of hypotheses in the structural model.

Latent constructs for satisfaction and perceived values are formed from the multiple scale items. We employ a structural equation model (SEM) in the empirical investigation as this permits us to account for any measurement error in their construction, permits correlation among the latent constructs and addresses any endogeneity issues when establishing the causal relationship. A depiction of the benchmark SEM can be seen in figure 3.

[Insert Figure 3: Empirical Implementation SEM]

The latent variables representing perceived values and satisfaction are treated as exogenous and endogenous respectively. The measurement part of the SEM examines the validity of grouping items together (depicted by QS and QP items in square brackets) to form latent measures of perceived values and satisfaction (depicted by an ellipse), and establishes the necessary conditions for undertaking a meaningful and accurate comparison between groups (homebuyers and investors) since it reveals information about form and measurement invariance. The structural part tests for causal relationships between these latent constructs. As explained in the next section, we had to group our satisfaction measures into two distinct latent variables representing a buyer's satisfaction with the product (purchase satisfaction) and with the developer (developer satisfaction). Additional controls for developer satisfaction are depicted in square brackets in the figure. Note that in the investigation we allow for correlation between the different dimensions of perceived values and additional controls (not shown in diagram to avoid clutter).

A potential issue concerns the relevant consumer satisfaction paradigm to adopt. Housing is heterogeneous, purchased infrequently and the transaction is relatively complicated. Thses

[1] 100 to 200 observations is often considered to be a medium sample size.

characteristics imply relatively weak pre-purchase expectations (Johnson and Fornell 1991; Johnson et al. 1996). On the other hand, housing is consumed daily and expectations may exert a strong influence in satisfaction evaluation. Similarly to existing studies (e.g. Tam 2004; Hu et al. 2009; Nahmens and Ikuma 2009), a direct measure of pre-purchase expectations is not available because the questionnaires were answered after a sale. This is not a problem when pre-purchase quality expectations do not have a separate direct effect on satisfaction evaluations or when the measure of satisfaction accounts for pre-purchase expectations. Our questions to elicit satisfaction information were not designed to explicitly capture this, although one of the items did ask "This housing meets my needs". We did not rely on this in our analysis and attempted to control for pre-purchase expectations by adopting age as a proxy for experience.

An additional potential source of heterogeneity could arise from financial incentives available to house buyers. In France, these include: tax concessions for homeownership (PTZ: loans with zero percent interest rate); access to various loan support schemes for homeownership (prêts épargne logement) and the adoption of "green materials" (PTZ+); and important tax concessions for letting (known as defiscalisation such as Loi Scellier in our case). New housing can benefit further from an exemption to paying an ownership tax (Taxe Foncière) for two years. Buyers in the sample were asked to state on a 20 point scale to extent to which they were motivated by taxation considerations when making a purchase. In the empirical analyses reported we included buyer responses to this question as a control.

Torbica and Stroh (1999) emphasized the importance of expected and actual level of services provided by the developer in contributing to overall satisfaction. Prior reputation, represented by a dummy indicator about the buyer's perception of the developer's reputation before the transaction, is adopted as a proxy for this expectation, and client contact, represented by a dummy depicting the buyer's own assessment of the frequency of contact, for the level of services provided by the developer.

In order for our model to be consistent with the classical consumer satisfaction model, we conducted a nested specification test. This included as controls: the real purchase price; and guided by findings from Leigh (1987), buyer assessments of the physical quality of the dwelling, namely, the perceived functionality of the house, that it has good security features and is well insulated.

We also introduced a number of additional controls representing dwelling and buyer characteristics such as income and quality of the neighborhood respectively. The full set are too numerous to list[2]. In line with the theory underlying the relationship between perceptions and satisfaction (Johnson and Fornell 1991), they did not have a direct effect on satisfaction and our reported models exclude them.

[2] We examined the feasibility of 12 other variables as controls, mainly in an attempt to account for pre-purchase expectations.

Measurement Model Results

We ensured that all measurement and structural models meet the necessary conditions for identification. This section tests the assertion that perceived values and satisfaction are measureable and distinct, and whether there are any significant reported differences between homebuyers and investors.

Table 2 displays the measurement model results from constructing latent variables representing two dimensions of satisfaction and four dimensions of perceived values. The items depicting satisfaction and perceptions employ a scale where higher values denote higher levels of satisfaction and perceptions. Measurement model 1 is the benchmark model depicted in figure 3. Model 2 displays the results when the items are combined to form a single measure for satisfaction. All reported estimates are standardized. The standard errors are computed using the Sandwich variance estimator as it is more robust[3]. Restrictions for identification are imposed on the untransformed estimates and significance tests conducted on the untransformed standard errors.

Results of diagnostic testing are displayed at the bottom of the table. The main fit measure available when applying the Sandwich estimator is the standardized root mean squared residual (SRMSR). SRMR values lying below 0.050 and between 0.05 to 0.08 respectively indicate that there is an excellent to good and a good to reasonable fit to the data. Model 1 provides a much better fit to the data than model 2. On average, model 1 falls within 0.04 of reproducing the correlation among each measurement. Additional tests are available using Satorra–Bentler standard errors, which impose more restrictive assumptions than the Sandwich estimator. The Satorra–Bentler chi-squared statistics indicate that a saturated model dominates both the baseline model and our model. The size difference suggest that our model is better than the baseline model. However, the chi-square statistic is very sensitive to sample size and its role in testing for the model data fit is more descriptive than inferential. The Satorra–Bentler comparative fit index (CFI) and Tucker-Lewis index (TLI) fall within the recognized cut-off range of 0.90, indicating that the models ensure a 97% better fit than the null model where it is assumed that all reflective indicators are unrelated to each other. Further evidence of a good fit is provided by the Satorra–Bentler root mean squared error of approximation (RMSEA_SB) value being below 0.08.

The reliability index reveals the proportion of total variation in the reflective indicators attributable to our latent constructs. A high reliability score is 0.80. The reliability indices for each latent construct in our benchmark model satisfy this requirement[4], although only just for perceived social value.

[Insert Table 2 Standardized Measurement Model Results Here]

Satisfaction encompasses multiple dimensions. Our questionnaire contained items reporting an intention to repurchase and positive recommendations which are usually interpreted as capturing behavioral intentions and the formation of brand loyalty (Cronin et al. 2010; Yang and Peterson 2004). Brand loyalty is unlikely to be important in this context. For a start, the

[3] Normality and independence of observations are not required for unbiasedness of maximum likelihood (ML) estimates, but are necessary for their efficiency and for providing correct standard errors and test statistics.

[4] The modification indexes did not suggest any possible improvements.

second hand housing market is much larger than the market for new dwellings. Housing has very heterogeneous attributes which override brand loyalty, for example, buyers would attach greater importance to a dwelling situated in an appropriate location rather than making a purchase from a particular developer. Being very durable, dwelling purchases are made infrequently. Repeat purchases from the same seller are very rare. We prefer to interpret the dimension distinct from apartment satisfaction as the satisfaction evaluation derived from the overall satisfaction assessment of the apartment purchased and the level of service provided by the developer (develop satisfaction). This interpretation is consistent with the analysis undertaken on developer service satisfaction by Torbica and Stroh (1999) in their study on home building.

The latent constructs representing perceived values are significantly positively correlated to a moderate degree among themselves and positively correlated to a higher degree with apartment and developer satisfaction. Thus, there is the potential to establish a causal link between satisfaction and perceived values. The two satisfaction measures are moderately positively correlated. The results obtained from model 2 reject the validity of combining the items to form a single satisfaction measure as there is a significant reduction in explanatory power and data fit, and the reliability index score is poor (0.42).

Except for two factor loadings for perceived social value, the remainder of the standardized factor loadings are reasonably large and significant. The two problematic loadings are derived from the social value questions "This housing improves the way I am perceived by relatives" and "This housing gives me social approval". Their standardized loadings are 0.72 and 0.66 and their computed R^2 with the latent variable are 0.52 and 0.44 respectively. This could present problems in establishing a causal effect in the SEMs.

In summary, the reflective indicators appear to yield distinct measurements of the required theoretical latent constructs. The significant latent variable correlations, the presence of measurement error associated with each question and the latent constructs indicate that they could pose a potential problem in establishing causal relationships if unaccounted.

The literature review implied that there might be differences between investors and homebuyers in their weighting of perceptions in evaluating satisfaction. The measurement model can be used to test for significant differences between latent mean values. We initially check whether investors and homebuyers have different interpretations of the questions asked or adopt different criteria in forming perceived values and evaluating satisfaction. These issues are addressed by examining the level of group invariance. Results of group restriction tests are reported in table 3. Our evaluations are based on the validity of imposing equality (invariance) restrictions and changes to model fit (SRMR). The chi-squared statistics were obtained from a Wald test as the likelihood ratio tests are likely to be invalid when robust standard errors are calculated. The same form measurement model (Model 1A) is applicable to investors and homebuyers as all the factor loadings are significant for each group ($\chi^2(10) = 3995.70$, $\chi^2(10) = 1424.36$). Further testing revealed that it is valid to impose equality restrictions on the factor loadings (Model 1B), and when imposed, the model continues to fit the data well. We conclude that there are no significant differences among the groups in their interpretation of the questions asked. The imposition of further equality restrictions on measurement error (Model 1C), latent variances and covariances (1D and 1E) cannot be rejected but it is noticeable that the model fit starts to deteriorate.

[Insert Table 3 Testing for Group Invariance Here]

The rejection of equality restrictions on the intercepts implies that there might be differences in the means of the latent satisfaction constructs among groups (Model 1F). The problem is that this difference could also be due to measurement variance. For meaningful and accurate comparisons to be made between groups, form and measurement invariance across groups are necessary. The marginal tests conducted reveal that there should not be an equality restriction on the intercept for reflective indicator "QP7: This housing improves the way I am perceived by relatives" $\left(\chi_1^2 = 7.894, p = 0.005\right)$. Although both groups interpret this question in the same way, it appears that the scale adopted in their response may be different.

The literature review implied that the utilitarian motivations are important to homebuyers and investors, but homebuyers are expected to have greater hedonic motives for purchasing an apartment. 117 apartments were bought as a home (60%) and 78 as an investment. The bottom of table 3 reports the results of mean differences in latent constructs from a model with equal factor loadings and equal constants except for indicator QP7. There appear to be no significant differences among groups in latent mean values for perceived financial and quality values, implying that utilitarian motives are equally important to both groups. However, there is a significant difference for perceived emotional value: investors recorded an average score about a third (-0.36) lower than homebuyers, implying that homebuyers perceive their purchase to be more hedonic, i.e. affect rich, than investors. There is no significant difference in the latent mean of perceived social value. We address both issues later in the structural modelling. No differences are apparent in the (unconditional) latent mean for apartments purchased, but at the 10% significance level, investors seem to be more satisfied than homebuyers with the developer.

Structural Equation Model Results

The measurement model results indicate that we can proceed to form and test our hypotheses in a structural model. Our SEM results for the group invariant models are reported in table 4. The standardized estimates are reported alongside the unstandardized p-values computed by the Sandwich estimator. We consulted modification indices after the estimation of each model to see if any further improvement was possible.

[Insert Table 4 SEM Results about here]

Except for SEM SE, all models are recursive. The endogenous latent variable apartment satisfaction depends on perceived values (latent exogenous variables) and the endogenous latent variable developer satisfaction depends on apartment satisfaction, client contact and prior reputation. The various goodness of fit measures such as SRMR, the Satorra-Bentler adjusted Comparative Fit index, Tucker-Lewis index and RMSEA, all lie within the bounds indicating that the model provides a good to adequate fit to our data. The adjusted R^2 reveal that apartment satisfaction is explained much better than developer satisfaction. The stability index values are zero for all reported models except for SEM SE. All models exhibit significant negative correlation between the endogenous latent error terms, indicating possible dependence due to unmeasured factors.

There is general support for propositions H1a and H1b that utilitarian and hedonic motivations lie behind a house purchase, and the Sweeney and Soutar (2001) argument that satisfaction evaluations involve multiple perceptions. Quality, financial and emotion perceived values are influential in explaining apartment satisfaction, and as shown in the results of alternative specifications they are robust to the inclusion of various control variables. There is less support for perceived social value being influential.

SEM A is the benchmark model depicted in figure 3. The benchmark model results are plausible. Client relations and prior reputation are important in influencing how buyers rate their developer but the most important determinant is the satisfaction of the purchased apartment, partially affirming proposition H2. Similarly to Torbica and Stroh (1999), perceived quality value positively influences apartment satisfaction, with or without buyer's age and purchase price as controls. That model did not include financial or emotional perceptions which we find to be important too. However, perceived social value is insignificant. The analysis conducted on its measurement in the last section indicated that its reliability score (0.80) is much lower than the scores for the other perception measures (0.90 or more), which could be the cause. The standardized estimates indicate that perceived quality has the largest influence on determining satisfaction and this result is repeated across all models. All perceived value measures are positively correlated to each other to a moderate degree.

Next, we examine the robustness of our results. The literature does not reveal the appropriate consumer satisfaction framework for an apartment purchase. SEM SA imposes an implicit restriction as it either assumes that pre-purchase expectations concerning perceived quality are rational or that they are weak. We do not have any indicators about pre-purchase expectations[5]. Johnson and Fornell (1991) argued that often the most important factor influencing pre-purchase expectations is previous experience, which for housing purchases is likely to be strongly related to age. When perceptions and expectations are measured adequately and incorporated into an appropriate model explaining satisfaction, individual and product category

[5] We tried to construct an expectation measure using variables such as rating themselves as an expert, owning other properties, previously renting, income, honesty and integrity of developers as formative and reflective indicators but were unsuccessful.

differences are implicitly captured (Johnson and Fornell 1991). This implies that socio-economic and demographic characteristics should not be statistically significant. In testing we found that respondent incomes (categorical measure) are statistically insignificant when introduced directly into the structural equations. However, age is highly significant in the apartment satisfaction equation but insignificant in the developer satisfaction equation. SEM SB has age as a control in the apartment satisfaction equation. The model fit remains very good and the estimates other than perceived social value are robust to its inclusion. The perceived social value estimate becomes larger but remains insignificant[6]. This perception measure is significantly negatively correlated with age, implying that perceived social value tends to be lower when buyers are older. Age is not correlated with the other perception values across the range of the models reported. For age to capture experience and represent pre-purchase expectations, we would not expect it to be correlated with any perception measure other than perceived quality. Our result could indicate that age might be capturing an additional effect to pre-purchase expectations. We address this issue later.

Two of the items measuring developer satisfaction, "QS5: In the future, would you buy a property from this developer?" and "QS4: Would you recommend this developer to your relatives?" require responses which are conditional after an apartment satisfaction evaluation has been made. SEM SE tests the proposition that the evaluation of developer performance is simultaneously determined with apartment satisfaction. The model tested is over-identified. Five variables are excluded from the developer satisfaction equation and two from the apartment satisfaction equation. The standardized estimate of developer loyalty is 0.28 in the apartment satisfaction equation but it is insignificant. The estimate for apartment satisfaction is significant but just above 1. The system is unstable as there are two eigenvalue modulus values which are greater than zero. We explored the possibility of imposing further identification restrictions involving an equality restriction between the endogenous latent variable and zero correlation between the errors of the structural latent equations, but the statistical tests reveal that such restrictions are invalid. Taking into consideration the wording of the questions asked, we conclude that apartment satisfaction is influenced by perceived values and mediates their effect to developer satisfaction, proving further support to proposition H2.

The imprecise perceived social value estimate could be caused by an over-elaborate measure of satisfaction. SEM SF imposes the restriction that all the reflective indicators for satisfaction represent a single latent variable. SEM SG leaves out the developer satisfaction equation. Perceived emotion is no longer influential (p=.061) in both models and the data fit deteriorates, especially for SEM SF. Both apartment and developer satisfaction should be modelled jointly.

It is possible that the relationship between our psychological and satisfaction measures are not consistent with the standard consumer satisfaction model (see figure 1). To test the propositions H2a and H2b, we include the purchase price as an explanatory variable in the apartment satisfaction equation in SEM SC and incorporate a structural equation for perceived quality in SEM SD respectively. The results support propositions H3a and H3b as the purchase price does not have a direct effect on apartment satisfaction but an indirect effect via a negative impact on perceived quality. The standardized estimate of the purchase price on perceived quality is -0.162. The explanatory variables for modelling perceived quality are self-ratings given by buyers concerning the functionality, physical security and insulation of the apartment. Note

[6] It has a p-value equal to 0.092 when Satorra-Bentler standard errors are used.

that having to include an unnecessary additional structural equation to explain apartment satisfaction worsens the fit to the data.

There might be differences in the motivation behind an apartment purchase between homebuyers and investors and subsequently how they evaluate satisfaction. SEM SH contains a dummy variable to distinguish between them. While there is no apparent difference in apartment satisfaction determination, investors express higher levels of developer satisfaction.

The extent to which buyers are incentivized by the opportunity to reduce their tax liabilities could induce another source of heterogeneity. A variable measuring the tax motivation behind the purchase is introduced in SEM SI. It is insignificant but only marginally in the developer satisfaction equation. There could be a multi-collinearity problem as this variable is highly correlated with the dummy variable distinguishing investors from homebuyers. We reconsidered its impact when the group invariant restriction is relaxed. For now we make a note that its inclusion renders the prior reputation term insignificant but improves the explanatory power of developer satisfaction equation. We also note that the perceived social value term becomes significant at the 10% level.

The only contradiction to the hypothesis statement H1b and the Sweeny and Soutar (2001) model is the finding that perceived social value is insignificant. Our measurement model revealed that it had a reliability index score that was just acceptable at 0.80, and that two of its items had relatively low explanatory power in contributing to its construction. This could be due to partial measurement invariance arising from heterogeneous grouping. Relaxing the group invariant assumption allows us to address this issue along with testing the propositions H4a and H4b. The adoption of the type of buyer as a moderator implies that the estimates can be interpreted as conditional on their respective utilitarian and hedonic motivations, and therefore, used to examine whether buyer choices via the impact of perceptions on apartment satisfaction reflect cognitive or affective influences.

[Insert Table 5 SEM Results about here]

Table 5 displays the results after relaxing the group invariant restriction. SEM SGA excludes age and tax motivation and SGB just excludes tax motivation. The two variables are present in SEM SGC. We report the standardized estimates and p-values obtained from unstandardized and standardized results. To fulfil the requirement of measurement invariance, it was necessary to allow the constant associated with the question “This housing helps me to feel proud” to be free. Following our measurement model analysis, we additionally allow the measurement errors associated with each reflective indicator to vary across groups. The reference group is homebuyers. Equality restriction tests are reported at the bottom of the table. Group invariant restrictions are imposed on the unstandardized estimates. Equal parameter restrictions are valid on all variables in the apartment satisfaction equation. In the developer satisfaction equation, the restrictions are invalid for apartment satisfaction and frequent contact. The SRMRs reveal that the overall model fit is satisfactory (about 0.059) but it is much better for homebuyers (about 0.048). Similarly to the group invariant models, the endogenous latent error terms are negatively correlated.

The assertion of equal latent group means of perceptions of quality, finance and social value cannot be rejected. In SEMs SGA and SGB, we opted not to impose the restriction on perceived

social value in order to investigate the extent to which its effect varies between groups[7]. When we impose the equality restriction in model equivalents to SGA and SGB, the perceived social value is insignificant with unstandardized p-values equal to 0.119 and 0.069 respectively. The inclusion of age in the apartment satisfaction equation reduces its p-value for investors to 0.09. To avoid clutter, we do not report but point out that: (i) the correlations among the perceived values are significant and positive to a moderate degree; (ii) perceived social value is the significantly negatively correlated with age for homeowners only; and (iii) the other perception measures are uncorrelated with age.

The group invariant model results confirm proposition H4a but reject H4b. Cognitive and affective perceived values influence apartment and developer satisfaction for both types of buyer. Contrary to what we expect, the matching principle is not supported since investors should consider housing as a relatively affect-poor purchase. There are also no apparent significant group differences in correlations among the perceived values. Among perceptions, the standardized estimates for perceived quality is the highest, followed by perceived financial value and perceived emotion. The significant difference in group means for perceived emotion - investors are less emotional than homebuyers – implies that homebuyers are either more appreciative of affect-rich attributes or select dwellings which are affect-rich[8]. Since equality restrictions on perceived emotions cannot be rejected across all specifications, its role in evaluating satisfaction is the same as investors. This result appears to be sensible as housing is a major purchase and the typical homebuyer would be expected to make a cognitive dominated decision. The other interesting finding is that perceived emotions are important to investors in their satisfaction evaluations, implying that their decision might not be fully rational. There is a similar argument about the role of "psyche income", defined as "a positive feeling induced by ownership of an investment which may be incapable of financial quantification" which has been put forward in explaining institutional commercial property investment (Baum and Mackmin 2011, chapter 1 page 2). Note that decisions made by institutional investors should be even more cognitive compared to the small scale investors in our sample.

Similarly to the group invariant results reported in table 4, homebuyers place greater emphasis on apartment satisfaction than the intensity of the client relationship when expressing satisfaction about the developer. This refutes a possible explanation that cognitive and rational purchase dominated decisions made by investors mean it is easier for them to make recommendations. But it is consistent with the explanation that investors' value additional services provided by developers more than homebuyers. Investors appear to value frequent contact with the developer during the construction process whereas this is surprisingly less of a significant factor for a homebuyer. Prior reputation of the developer is influential to both groups.

In SEM SI (table 4), the tax motivation underlying the purchase was found to be marginally insignificant in the developer satisfaction equation but part of the reason could be due to its high correlation with the dummy distinguishing investors from homebuyers SEM SGC avoids this possible collinearity problem. Highly tax motivated buyers' appear to express higher levels of developer satisfaction. Our explanation is that buyers are grateful for the developer in helping them exploit any tax reduction opportunities under a process linked to the attribution theory (Sparkman and Locander 1980). Major French developers have a system in place to

[7] The standardized estimate can vary between groups even when restrictions are imposed because it depends on the unstandardized estimate and the ratio of standard errors.

[8] The typical purchase price paid and dwelling size is higher for homebuyers.

enable its customers to optimize available financial incentives by referring them to a specific 'counsellor'.

The adjusted R^2 reveal that our structural models are only half as good at explaining the evaluation of developer satisfaction compared to apartment satisfaction. The introduction of the tax motivated term seems to 'pick up' some of the unexplained variance in the former. Investors in general seem to appreciate the services provided by the developer more, which would explain the group differences in the unconditional latent mean for developer satisfaction. The remaining standardized and unstandardized estimates are robust to the inclusion of a measure of tax reduction motivation.

We attempt to reconcile our finding of the relative unimportance of perceived social value in explaining apartment satisfaction in the majority of our specifications, a surprise as one would expect homebuyers in particular to feel an elevation in their social status. An explanation could be that social value is culturally embedded (Soares 2007) and therefore does not reveal itself to be an antecedent of satisfaction. On the other hand, table 2 reveals that it is the weakest of our measurements of perceptions while table 4 indicates that it is not completely measurement invariant between homebuyers and investors. Taking the last two facts together, a possible explanation could be that homebuyers are not a homogenous group. Empirical studies in the housing literature have reported that repeat (RPs) and first-time buyers (FTBs) respond differently to economic and non-economic factors (Ortalo-Magné and Rady 2005; Andrew and Meen 2003). FTBs are likely to place a higher value on social perceptions. Due to our sample size we could not make a further differentiation in testing for group invariance. However, the summary statistics displayed in table 7 informally backs this assertion.

[Insert Table 6 Summary Statistics by Group here]

The mean values of reflective indicators for perceived social values (QP7, QP8 and QP9) are higher for FTBs compared to RPs and investors, and in terms of relative dispersion, "QP8: This housing makes a good impression on other people", much lower. FTBs reveal a higher degree of satisfaction in owning an apartment (QS1: I am satisfied to own this housing). As expected FTBs are relatively young and do not appear to be as highly driven to reduce their tax liabilities. They appear to express higher levels of satisfaction to developers than RPs. This might explain why the inclusion of variables representing age and tax motivation help to reduce the standard errors of perceived social value. When we incorporate a structural model for perceived social value with age and income category as determinants, it is significant in explaining apartment satisfaction. We do not report this result as the overall model fit deteriorates substantially.

Conclusion

Increasingly, there is a recognition that psychology plays an important role in housing decisions. The main stumbling block for undertaking an analysis is that psychological measures are rarely available and studies often infer an implied effect from non-psychological data. As psychological constructs are difficult to capture, studies employ a range of reflective indicators rather than relying on a single measure. When such indicators are available, assessments should be made about their reliability before applying them to explain causal relationships, namely whether the questions asked are relevant to all groups in the sample, the groups have the same interpretation of each question, and adopt the same scale when responding with an answer.

One of our contributions to the literature is to show that multiple perceptions can be measured and used to explain a housing transaction from a buyer's perspective, in particular the satisfaction evaluations of a new apartment purchase (product) and the evaluation of developer performance (seller). As far as we are aware, we are the only study to establish a direct link empirically between product satisfaction and seller performance in a coherent framework applied to residential real estate. Classical satisfaction models focus on perceived quality and ignore additional perceptions, namely financial, social and emotional. We designed a survey to obtain the necessary reflective indicators to construct four dimensions of perceived values to test this proposition. Three out of the four perceived values turn out to be comprehensively captured. While our measure of perceived social value is weaker it is still acceptable according to the relevant statistical indicators. In general our analysis supports the Sweeney and Soutar (2001) proposition that perceived quality is not the only dimension relevant to determining satisfaction and our results show that using perceived values offers a better explanation to understanding the evaluation of a house purchase satisfaction than classical models.

Although perceived quality has the largest effect, perceived financial and emotional values are important too. As well as assessing their measurement reliability, we found that a satisfaction evaluation model containing multiple dimensions of perceptions is consistent with the standard consumer theory model - the purchase price does not have a direct effect on satisfaction but an indirect effect via a negative influence on perceived quality value. Three of our perception measures are robust to the inclusion of age as a proxy for pre-quality expectations. In these respects we extended the Sweeney and Soutar's (2001) analysis.

The complexity of housing permitted us to examine different motivations behind the house purchase. Post-purchase perceptions reflect key drivers of decisions, which can be grouped as utilitarian and hedonic. Our results are consistent with house-buyers having both utilitarian and hedonic motivations due to the heterogeneity of dwelling attributes. By conditioning on the utilitarian and hedonic motivations, we are also able to use our measures of perceptions to examine whether the purchase decision is cognitive or affective. Homebuyers form a much higher emotional attachment to the apartment purchased than investors, suggesting that they have a greater appreciation of or seek out affect-rich characteristics. However, it is apparent through the relative magnitudes of the estimates of perceptions that the decisions made by both buyer types are cognitive dominated. Emotions are important in investor evaluations, implying that their decisions are not completely rational and that there may be an element of impulsiveness. The latter possibility is rarely considered in the behavioural theories applied to housing decision.

In this particular case of a house purchase, the matching principle does not appear to be relevant. Both cognitive and affective values reflecting utilitarian and hedonic benefits

determine satisfaction, even in the case when housing is purchased as a pure investment, an a priori affect-poor product. The positive correlations among perceived values and their joint significance in determining satisfaction imply that emotional and utilitarian benefits are not contradictory but complementary. Moreover, our empirical study indicates that affective reasoning takes place, as reported in the neuropsychology literature (Duncan and Barrett 2007), or at least that intimate connections exists between emotion and cognition (Pessoa, 2008). This assertion seems to be more relevant for a home purchase, less so for investment. Homburg et al. 2006 incidentally reported a similar simultaneous effect. Hence, buyers considering a product to be affect poor does not mean necessarily that they do not take the affect into account in their satisfaction evaluations.

There is less support for the importance of perceived social value even after taking into consideration that perceived social value is not measurement invariant between investors and homebuyers. We suspect that this problem could be caused by homebuyer heterogeneity which we could not adequately capture due to our sample size. In addition to grouping investors and homebuyers, future work should consider a further distinction between homebuyers purchasing a home for the first-time and those making a repeat purchase. We would also widen the scale (1 to 5) in the questions asked.

An attempt should be made to obtain measures for pre-quality expectations as they could potentially have an informative role to play in devising marketing and selling strategies. For housing, one would want to obtain separate measures of pre-purchase expectations for consumption and investment. Another area requiring further thought and development concerns modelling developer satisfaction evaluations. The explanatory power of this equation in our models was relatively low and it is apparent that apartment (product) satisfaction is not the only criteria used by buyers in their assessment of developer (seller) performance. Finally, our study was conducted within a French context and it would be useful to extend our results to other countries with different cultural attitudes and motivations to homeownership and renting.

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Tables and Figures

Table 1: Survey Questions

Multiple Scale Items [English Translation]	Multiple Scale Items [French]	Scale	Mean	Std Dev
Satisfaction Apartment (Sat_Prop)				
QS1: I am satisfied to own this housing	Je suis satisfait d'être propriétaire de ce logement	1 to 5	4.11	0.89
QS2: This housing meets my requirements	Ce logement répond à mes attentes	1 to 5	3.86	0.82
Developer Satisfaction (Sat_Dev)		0 to 20	15.23	4.37
QS3: How satisfied are you with the relations with this developer?	Êtes-vous satisfait de votre relation avec le promoteur ?	0 to 20	15.34	4.61
QS4: Would you recommend this developer to your relatives?	Recommanderiez-vous ce promoteur à vos proches ?	0 to 20	14.86	4.79
QS5: In the future, would you buy a property from this developer?	A l'avenir, si vous avez un projet d'acquisition, achèteriez-vous avec ce promoteur ?			
Perceived Financial Value (PerPrice)				
QP1: This housing is a good deal for the price	Je pense avoir fait une affaire en achetant ce logement	0 to 20	12.16	4.10
QP2: This housing offers value for money	Ce logement a un bon rapport qualité prix	0 to 20	13.30	3.95
QP3: This housing is a good financial asset	Ce logement est un bon placement financier	0 to 20	13.42	4.15
Perceived Quality (PerQual)				
QP4: This housing has an acceptable standard of quality	La qualité de ce logement est satisfaisante	0 to 20	12.82	4.59
QP5: This housing will last a long time	Ce logement viellira bien	0 to 20	12.81	4.21
QP6: This housing has consistent quality	Les matériaux de ce logement sont de bonne qualité	0 to 20	12.77	4.60
Perceived Social Value (PerSoc)				
QP7: This housing improves the way I am perceived by relatives	Je suis fier (e) d'être propriétaire de logement	1 to 5	3.62	0.89
QP8: This housing makes a good impression on other people	Mes proches trouvent que j'ai bien fait d'acheter ce logement	1 to 5	3.81	0.83
QP9: This housing gives me social approval	Ce logement est pour moi comme une récompense	1 to 5	3.26	1.00
Perceived Emotion (PerEmo1)				
QP10: This housing is one that I would enjoy	Ce sera un Plaisir d'habiter dans ce logement	1 to 5	3.88	0.85
QP11: This housing would make me feel good	On va se sentir bien dans ce logement	1 to 5	3.78	0.91
Controls				
Age		continuous	44.97	13.60
Frequent Contact (Dummy) : I was easily in contact with a counsellor (developer agent)	J'ai été facilement en contact avec un conseiller	0 or 1	0.68	0.47
Tax Motivated: Would you say that the purchase of this housing has been mainly motivated by tax reduction?	Diriez-vous que l'achat de ce logement a été surtout motivé par un avantage fiscal ?	0 to 20	9.58	7.82

Prior Reputation (Dummy)	client origin [1 = from recommendation or reputation]	0 or 1	0.38	0.48
Investor (Dummy)	d'achat Investissment ou home	0 or 1	0.40	0.49
Real purchase price (EU 0,000s)		continuous	23.23	13.27
This housing is functional: My housing will be very convenient and functional	Je trouve ce logement très fonctionnel	1 to 5	3.79	0.79
This housing is secure: My housing has good security features.	Ce logement est bien sécurisé	1 to 5	3.78	0.74
This housing is well insulated: My housing will be well insulated from the cold	Ce logement est bien isolé du froid	1 to 5	4.04	0.72

Table 2: Measurement Model Results

Model 1	Factor Loadings	p values		Measurement Error (Variances)	p values
Satisfaction Apartment (Sat_Prop)					
QS1: I am satisfied to own this housing	0.880	REF	**	0.226	*
QS2: This housing meets my requirements	0.783	0.00	**	0.387	**
Loyalty_Developer (Loyal_Dev)					
QS3: How satisfied are you with the relations with this developer ?	0.905	0.00	**	0.180	**
QS4: Would you recommend this developer to your relatives ?	0.973	0.00	**	0.052	*
QS5: In the future, would you buy a property from this developer?	0.949	REF	**	0.100	**
Perceived Financial Value (PerPrice)					
QP1: This housing is a good deal for the price	0.843	0.00	**	0.289	**
QP2: This housing offers value for money	0.922	0.00	**	0.150	**
QP3: This housing is a good financial asset	0.852	REF	**	0.274	**
Perceived Quality (PerQual)					
QP4: This housing has an acceptable standard of quality	0.929	REF	**	0.136	**
QP5: This housing would last a long time	0.931	0.00	**	0.133	**
QP6: This housing has consistent quality	0.908	0.00	**	0.175	**
Perceived Social Value (PerSoc)					
QP7: This housing improves the way I am perceived by relatives	0.880	REF	**	0.225	**
QP8: This housing makes a good impression on other people	0.724	0.00	**	0.476	**
QP9: This housing gives me social approval	0.662	0.00	**	0.561	**
Perceived Emotion (PerEmo1)					
QP10: This housing is one that I would enjoy	0.891	REF	**	0.206	**
QP11: This housing would make one feel good	0.976	0.00	**	0.047	
Latent Variable Covariances	**Correlations**			**Variables**	**R^2**
cov(Sat_Prop,Loyal_Dev)	0.585	0.00	**	QS1:	0.77
cov(Sat_Prop,PerPrice)	0.637	0.00	**	QS2:	0.61
cov(Sat_Prop,PerQual)	0.658	0.00	**	QS3:	0.82
cov(Sat_Prop,PerSoc)	0.576	0.00	**	QS4:	0.95
cov(Sat_Prop,PerEmo1)	0.470	0.00	**	QS5:	0.90
cov(Loyal_Dev,PerPrice)	0.664	0.00	**	QP1:	0.71
cov(Loyal_Dev,PerQual)	0.714	0.00	**	QP2:	0.85
cov(Loyal_Dev,PerSoc)	0.523	0.00	**	QP3:	0.73
cov(Loyal_Dev,PerEmo1)	0.395	0.00	**	QP4:	0.86
cov(PerPrice,PerQual)	0.704	0.00	**	QP5:	0.87
cov(PerPrice,PerSoc)	0.568	0.00	**	QP6:	0.82
cov(PerPrice,PerEmo1)	0.426	0.00	**	QP7:	0.78
cov(PerQual,PerSoc)	0.620	0.00	**	QP8:	0.52
cov(PerQual,PerEmo1)	0.401	0.00	**	QP9:	0.44
cov(PerSoc,PerEmo1)	0.581	0.00	**	QP 10:	0.79
				QP11:	0.95
Latent Variable Variances					
var(Sat_Prop)	1.000	0.00	**		
var(Loyal_Dev)	1.000	0.00	**		
var(PerPrice)	1.000	0.00	**		
var(PerQual)	1.000	0.00	**		
var(PerSoc)	1.000	0.00	**		
var(PerEmo1)	1.000	0.00	**		
Goodness of Fit Measures					
Standardized root mean squared residual (SRMR)	0.034				
Satorra-Bentler					
Satuared v Model chi-sq b_ms(89)	145.5	0.00	**		
Baseline v Saturated chi-sq_bs(120)	2280.1	0.00	**		
Root mean squared error of approximation (RMSEA_SB)	0.057				
Comparative fit index (CFI)	0.97				
Tucker-Lewis index (TFI)	0.97				
Akaike's information criterion (AIC)	11073.4				
Bayesian information criterion (BIC)	11279.6				
Reliability Index					
Scale Reliability for Product Satisfaction	0.822				
Scale Reliability for Loyalty to Developer	0.961				
Scale Reliability for Perceived Financial Value	0.905				
Scale Reliability for Perceived Quality	0.945				
Scale Reliability for Perceived Social Value	0.797				
Scale Reliability for Perceived Emotion Value	0.929				

note: according to a Wald test ** sig at 1% level; * at 5 % level

REF: reference category

n.a. not applicable

Table 2 (continued): Measurement Model Results

Model 2	Factor Loadings	p values		Measurement Error (Variances)	p values
Satisfaction Apartment (Sat_Prop)					
QS1: I am satisfied to own this housing	0.540	0.00	**	0.71	**
QS2: This housing meets my requirements	0.905	0.00	**	0.76	**
QS3: How satisfied are you with the relations with this developer ?	0.905	0.00	**	0.18	**
QS4: Would you recommend this developer to your relatives ?	0.965	0.00	**	0.07	**
QS5: In the future, would you buy a property from this developer?	0.954	REF	**	0.09	**
Perceived Financial Value (PerPrice)					
QP1: This housing is a good deal for the price	0.844	0.00	**	0.29	**
QP2: This housing offers value for money	0.921	0.00	**	0.15	**
QP3: This housing is a good financial asset	0.853	REF	**	0.27	**
Perceived Quality (PerQual)					
QP4: This housing has an acceptable standard of quality	0.928	REF	**	0.14	**
QP5: This housing would last a long time	0.933	0.00	**	0.13	**
QP6: This housing has consistent quality	0.908	0.00	**	0.18	**
Perceived Social Value (PerSoc)					
QP7: This housing improves the way I am perceived by relatives	0.883	REF	**	0.22	**
QP8: This housing makes a good impression on other people	0.719	0.00	**	0.48	**
QP9: This housing gives me social approval	0.666	0.00	**	0.56	**
Perceived Emotion (PerEmo1)					
QP10: This housing is one that I would enjoy	0.900	REF	**	0.19	**
QP11: This housing would make one feel good	0.967	0.00	**	0.07	
Latent Variable Covariances				**Variables**	**R2**
cov(Sat_Prop,Loyal_Dev)	n.a.			QS1:	0.29
cov(Sat_Prop,PerPrice)	0.677	0.00	**	QS2:	0.24
cov(Sat_Prop,PerQual)	0.728	0.00	**	QS3:	0.82
cov(Sat_Prop,PerSoc)	0.527	0.00	**	QS4:	0.93
cov(Sat_Prop,PerEmo1)	0.402	0.00	**	QS5:	0.91
cov(Loyal_Dev,PerPrice)	n.a.	n.a.	**	QP1:	0.71
cov(Loyal_Dev,PerQual)	n.a.	n.a.	**	QP2:	0.85
cov(Loyal_Dev,PerSoc)	n.a.	n.a.	**	QP3:	0.73
cov(Loyal_Dev,PerEmo1)	n.a.	n.a.	**	QP4:	0.86
cov(PerPrice,PerQual)	0.705	0.00	**	QP5:	0.87
cov(PerPrice,PerSoc)	0.567	0.00	**	QP6:	0.82
cov(PerPrice,PerEmo1)	0.428	0.00	**	QP7:	0.78
cov(PerQual,PerSoc)	0.619	0.00	**	QP8:	0.52
cov(PerQual,PerEmo1)	0.403	0.00	**	QP9:	0.44
cov(PerSoc,PerEmo1)	0.584	0.00	**	QP 10:	0.81
				QP11:	0.93
Latent Variable Variances					
var(Sat_Prop)	1		**		
var(Loyal_Dev)	n.a	n.a	n.a		
var(PerPrice)	1		**		
var(PerQual)	1		**		
var(PerSoc)	1		**		
var(PerEmo1)	1		**		
Goodness of Fit Measures					
Standardized root mean squared residual (SRMR)	0.077				
Satorra-Bentler					
Satuared v Model chi-sq b_ms(89)	245.4	0.00	**		
Baseline v Saturated chi-sq_bs(120)	2280.1	0.00	**		
Root mean squared error of approximation (RMSEA_SB)	0.09				
Comparative fit index (CFI)	0.930				
Tucker-Lewis index (TFI)	0.911				
Akaike's information criterion (AIC)	11188.0				
Bayesian information criterion (BIC)	11377.8				
Reliability Index					
Scale Reliability for Product Satisfaction	0.42				
Scale Reliability for Loyalty to Developer	n.a.				
Scale Reliability for Perceived Financial Value	0.90				
Scale Reliability for Perceived Quality	0.94				
Scale Reliability for Perceived Social Value	0.80				
Scale Reliability for Perceived Emotion Value	0.93				

note: according to a Wald test ** sig at 1% level; * at 5 % level

REF: reference category

n.a. not applicable

Table 3: Measurement Model Group Invariance Tests

Model Description	Goodness of Fit Measures				Testing Restrictions			
Measurement Model 1	**Model**	**SRMR**	**SRMR Homebuyer**	**SRMR Investor**	**Model Comparison**	**chisq**	**degrees of freedom**	**p-value**
Same Form Model	[1A]	0.047	0.040	0.054	Factor Loadings Zero	5420.06	20	0.000
Equal (Invariant) Loadings Model	[1B]	0.050	0.043	0.057	[1B] v [1A]	4.84	10	0.536
Invariant Loadings and Mesurement Error (ME) Model	[1C]	0.056	0.048	0.063	[1C] v [1B]	7.88	16	0.952
Invariant Loadings & ME & Latent Variances & Covariances Model	[1D]	0.098	0.080	0.114	[1D] v [1C]	14.50	13	0.339
Invariant Loadings & Latent Variances & Covariances Model	[1E]	0.093	0.069	0.112	[1E] v [1B]	13.51	13	0.409
Invariant Loadings & Intercepts Model	[1F]	0.059	0.054	0.063	[1F] v [1B]	39.53	16	0.001
		SRMR	**SRMR Homebuyer**	**SRMR Investor**				
Invariant Loadings & Intercepts Intercept QP7 Allowed to Vary	[1G]	0.053	0.044	0.060				
Mean Differences: Mode Invariant Loadings & Intercepts except for intercept QP7 al		**chisq**	**degrees of freedon**	**p-value**	**Magnitude Difference**			
Test Type								
Joint Test	[1G]	10.11	2	0.006	n.a.			
Individual Test: Same Latent Mean Product Satisfaction	[1G]	1.59	1	0.207	same			
Individual Test Same Latent Mean Loyalty to Developer	[1G]	2.97	1	0.085	0.25			
Joint Test	[1G]	10.48	4	0.033	n.a.			
Individual Test: Same Latent Mean Perceived Price	[1G]	0.92	1	0.339	same			
Individual Test Same Latent Mean Perceived Quality	[1G]	0.20	1	0.651	same			
Individual Test: Same Latent Mean Perceived Social Status	[1G]	0.38	1	0.537	same			
Individual Test: Same Latent Mean Perceived Emotion	[1G]	5.77	1	0.016	-0.36			

Note: chi-squared statistic obtained from Wald tests using robust standard errors

joint tests adopt Bonferroni-adjusted p-values

Table 4: Structural Model Results

Equations and Variables	SEM SA estimate	SEM SA p-value	SEM SB estimate	SEM SB p-value	SEM SC estimate	SEM SC p-value	SEM SD estimate	SEM SD p-value
Satisfaction Apartment (Apart_Sat)								
Perceived Financial Value [PerPrice]	0.286	0.001	0.293	0.000	0.292	0.000	0.307	0.000
Perceived Quality Value [PerQual]	0.380	0.000	0.368	0.000	0.363	0.000	0.398	0.000
Perceived Social Value [PerSoc]	0.078	0.288	0.112	0.139	0.111	0.156	0.115	0.152
Perceived Emotion Value [PerEmo]	0.110	0.040	0.101	0.044	0.103	0.043	0.105	0.044
Buyer's age	n.a.	n.a.	0.115	0.003	0.120	0.002	0.122	0.003
Real Purchase Price [Price]	n.a.	n.a.	n.a.	n.a.	-0.021	0.518	-0.016	0.630
Investor	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Tax Motivation	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Developer Satisfaction Value	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Satisfaction_Developer (Dev_Sat)								
Apartment Satisfaction Value	0.993	0.000	0.992	0.000	0.993	0.000	0.995	0.000
Frequent Contact	0.164	0.002	0.156	0.003	0.159	0.002	0.165	0.002
Prior Reputation	0.133	0.008	0.133	0.007	0.131	0.008	0.140	0.007
Investor	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Tax Motivation	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Covariance (Dev_Sat, Apart_Sat)	-0.717	0.001	-0.724	0.000	-0.726	0.000	-0.725	0.000
Perceived Quality Value (PerQual) Equation								
This housing is functional	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.176	0.017
This housing is secure	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.198	0.011
This housing is well insulated	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.393	0.000
Real Purchase Price	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	-0.162	0.001
Selected Covariances in Measurement Model								
cov(PerPrice,PerQual)	0.704	0.000	0.704	0.000	0.705	0.000	n.a.	n.a.
cov(PerPrice,PerSoc)	0.566	0.000	0.565	0.000	0.567	0.000	0.569	0.000
cov(PerPrice,PerEmo1)	0.427	0.000	0.427	0.000	0.426	0.000	0.426	0.000
cov(PerQual,PerSoc)	0.617	0.000	0.616	0.000	0.619	0.000	n.a.	n.a.
cov(PerQual,PerEmo1)	0.401	0.000	0.401	0.000	0.400	0.000	n.a.	n.a.
cov(PerSoc,PerEmo1)	0.587	0.000	0.586	0.000	0.589	0.000	0.590	0.000
cov(Purchase Price,Perceived Financial Value)	n.a.	n.a.	n.a.	n.a.	-0.215	0.001	-0.215	0.000
cov(Purchase Price,Perceived Quality Value)	n.a.	n.a.	n.a.	n.a.	-0.230	0.000	n.a.	n.a.
cov(Purchase Price,Perceived Social Value)	n.a.	n.a.	n.a.	n.a.	-0.232	0.000	-0.232	0.000
cov(Purchase Price,Perceived EmotionValue)	n.a.	n.a.	n.a.	n.a.	0.028	0.722	0.029	0.671
cov(PerPrice, age)	n.a.	n.a.	-0.108	0.131	-0.052	0.124	-0.109	0.068
cov(PerQual,age)	n.a.	n.a.	-0.062	0.399	-0.036	0.398	n.a.	n.a.
cov(PerSoc, age)	n.a.	n.a.	-0.214	0.004	-0.023	0.004	-0.213	0.000
cov(PerEmo1, age)	n.a.	n.a.	-0.059	0.420	-0.007	0.398	-0.062	0.335
N	195		195		195		195	
Standardized root mean squared residual SRMR	0.036		0.035		0.036		0.077	
R^2 Apartment Satisfaction Equation	0.53		0.55		0.55		0.51	
R^2 Developer Satisfaction Equation	0.19		0.19		0.19		0.12	
R^2 Perceived Quality Value Equation	n.a.		n.a.		n.a.		0.43	
Satorra-Bentler Measures								
chi2sb_ms(114)	180.39	0.00	191.94	0.00	214.77	0.000	348.307	0.000
chi2sb_bs(152)	2464.04	0.00	2524.03	0.00	2620.79	0.000	2802.111	0.000
RMSEA_SB	0.055		0.052		0.054		0.070	
Comparative fit index	0.971		0.972		0.968		0.934	
Tucker-Lewis index	0.962		0.962		0.956		0.914	
Akaike's information criterion (AIC)	11580.9		11356.1		12902.5		14098.9	
Bayesian information criterion (BIC)	11826.4		11631.1		13210.2		14494.9	

Table 4: Structural Model Results (continued)

Equations and Variables	SEM SE estimate	p-value	SEM SF estimate	p-value	SEM SG estimate	p-value	SEM SH estimate	p-value	SEM SI estimate	p-value
Satisfaction Apartment (Apart_Sat)										
Perceived Financial Value [PerPrice]	0.186	0.044	0.317	0.007	0.269	0.037	0.287	0.001	0.275	0.001
Perceived Quality Value [PerQual]	0.225	0.054	0.406	0.000	0.322	0.011	0.368	0.000	0.318	0.000
Perceived Social Value [PerSoc]	0.071	0.243	0.063	0.515	0.167	0.213	0.116	0.124	0.139	0.061
Perceived Emotion Value [PerEmo]	0.064	0.183	0.077	0.209	0.138	0.186	0.107	0.039	0.150	0.005
Buyer's age	0.070	0.041	0.114	0.013	0.115	0.061	0.114	0.004	0.135	0.000
Real Purchase Price [Price]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Investor	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	-0.106	0.099	-0.130	0.054
Tax Motivation	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.087	0.204
Developer Satisfaction Value	0.366	0.238	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Satisfaction_Developer (Dev_Sat)			n.a.	n.a.						
Apartment Satisfaction Value	1.004	0.000	n.a.	n.a.	n.a.	n.a.	0.985	0.000	0.944	0.000
Frequent Contact	0.105	0.044	0.162	0.001	n.a.	n.a.	0.172	0.001	0.197	0.000
Prior Reputation	0.079	0.217	0.115	0.027	n.a.	n.a.	0.120	0.013	0.069	0.128
Investor	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.231	0.002	0.174	0.026
Tax Motivation	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.146	0.067
Covariance (Dev_Sat, Apart_Sat)	-0.910	0.000	n.a.	n.a.	n.a.	n.a.	-0.715	0.000	-0.725	0.000
Perceived Quality Value (PerQual) Equation										
This housing is functional	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
This housing is secure	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
This housing is well insulated	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Real Purchase Price	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Selected Covariances in Measurement Model										
cov(PerPrice,PerQual)	0.704	0.000	0.705	0.000	0.703	0.000	0.705	0.000	0.705	0.000
cov(PerPrice,PerSoc)	0.565	0.000	0.564	0.000	0.566	0.000	0.563	0.000	0.564	0.000
cov(PerPrice,PerEmo1)	0.427	0.000	0.426	0.000	0.426	0.000	0.428	0.000	0.427	0.000
cov(PerQual,PerSoc)	0.616	0.000	0.615	0.000	0.618	0.000	0.613	0.000	0.614	0.000
cov(PerQual,PerEmo1)	0.401	0.000	0.401	0.000	0.401	0.000	0.402	0.000	0.401	0.000
cov(PerSoc,PerEmo1)	0.586	0.000	0.584	0.000	0.578	0.000	0.582	0.000	0.584	0.000
cov(Purchase Price,Perceived Financial Value)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
cov(Purchase Price,Perceived Quality Value)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
cov(Purchase Price,Perceived Social Value)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
cov(Purchase Price,Perceived EmotionValue)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
cov(PerPrice, age)	-0.108	0.131	-0.109	0.131	-0.108	0.148	-0.109	0.129	-0.109	0.116
cov(PerQual,age)	-0.062	0.399	-0.062	0.396	-0.062	0.422	-0.062	0.397	-0.062	0.370
cov(PerSoc, age)	-0.214	0.004	-0.214	0.004	-0.214	0.006	-0.214	0.004	-0.214	0.004
cov(PerEmo1, age)	-0.059	0.420	-0.061	0.406	-0.048	0.529	-0.059	0.424	-0.059	0.415
N	195		195		195		195		195	
Standardized root mean squared residual SRMR	0.035		0.068		0.034		0.034		0.033	
R^2 Apartment Satisfaction Equation	0.51		0.64		0.55		0.56		0.56	
R^2 Developer Satisfaction Equation	0.18		n.a.		n.a.		0.25		0.29	
R^2 Perceived Quality Value Equation	n.a.		n.a.		n.a.		n.a.		n.a.	
Satorra-Bentler Measures										
chi2sb_ms(114)	190.244	0.000	298.01	0.00	89.29	0.02	203.02	0.00	212.40	0.00
chi2sb_bs(152)	2524.034	0.000	2524.03	0.00	1657.48	0.00	2599.95	0.00	2698.41	0.00
RMSEA_SB	0.052		0.083		0.046		0.051		0.049	
Comparative fit index	0.972		0.927		0.983		0.972		0.973	
Tucker-Lewis index	0.962		0.904		0.976		0.962		0.963	
Akaike's information criterion (AIC)	11356.7		11475.8		8212.1		11624.7		12895.1	
Bayesian information criterion (BIC)	11634.9		11744.2		8395.4		11935.6		13245.3	

Table 5: Group Structural Equation Results

	SEM SGA			SEM SGB			SEM SGC		
	standardized estimate	unstandardized p-value	standardized p-value	standardized estimate	unstandardized p-value	standardized p-value	standardized estimate	unstandardized p-value	standardized p-value
Apartment Satisfaction Equation									
Variable									
Perceived Financial Value									
homebuyer	0.269	0.01	0.00	0.276	0.01	0.00	0.262	0.01	0.00
investor	0.212	as above	0.01	0.219	as above	0.01	0.215	as above	0.00
Perceived Quality Value									
homebuyer	0.401	0.00	0.00	0.399	0.00	0.00	0.355	0.00	0.00
investor	0.312	as above	0.00	0.312	as above	0.00	0.288	as above	0.01
Perceived Social Value									
homebuyer	0.079	0.36	0.36	0.106	0.24	0.24	0.161	0.04	0.00
investor	0.183	0.15	0.09	0.189	0.09	0.05	0.160	as above	0.00
Perceived Emotion Value									
homebuyer	0.131	0.03	0.02	0.127	0.03	0.02	0.160	0.01	0.03
investor	0.119	as above	0.03	0.115	as above	0.03	0.151	as above	0.03
Age									
homebuyer	n.a.			0.102	0.02	0.02	0.131	0.00	0.00
investor	n.a.			0.084	as above	0.02	0.112	as above	0.00
Tax Motivation									
homebuyer	n.a.			n.a.			n.a.		
investor	n.a.			n.a.			n.a.		
Developer Satisfaction Equation									
Variable									
Apartment Satisfaction Value									
homebuyer	1.000	0.00	0.00	0.998	0.00	0.00	0.936	0.00	0.00
investor	0.954	0.00	0.00	0.940	0.00	0.00	0.918	0.00	0.00
Frequent Contact									
homebuyer	0.092	0.08	0.09	0.060	0.30	0.31	0.123	0.04	0.05
investor	0.343	0.00	0.00	0.355	0.00	0.00	0.333	0.00	0.00
Prior Reputation									
homebuyer	0.123	0.00	0.00	0.126	0.00	0.00	0.065	0.10	0.09
investor	0.167	as above	0.00	0.166	as above	0.00	0.086	as above	0.10
Tax Motivation									
homebuyer	n.a.			n.a.			0.199	0.00	0.00
investor	n.a.			n.a.			0.226	as above	0.00
Age									
homebuyer	n.a.			n.a.			n.a.		
investor	n.a.			n.a.			n.a.		
Structural Equation Error Correlation									
homebuyer	-0.700	0.01	0.00	-0.702	0.00	0.00	-0.709	0.00	0.00
investor	-0.749	0.03	0.00	-0.757	0.02	0.00	-0.765	0.02	0.00

Free Parameters in Measurement Model (Constant)									
QP7: This housing improves the way I am perceived by relatives									
homebuyer	4.591	0.00	0.00	4.532	0.00	0.00	4.580	0.00	0.00
investor	3.733	0.00	0.00	3.728	0.00	0.00	3.723	0.00	0.00
Testing For Mean Differences									
mean(PerPrice)									
homebuyer	0.000	(constrained)		0.000	(constrained)		0.000	(constrained)	
investor	0.129	0.41	0.42	0.124	0.42	0.44	0.137	0.36	0.37
mean(PerQual)									
homebuyer	0.000	(constrained)		0.000	(constrained)		0.000	(constrained)	
investor	0.048	0.75	0.75	0.042	0.78	0.78	0.056	0.69	0.70
mean(PerSoc)									
homebuyer	0.000	(constrained)		0.000	(constrained)		0.000	(constrained)	
investor	-0.144	0.40	0.40	-0.146	0.39	0.39	-0.132	0.43	0.42
mean(PerEmo1)									
homebuyer	0.000	(constrained)		0.000	(constrained)		0.000	(constrained)	
investor	-0.378	0.01	0.01	-0.381	0.01	0.01	-0.374	0.01	0.01
N									
homebuyer	117			117			117		
investor	78			78			78		
SRMR	0.059			0.059			0.060		
homebuyer	0.047			0.048			0.047		
investor	0.069			0.068			0.070		
R^2 Apartment Satisfaction Equation									
homebuyer	0.56			0.58			0.60		
investor	0.48			0.49			0.46		
R^2 Developer Satisfaction Equation									
homebuyer	0.24			0.23			0.30		
investor	0.26			0.26			0.30		

Restriction Tests in Structural Equation	chi-sq	p-value	chi-sq	p-value	chi-sq	p-value
Equal Parameters Perceived Price	0.698	0.40	0.512	0.47	1.063	0.30
Equal Parameters Perceived Quality	0.811	0.37	0.312	0.58	0.551	0.46
Equal Parameters Perceived Social Value	0.566	0.45	0.474	0.49	0.364	0.55
Equal Parameters Perceived Emotion Value	0.000	1.00	0.000	0.99	0.097	0.76
Equal Parameters Age in Apart Satisfaction Equation	n.a.		0.672	0.41	1.297	0.25
Equal Parameters Tax Motivation in Apart Satisfaction Equation	n.a.		n.a.		n.a.	
Equal Parameters Apartment Satisfaction	4.781	0.03	4.939	0.03	6.23	0.01
Equal Parameters Frequent Contact	12.456	0.00	13.366	0.00	4.152	0.04
Equal Parameters Prior Reputation	0.874	0.35	1.568	0.21	0.375	0.54
Equal Parameters Tax Motivation in Developer Satisfaction Equation	n.a.		n.a.		0.191	0.66
Equal Parameters Age in Developer Satisfaction Equation	n.a.		n.a.		n.a.	
Joint Test Equal Parameters Perception Correlations	2.840	0.72	2.950	0.71	2.900	0.71

Note: n.a. means not applicable

as above denotes the same value due to a restriction

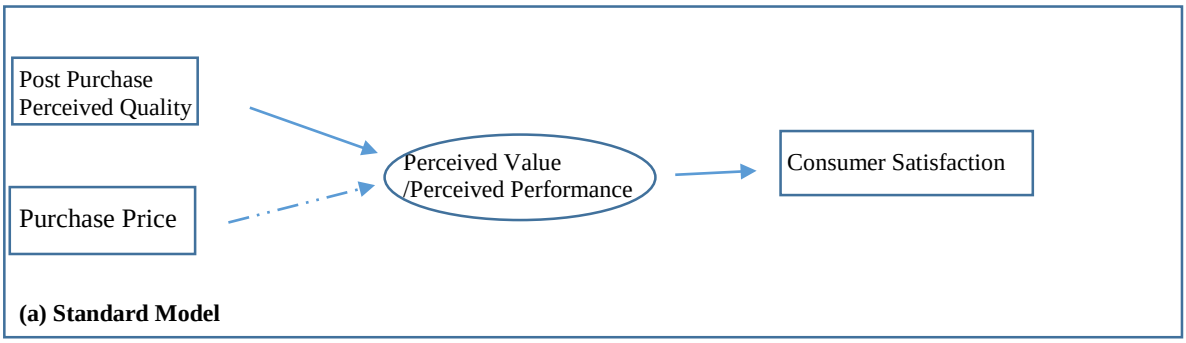
Table 6: Summary Statistics by Group

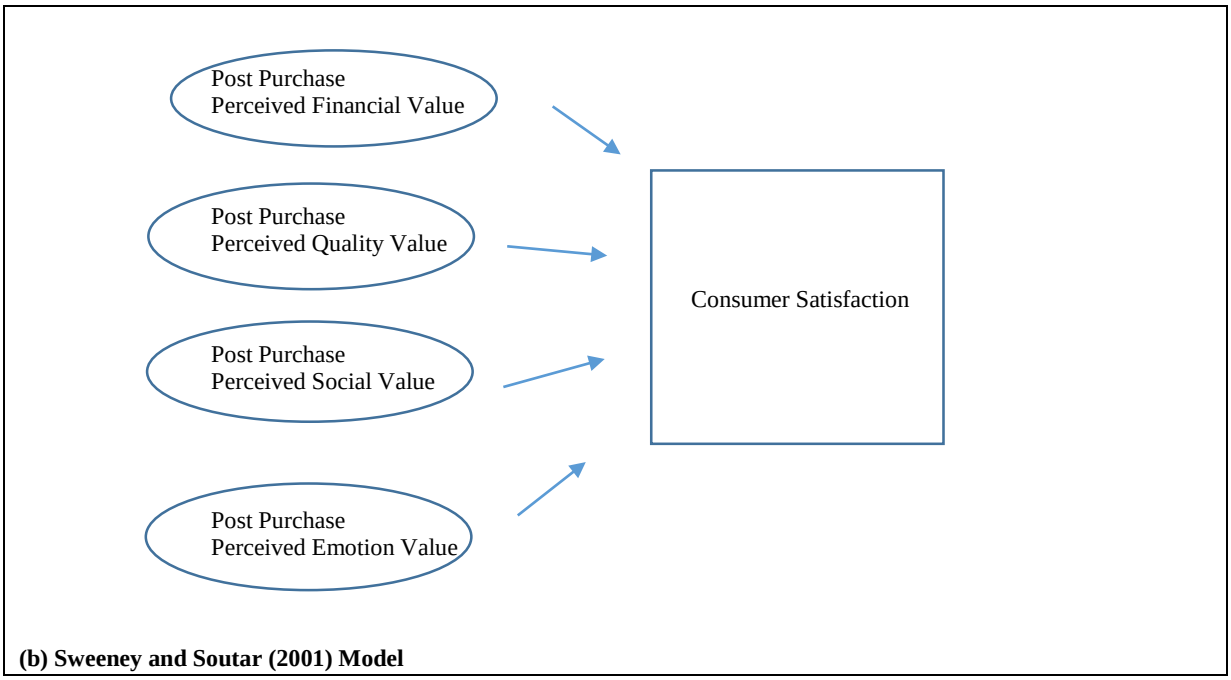
Variables	First-time Buyers (n = 52)			Repeat Buyers (n = 65)			Investors (n = 78)		
	mean	sd	CV	mean	sd	CV	mean	sd	CV
Age	0.38	0.11	0.29	0.49	0.14	0.28	0.46	0.13	0.29
Tax Motivation	6.13	6.54	1.07	7.52	7.98	1.06	13.60	6.69	0.49
Medium Income Group	0.31	0.47	1.51	0.45	0.50	1.12	0.37	0.49	1.31
High income Group	0.21	0.41	1.95	0.34	0.48	1.41	0.35	0.48	1.38
QP7: This housing improves the way I am perceived by relatives	3.94	0.80	0.20	3.57	0.79	0.22	3.44	0.97	0.28
QP8: This housing makes a good impression on other people	4.17	0.65	0.16	3.62	0.82	0.23	3.73	0.88	0.24
QP9: This housing gives me social approval	3.48	1.08	0.31	3.08	0.91	0.29	3.27	1.00	0.31
QS1: I am satisfied to own this housing	4.44	0.75	0.17	3.95	0.78	0.20	4.01	1.00	0.25
QS2: This housing meets my requirements	3.96	0.82	0.21	3.88	0.78	0.20	3.77	0.85	0.23
QS3: How satisfied are you with the relations with this developer ?	15.46	4.27	0.28	14.38	5.44	0.38	16.06	3.95	0.25
QS4: Would you recommend this developer to your relatives ?	15.17	4.26	0.28	13.97	5.60	0.40	15.40	4.32	0.28
QS5: In the future, would you buy a property from this developer?	15.23	4.26	0.28	14.60	4.95	0.34	15.74	3.88	0.25

Note: CV is the Coefficient of Variation

Figures

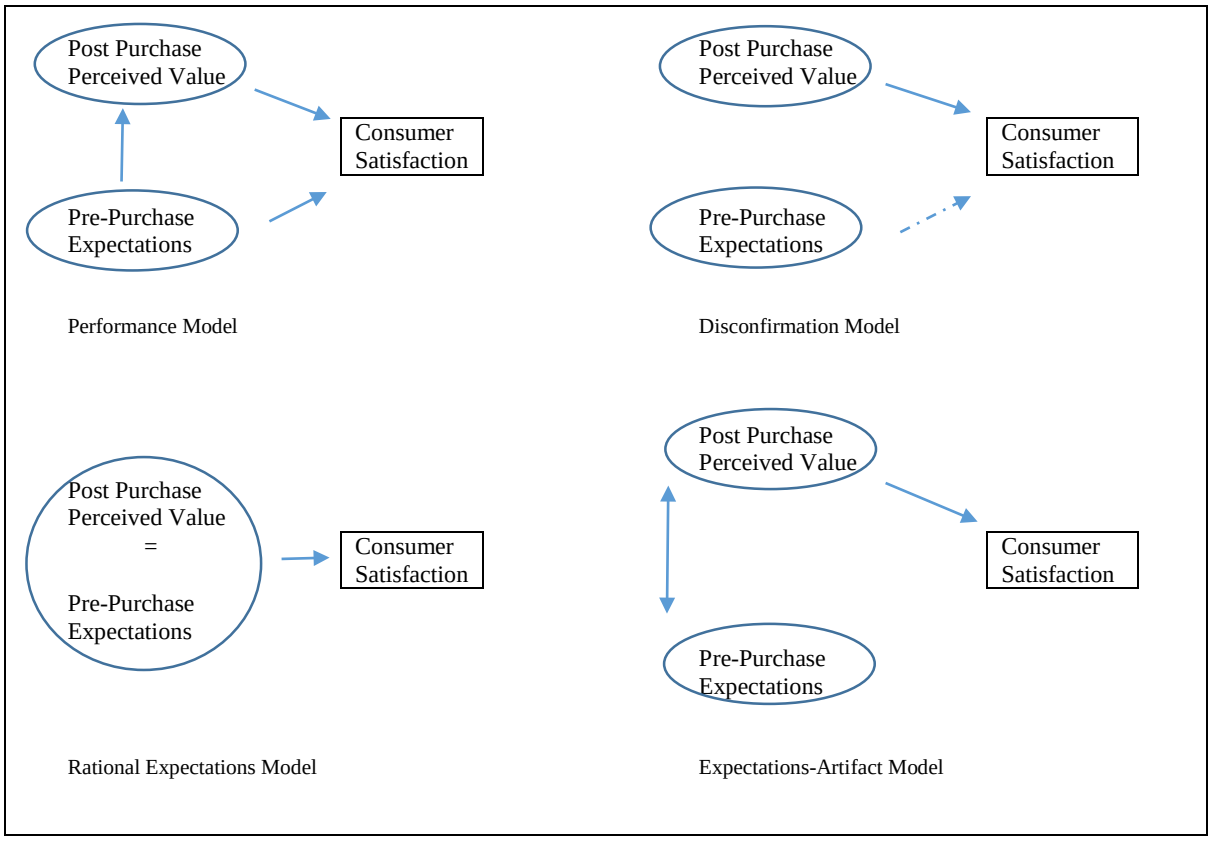
Figure 1: Modelling Satisfaction Conceptual Frameworks





Note: Positive effect →
Negative effect -·-·->

Figure 2: Alternative Customer Satisfaction Models



Note: Positive effect
Negative effect

Figure 3: Empirical Implementation using SEM