Research Article
Buyers' Attitude and Preference towards Flat/Apartments

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Abstract: Nowadays people would like to have and live in their own house. Because of the growing population and lack of sufficient place, cities cannot grow horizontally. Building promoters and contractors in real estate industry are concentrating on the construction of flats/apartments even in cities like Trichy/Tamilnadu. In order to thrive and excel in the competitive environment flat promoters have to understand the expectations, tastes, preferences and lifestyle of the buyers. Two hundred and fifty customers who were living in the flats at Trichy area were included for this study. Findings of this study reveal that people living in the flats are giving importance to location of the flat, price, Swimming pool, Surveillance camera, living space, parking facility, lighting facility, lift and safety. This study will be useful for the customers to express about their opinion with regard to various aspects of flats and also useful for the flat promoters to understand about their buyers.

Keywords: Buyer preference, construction industry, flat, promoters, real estate

INTRODUCTION

Construction of houses involves various complex activities. Growth of various industries, private and government schools, colleges, universities and growing population make the people to search for rented/own houses to stay. But because of lack of sufficient place, cities like Trichy. Cannot grow horizontally. Growing popularity of the flats/apartments made the building contractors/promoters to construct flats/apartments mostly, than independent houses. Moreover, people do not have sufficient time, knowledge, expertise to construct houses of their own. Instead of running from pillar to post for building houses, nowadays people prefer to buy and stay in flats/apartments because of its various advantages. According to Hua Kiefer (2007), people have to collect lot of information with regard to the characteristics of apartments while buying, because it is a very important economic decision. In order to fulfil their expectations and enhance their living quality, people prefer to buy well furnished flats/apartments. Research conducted especially in the area of buyers' attitude about flats/apartments are not sufficient. This study will be useful for the flat promoters to understand about their customers and also will be useful for the customers to express their opinion about the various aspects of flats. People living in various apartments of Trichy/Tamilnadu were included for this study. Opinion of the buyers with regard to importance given to various factors while buying flats was studied. Structured questionnaire was used to collect primary data.

LITERATURE REVIEW

Satisfaction from house is a significant constituent of general life contentment, Siamak and Hossien (2011). Situations of the house may cause stress to elderly person and would be important feature for the contentment of house and also for emotional happiness (Phillips *et al*., 2005). According to Mwfeq *et al*. (2011), factors like decoration, view, design, price, reputation, advertising, area of the apartments are important factors while buying apartments. Structure of the apartments (Quigley, 1985) and quality of neighbours, Gabriel and Rosenthal (1989) are important characteristics of apartments. According to Siamak and Hossien (2011), the enormous development of investment in apartment homes is perpetually changing the nature of investment in property site of property investment. Satisfaction from the house for an individual or family refers to the satisfaction from present housing condition (Djebarni and Al-Abed, 1998).

In order to evaluate the quality of building in Hong Kong, Yau *et al*. (2003), (cited by Siamak and Hossien, 2011) utilized the 'Building Quality Index' developed by The University of Hong Kong. According to Opoku and Muhmin (2010), people even from low income group favour buying of houses than to go for rented house and mostly favoured small house than huge apartments. According to the findings from Nechyba and Strauss (1997), particular area admission prices and home community services influence the choice of the place of houses. According to Thamaraiselvi and Rajalakshmi (2008), majority of the people preferred

Table 1: Demographic profile of the respondents

Age	(%)	Educational qualification	(%)	Monthly income (Rs.)	(%)	Gender	(%)
20-25 years	14.7	SSLC/HSC	8.0	Below Rs. 10000	12.7	Male	66.3
26-31 years	32.0	UG	33.3	Rs. 10001-30000	68.0	Female	34.0
32-37 years	36.7	PG	38.7	Rs. 31000-50000	17.3		
Above 37	16.7	Diploma	20.0	Above Rs. 50000	2.0		

apartments because of safety and also majority of the buyers selected middle floor, i.e., first floor and two bed room flats.

Need for information is important to solve most of the problems while buying houses, especially in Western countries (Savolainen, 2009). According to McCarthy (1982) appeal of the house is a mixture of broad range of characteristics like, quality, cost, layout, neighbourhood and size. Because of the low interest rate and wide loan phases, in the early 2000s, the market for housing was dynamic (Viitanen *et al*., 2003). Involvement of the tenant, repair work, good neighbourhood, social interaction, are the factors responsible in bringing satisfaction from the houses other than simply by the quality of the house alone (Tsemberis, 2003).

Objectives of the study:
- To study the importance given by the customers while buying the flats from the building promoters
- To analyze the media to give advertisement for the flat promotion
- To study the overall satisfaction level of the customers about the flats
- To ascertain the relationship between the perceptions of the customers with regard to the importance given to the various factors while buying flats and mean ranks of the factors
- To find out the relationship between the perception of the customers with regard to the importance given to the various factors while buying flats and demographic variables like age, gender, monthly income

METHODOLOGY

Sample and data collection: Primary data and secondary data were used for this study. Two hundred and fifty people living in flats/apartments from various areas of Trichy/Tamilnadu were included for this study. In order to find out the importance given by the customers while buying the flats from the building promoters structured questionnaire was used.

Hypotheses of the study:
Null hypothesis:

- There is no significant relationship between the perception of the customers with regard to the importance given to the various factors while buying flats and age of the customers.
- There is no significant relationship between the perception of the customers with regard to the

Table 2: Reliability statistics

Cronbach's alpha	N of items
0.851	17

importance given to the various factors while buying flats and gender of the customers.
- There is no significant relationship between the perception of the customers with regard to the importance given to the various factors while buying flats and educational qualification of the customers.
- There is no significant relationship between the perception of the customers with regard to the importance given to the various factors while buying flats and monthly income of the customers.
- There is no significant relationship between the perception of the customers with regard to the importance given to the various factors while buying flats and mean ranks of the factors.

Software package SPSS was used for Data analysis. Statistical techniques like descriptive analysis, Friedman test and Factor analysis were utilized to ascertain the respondents opinion about various aspects about flats/apartments. Relationship between demographic variables of the buyers and their opinion about various aspects of flats/apartments were also studied.

RESULTS AND DISCUSSION

As per the Table 1, 66% of the respondents are male and 34% of the respondents are female out of 250 respondents. (38.7%) of the respondents are qualified with PG, 33.3% of the respondents are qualified with UG degree and 20% of the respondents are qualified with diploma. (68%) of the respondents' income was in the range of Rs. 10001 to 30000, 17.3% of the respondents' income was in the range of Rs. 31000 to 50000 and Rs. 12.7% of the respondents' income was below Rs. 10000.

Cronbach's alpha reliability and consistency has to be found out when we use Likert-types scale in research. As per the Table 2, for all the 18 items used to find out the importance given by the customers while buying the flats from the promoters, the average Cronbach's alpha value is 0.851, which is higher than the suggested value of 0.7 (George and Mallery, 2003).

As per Table 3, Asymp. Sig. values (p = 0.000) are less than 0.05. Hence null hypotheses are rejected and the results are as follows:

Table 3: Friedman test: ranks, test statistics

	Mean rank	Test statistics[a]			
		Chi square	df	Asymp. Sig.	Demographic variables
Q7A	12.88	459.8	18	0.000	Age
Q7B	13.51	531.8	18	0.000	Gender
Q7C	13.13	448.1	18	0.000	Educational qualification
Q7D	12.59	512.1	18	0.000	Monthly income
Q7E	11.87				
Q7F	7.00	426.2	17	0.000	Mean ranks*
Q7G	7.51				
Q7H	3.72				
Q7I	3.50				
Q7J	7.76				
Q7K	5.33				
Q7L	5.59				
Q7M	9.38				
Q7N	10.44				
Q7O	11.75				
Q7P	11.10				
Q7Q	13.39				
Q7R	10.55				

[a]: Friedman test; *: Not demographic variable

Table 4: KMO and Bartlett's test

Kaiser-Meyer-Olkin measure of sampling adequacy		0.756
Bartlett's test of sphericity	Approx. chi-square	481.925
	df	153.000
	Sig.	0.000

- There is a significant relationship between the perception of the customers with regard to the importance given to the various factors while buying flats and age of the customers, $\chi^2 (18) = 459.8$, p = 0.000.
- There is a significant relationship between the perception of the customers with regard to the importance given to the various factors while buying flats and gender of the customers, $\chi^2 (18) = 531.8$, p = 0.000.
- There is a significant relationship between the perception of the customers with regard to the importance given to the various factors while buying flats and educational qualification of the customers, $\chi^2 (18) = 448.1$, p = 0.000.
- There is a significant relationship between the perception of the customers with regard to the importance given to the various factors while buying flats and monthly income of the customers, $\chi^2 (18) = 512.1$, p = 0.000.
- There is a significant relationship between the perception of the customers with regard to the importance given to the various factors while buying flats and mean ranks of the factors. $\chi^2 (17) = 426.2$, p = 0.000.

KMO and Bartlett's Test can be used to determine the power of association amid variables. In order to carry on with the satisfactory factor analysis, the value of KMO should be more than 0.7, (Marcus and Svend, 2006). As per the Table 4, KMO value is 0.756, Chi-square (153) = 481.925, p<0.01, hence Bartlett's Test of Sphericity is significant.

Table 5: Communalities

	Initial	Extraction
Q7A	1.000	0.586
Q7B	1.000	0.735
Q7C	1.000	0.815
Q7D	1.000	0.778
Q7E	1.000	0.790
Q7F	1.000	0.623
Q7G	1.000	0.692
Q7H	1.000	0.805
Q7I	1.000	0.841
Q7J	1.000	0.597
Q7K	1.000	0.762
Q7L	1.000	0.752
Q7M	1.000	0.643
Q7N	1.000	0.431
Q7O	1.000	0.825
Q7P	1.000	0.630
Q7Q	1.000	0.653
Q7R	1.000	0.730

Communalities are given in Table 5. As per Table 5, 84.1% of the variables accounted for 'Swimming pool', 82.5% of the variables accounted for 'number of bed rooms' and 81.5% of the variables accounted for 'Parking facility' in flats/apartments.

Table 6 shows Eigen values of the factors which are extracted from the analysis, percent of variance and cumulative variance of each factor. As per the Table 6, factor 1 accounts for 29.051% of the variance, factor 2 accounts for 16.405% of the variance, factor 3 accounts for 10.884% of the variance, factor 3 accounts for 7.414% of the variance, factor 4 accounts for 7.414% of the variance, factor 5 accounts for 6.721% of the variance and the rest of the other factors are not important.

Table 6: Total variance explained

Component	Initial eigen values			Extraction sums of squared loadings		
	Total	Variance (%)	Cumulative (%)	Total	Variance (%)	Cumulative (%)
1	5.229	29.051	29.051	5.229	29.051	29.051
2	2.953	16.405	45.456	2.953	16.405	45.456
3	1.959	10.884	56.341	1.959	10.884	56.341
4	1.335	7.414	63.755	1.335	7.414	63.755
5	1.210	6.721	70.476	1.210	6.721	70.476
6	0.860	4.778	75.255			
7	0.773	4.296	79.550			
8	0.728	4.046	83.596			
9	0.677	3.761	87.357			
10	0.526	2.920	90.278			
11	0.463	2.574	92.852			
12	0.343	1.908	94.760			
13	0.235	1.308	96.068			
14	0.209	1.162	97.230			
15	0.184	1.024	98.253			
16	0.159	0.885	99.139			
17	0.097	0.541	99.680			
18	0.058	0.320	100.000			

Table 7: Rotated component matrix[a]

Items	Components				
Q7A				0.550	
Q7B					0.823
Q7C			0.827		
Q7D			0.861		
Q7E			0.741	0.488	
Q7F	0.448			0.524	
Q7G	0.527	0.639			
Q7H	0.844				
Q7I	0.910				
Q7J	0.734				
Q7K	0.851				
Q7L	0.841				
Q7M				0.641	
Q7N		0.611			
Q7O		0.793			
Q7P		0.774			
Q7Q		0.457			0.630
Q7R				0.764	

[a]: Rotation converged in eight iterations

The reason behind rotation is to decrease the high loadings factors. In order to make the explanation of the analysis simple, rotation is used. As per the Table 7, factor 1 comprises of 5 items, factor 2 comprises of 4 items, factor 3 comprises of 3 items, factor 4 comprises of 5 items and factor 5 comprises of 2 items.

Other findings of the studies are as follows: It was found that with regard to opinion given by the customer for the factors pertaining to the flat, maximum importance was given to "Swimming pool" and minimum importance given to "Kitchen space". With regard to overall satisfaction level of the customers about their flats, 59.3% were customers were satisfied, 26% of the customers were highly satisfied and 7.3% were neutral. It was found that 77% of the customers living in the flats opined that they would recommend the builder to their relatives and friends and 77% of the respondents opined that if they want to buy another flat

they would be ready to buy the flats from the same builders/flat promoters. It was found that with regard to opinion given by the customer for the factors pertaining to the flat, maximum importance was given to "Swimming pool" and minimum importance given to "Kitchen space". With regard to overall satisfaction level of the customers about their flats, 59.3% were customers were satisfied, 26% of the customers were highly satisfied and 7.3% were neutral. It was found that 77% of the customers living in the flats opined that they would recommend the builder to their relatives and friends and 77% of the respondents opined that if they want to buy another flat they would be ready to buy the flats from the same builders/flat promoters. It was found that that 45% of the customers came to know about the Flat promoters through news paper and 30% of the customers came to know about the flat promoters through TV. It was found that 47% of the customers said that they had restriction in their in apartment for

pet animals and 26% of the respondents said that they had no restriction in their apartment for pet animals. It was found that 47% of the customers said that they had accessibility of public transport from their apartments and 27% of the customers said that they did not have accessibility of public transport from their apartments. It was found that that 62% of the customers said that they were having association in their apartments and 37% of the customers said that they did not have association in their apartments.

Results and implications:

Findings and suggestions based upon the statistical analysis are as follows: For all the 18 items used to find out the of the importance given by the customers while buying the flats from the promoters, the average Cronbach's alpha value is 0.851, which is higher than the suggested value of 0.7. This guarantees the reliability of the scale used. There is a significant relationship between the perception of the customers with regard to the importance given to the various factors while buying flats and mean ranks of the factors. There are significant relationships between the perception of the customers with regard to the importance given to the various factors while buying flats and demographic variables like age, gender, educational qualification and monthly income. Flat promoters while planning to construct the apartments have to incorporate the expectations of the family members in the flats, like lift facility for elders, play ground for children, modular kitchen, swimming pool, gym, temple and surveillance camera for high income group. KMO value of 0.756 ensures the satisfactory usage of factor analysis for this study, Chi-square $(153) = 481.925$, $p<0.01$, guarantees the significance of Bartlett's Test of Sphericity. Flat promoters are suggested to concentrate with 'Swimming pool',

'number of bed rooms' and 'parking facility' in the apartments. It is suggested to give Ad for flats/apartments in media like local vernacular and English newspapers and TV. It is suggested to devote the entire ground floor (stilt) for two wheelers, four wheelers parking and also for shops like grocery, medical... It is suggested that in order to finish the project as promised to the customers, flat promoters have to plan the availability of raw material which are required for the construction of flats. It is suggested to have group of people to provide after sale service at flats/apartments. It is suggested to the flat promoters to develop their HR skill, since they have to manage both literate and illiterate labors.

CONCLUSION

City like Trichy/Tamilnadu cannot grow horizontally because of population growth. Because of the soaring land price and space crunch, city can develop only vertically. Constructions of flats/apartments are gaining momentum in Trichy like Chennai, Bangalore, Hyderabad, Mumbai because of rising popularity. Because of the overwhelming demand for flats/apartments and also due to heavy competition, building contractors/flat promoters have to understand the expectation and requirements of the buyer. Based upon the expectations, requirements, lifestyles of the buyers, flat promoters have to incorporate those things (QFD-Quality Function Deployment) in the construction of flats/apartments. Because of the changing life style and urbanization, in order to satisfy the existing buyers (customers) and to acquire new customers for future construction projects, it is suggested to conduct this kind of survey once in a year to understand the customer's opinion about the various aspects of apartments/flats (Appendix).

Appendix: Characteristics of flats/apartments

Items	Characteristics of flats/apartments	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Q7A	Price of the flat is important					
Q7B	Location of the flat is important					
Q7C	Parking facility is important					
Q7D	Lift facility is important					
Q7E	Security of the flat is important					
Q7F	UPS/generator in flat is important					
Q7G	Availability of retail stores in flat					
Q7H	Gym is important					
Q7I	Swimming pool is important					
Q7J	Place for walk is important					
Q7K	Surveillance camera in flat is important					
Q7L	Fire alarm in flat is important					
Q7M	Type of flooring is important					
Q7N	Kitchen space is important					
Q7O	No of bed rooms is important					
Q7P	Living space is important					
Q7Q	Quality of apartment is important					
Q7R	Name/image of the builder is important					

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REFERENCES

Djebarni, R. and A. Al-Abed, 1998. Housing adequacy in Yemen: An investigation in to physical quality. Prop. Manage., 16(1): 16-23.

Gabriel, S. and S. Rosenthal, 1989. Housing location and race: Estimates of a multinomial logit model. Rev. Econ. Stat., 71: 240-249.

George, D. and P. Mallery, 2003. SPSS for Windows Step by Step: A Simple Guide and Reference. 11.0 Update, 4th Edn., Allyn and Bacon, Boston, pp: 231.

Hua Kiefer, M.A., 2007. Essays on applied spatial econometrics and housing economics. Ph.D. Thesis, Ohio State University, USA.

Marcus, J.S. and H. Svend, 2006. Marketing Research: An International Approach. 1 Edn., Prentice Hall/Financial Times.

McCarthy, K., 1982. An Analytical Model of Housing Search and Mobility. In: Clark, W.A.V. (Ed.), Modelling Housing Market Search. Croom Helm, London, pp: 30-53.

Mwfeq, H., J. Mahfuz and H. Shafig, 2011. Factors affecting buying behavior of an apartment an empirical investigation in Amman, Jordan. Res. J. Appl. Sci. Eng. Technol., 3(3): 234-239.

Nechyba, T. and R. Strauss, 1997. Community choice and local public services: A discrete choice approach. Region. Sci. Urban Econ., 28: 51-73.

Opoku, R. and A. Muhmin, 2010. Housing preference and attribute importance among low income consumers in Saudi Arabia. Habitat. Int., 34: 219-227.

Phillips, D. *et al.*, 2005. The impacts of dwelling conditions on older persons′ psychological well-being in Hong Kong mediating role of residential satisfaction. Social Science and Medicine, 60: 2785-2797.

Quigley, J.M., 1985. Consumer choice of dwelling, neighborhood and public services. Region. Sci. Urban Econ., 15: 41-63.

Savolainen, R., 2009. The information needs of prospective homebuyers: An exploratory study of apartment purchases in Finland. Int. J. Consum. Stud., 33(2009): 566-571.

Siamak, Z. and E. Hossien, 2011. Determinants of satisfaction in apartment industry: Offering a model. J. Civil Eng. Urbanism, 1(1): 15-24.

Thamaraiselvi, R. and S. Rajalakshmi, 2008. customer behavior towards high rise apartments: Preference factors associated with selection criteria. J. Consum. Behav., 3(3): 16-33.

Tsemberis, S., 2003. Housing satisfaction for persons with psychiatric disabilities. J. Community Psychol., 31(6): 581-590.

Viitanen, H., A.C. Ritschkoff, T. Ojanen and M. Salonvaara, 2003. Moisture conditions and biodeterioration risk of building materials and structure. Proceedings of the 2nd International Symposium Integrated Lifetime Engineering of Buildings and Civil Infrastructures, Kuopio, pp: 151-156.

Yau, Y., D. Chi-Wing Ho, K.W. Chau and W.Y. Lau, 2003. Estimation algorithm for predicting the performance of private apartment buildings in Hong Kong. Struct. Surv., 27(5): 372-389.