

Factors affecting
purchase decision of
apartments
metropolitan india
economics es...



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Purpose - The purpose of this paper is to provide an insight into the motivation behind Indian buyers when looking to purchase an apartment. The factors driving demand preferences for apartments are not well established and are difficult to measure, and often builders may not have an insight into what buyers are looking for.

Design/methodology/approach - The research in this paper is based on telephonic interviews and internet based survey with recent purchasers, who bought a home in the past 1 year and prospective purchasers looking to buy an apartment in the coming one year. They belonged to number of locations across all metropolitan cities of India - Delhi, Mumbai, Bangalore, Kolkata and Chennai. The data were analysed using factor analysis to identify the criteria in an apartment that buyers value the most. This research was done across all ages and irrespective of their intention of why they bought the apartment or if this was their first purchase. Further, Cluster analyses was used to determine clusters and one way Anova was used to determine the factors that hold different value to different clusters of people. Discriminant Analysis was used to determine any difference in behaviour of first time purchasers with others.

Findings - The findings in this paper revealed that issues signifying “affluence” accounted for approximately 27 percent of the choice of housing by Indian buyers to purchase apartments in metropolitan India and hence was the most important factor. Also, Cluster Analysis revealed that demographically different set of buyers differ significantly in their attitude towards “Financial” factors with the younger cluster giving it more importance. Discriminant analysis revealed that first time buyers give

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significantly more importance to “ Financial” factors like “ House price”, “ Income” whereas they give much lesser importance to “ Builder reputation” and “ Status of neighbourhood”.

Research limitations/implications – The research in this paper is aimed specifically at Indians living in metropolitan cities only which may be very different from the rest of India. The majority of the respondents belong to Delhi, which may also bias the results. The majority of the data has been collected from an online survey which may reduce the validity of the findings.

Practical implications – If due consideration is given to the factors that buyers are most concerned about, builders of new apartment housing would be better equipped to meet this demand and maximise their profits. They would know which factors to concentrate on to be able to demand a higher price. Builders will also be able to target buyers better by knowing the difference in preference of first time buyers to others as also the difference in preference of younger purchasers than the elder.

Originality/value – This paper provides an invaluable insight into Indians’ concept of a suitable apartment in metropolitans. While important decision factors were determined for the entire population, further analysis was done to determine difference in issues considered important by first time buyers. Also, the most important factors were determined for different demographic clusters. Thus in this way, the transaction of purchasing an apartment was analysed from several points of view.

Keywords Consumer behaviour, Purchase, Apartment, India

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Paper type Research paper

INTRODUCTION

The Real Estate sector is important to the Indian economy. In terms of employment generation, it is second only to the agricultural sector. The housing sector contributes nearly 5% to India's GDP. It is expected to rise to 6 per cent in the next five years.

Property markets in India are recovering faster than those in the US and the UK. The sector is expected to attract around US\$ 12. 11 billion of investments in the next five years. Residential space comprises almost 80% of the real estate developed in the country. There is a shortage of 22. 4 million dwelling units according to the Tenth Five Year Plan. 80 to 90 million housing units will have to be constructed over the next 10 to 15 years to rectify this, with the majority of them for the middle- and lower-income groups. It is for this reason that residential properties in India, particularly in Mumbai and Delhi, are viewed as very good investments as per a study by PriceWaterhouseCoopers (PwC) and Urban Land Institute, a global non-profit education and research institute.

In the 2009-10 budget, a tax holiday on profits was granted to developers of affordable housing (units of 1, 000-1, 500 sq ft). This exemption was instituted for projects that started from 2007-08 onwards with a deadline of completion of March 1, 2012. US\$ 207 million was also allocated to grant a 1% interest subsidy on home loans up to US\$ 20, 691 with the caveat that the cost of the home should not be more than US\$ 41, 382. This was expected to further help the housing sector.

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An apartment is a residential unit that forms a division of a building. It can be either owned or rented. Living in apartments is gaining popularity in India. 217 townships across India are in the building plans for the Sahara Group. Their allure lies in the convenience that they offer in terms of safety and security and maintenance of utilities like electricity and water. A central maintenance system obviates the need for hiring outside help for minor problems like leaking taps or electric short circuits. Stand-alone homes also require incurring additional costs like buying/leasing land, licensing, duties, etc. Apartments enable maximization of space utilization and reduce demand on public resources. People are also able to avail of additional amenities like gymnasiums, swimming pools, etc. at affordable prices.

There is a gap in the literature, however, with regard to the value drivers that dictate purchase decisions of residential property in the country. Similar studies exist for other countries but were found wanting in the Indian context, especially when it comes to apartments. Through this paper, we aim to establish which factors dictate purchase decision and to what extent. We shall also analyse these preferences with respect to the demographic profiles of our respondents and hence arrive at a deeper understanding of these issues. In particular we shall determine the difference in purchase decisions of first time buyers as against the others.

We see immense utility for our paper, especially for builders and property dealers who can use our findings in structuring their own business activities in terms of deciding focus areas of their future projects as well as appropriately deciding their target segment.

RESEARCH BACKGROUND AND HYPOTHESIS

Even though consumer behaviour is generally assumed to be an important part of real estate valuation, buyer preferences are generally not considered during the valuation process. It is basically reduced to the confirmation of a bid price which may or may not be met by the buyer. Efforts are being made to address this fault and many papers have been written on the analysis of motivations of residential property purchasers, attempting to explain them using models such as bounded rationality and hedonic pricing. Hedonic Pricing, or Hedonic Demand Theory as it is also known, decomposes the item of interest into constituents and evaluates the importance of each of them and their contribution to the overall valuation. These factors can be both internal characteristics of the good or service and external factors. In the case of real estate valuation, internal characteristics include layout, structure, etc of the property while status of neighbourhood, proximity to schools, etc are the external factors. Factor Analysis enables us to determine factors composed of related variables. It is a statistical method that reduces the number of variables by grouping two or more of them into unknown or hidden variables known as factors. Further analysis is then conducted by looking at the variation among these factors and evaluating their relative performance. These factors are taken to be linear combinations of the original variables plus error terms (Richard L. Gorsuch, 1983).

“ Factor analysis seeks to do precisely what humans have been engaged in doing throughout history – that is to make order of the apparent chaos of the environment” (Child, 1990). It has great use in evaluating consumer behaviour. Charles Spearman is credited with its invention. He used it in the <https://assignbuster.com/factors-affecting-purchase-decision-of-apartments-metropolitan-india-economics-essay/>

formulation of the 'g Theory' as part of his research on human intelligence (Williams, Zimmerman, Zumbo & Ross, 2003). Over the years it has found uses in fields as diverse as psychometrics, marketing, physical sciences and economics. It can be used to segment consumers on the basis of what benefits they want from the product/service (Minhas & Jacobs, 1996). It has evolved as a technique over the years, with many researchers working on fine-tuning and improving the analytical process. Bai & Ng (2002) developed an econometric theory for factor models of large dimensions. It focused on the determination of the number of factors that should be included in the model. The basic premise of the authors was that a large number of variables can be modelled by a small number of reference variables.

Marketing strategies based on customer preferences and behaviour often make use of this technique during the market research phase (Ali, Kapoor & Moorthy, 2010) and while devising and changing the marketing mix (Ivy, 2008).

The facility of segmentation that factor analysis offers has been extended to the real estate sector and all studies thereof. Regression analyses are subject to aggregation biases and segmented market models yield better results when segmentation is done using factor analysis (Watkins, 1999). Property researchers have also dedicated a lot of attention to researching the preferences of property buyers and identifying the drivers of property value. A study in Melbourne, Australia (Reid & Mills, 2004) analysed the purchase decisions of first time buyers and tried to determine the most influential attributes that affect the purchase decision using factor analysis.

The research findings of the paper indicated that financial issues explain <https://assignbuster.com/factors-affecting-purchase-decision-of-apartments-metropolitan-india-economics-essay/>

about 30% of the variance in the purchase decisions of first time house-owners. This related to timing, the choice of housing, and the decision to buy new housing. Apart from that the choice of housing is dependent on Site Specific factors (Location) and the decision to buy new housing is dependent on life-cycle factors, such as family formation, marital status or the size of the existing house. Another study determined that brand, beauty and utility play a defining role in property value (Roulac, 2007). The findings of the paper explain why certain properties command premium prices, relative to other properties. It came to the conclusion that for value determination of high priced properties the overall perception of the brand is the most important factor followed by utility and beauty. Brand names are also very important especially in metropolitan markets as they add to the appeal, distinctiveness of the property. Another way to attract buyer's attention is through the mix of neighbourhood amenities offered (Benefield, 2009). Neighbourhood amenities like tennis courts, clubhouses, golf courses, swimming pool, play park and boating facilities significantly impact property values. Xu (2008) used a hedonic pricing model to study the housing market of Shenzhen, China. He operated under the assumption that buyers consider property specifics and location attributes separately when they buy a home. The findings suggest that the marginal prices of attributes are not constant. Instead, they vary with the household profile and location.

Cluster analysis involves the grouping of similar objects into distinct, mutually exclusive subsets known as clusters. The objective is to group either the data units or the variables into clusters such that the elements within a cluster have a high degree of natural association among themselves

while the clusters remain relatively distinct from one another. Mulvey and Crowder (1979) presented and tested an effective optimization algorithm for clustering homogeneous data. Punj and Stewart (1983) reviewed the applications of cluster analysis to marketing problems. They presented alternative methods of cluster analysis to evaluate their performance characteristics. They also discussed the issues and problems related to use and validation of cluster analysis methods. Ketchen and Shook (1996) chronicled the application of cluster analysis in strategic management research. They analysed 45 published strategy studies and offered suggestions for improving the application of cluster analysis in future inquiries. They believed that cluster analysis is a useful tool but the technique must be applied prudently in order to ensure the validity of the insights it provides.

Since the time marketing researchers were introduced to discriminant analysis half a century ago, it has become a widely used analytical tool owing to the fact that marketers are frequently concerned with the nature and strength of the relationship between group memberships. It is especially useful in profiling characteristics of groups that are the most dominant in terms of discrimination. Morrison (1969) explained how discriminant analysis should be conducted using canned applications and how the effect of independent variables should be determined. However, care must be taken when applying discriminant analysis. The potential for bias in discriminant analysis has long been realized in marketing literature. Frank, Massy and Morrison (1965) showed that sample estimates of predictive power in n-way discriminant analysis are likely to be subject to an upward bias. This bias

happens because the discriminant analysis technique tends to fit the sample data in ways that are systematically better than would be expected by chance. Crask and Perreault (1977) looked at the validation problems in small-sample discriminant analysis.

Various research papers have studied the features that are evaluated while purchasing a home, how these features factor in terms of pricing the residences and how the home owners rate the various scales on importance. Such studies, however, were found lacking in the Indian context. This paper aims to understand the value drivers of apartments in Indian metros using factor analysis.

We have used the following variables as given in the paper written by

House Price – This refers to the price that is being quoted for the apartment. The real estate market is often segmented using this variable.

Proximity to City – This refers to the location of the apartment relative to the city boundaries, i. e. whether it is within the city proper or on the outskirts or suburbs.

Ability to obtain Loans – This variable stands for the ease with which the buyers can get loans, either through the builder or on their own. Builders usually try to showcase a collaboration with a bank offering attractive home loans.

Household Income – The total income of the household often dictates the purchase decision of families.

Proximity to Shops and Parks – Proximity to these places of everyday convenience is an important criterion for some buyers.

Proximity to Schools and Offices – This factor may play a big role for professionals and parents.

Builder Reputation – Many buyers are heavily influenced by the brand name and reputation of the builder.

Proximity to Public Transport, Major Roads, etc – This refers to the accessibility of the apartment with regard to public transport and roads.

Branded Building Components – Some consumers may value an apartment more if it has branded fittings, furnishings, etc.

Status of Neighbourhood – For some buyers, the reputation and social standing of the locality that they live is very important.

Exterior Look of the Apartment – This refers to the façade of the apartment, i. e. whether its attractiveness is a strong enough motivation.

View from the apartment – This can be an important variable for some customers.

Structure – This refers to the layout of the apartment – whether it is a 2BHK or 3BHK apartment, etc.

Interior Design – This refers to interior features of the apartment like flooring, lighting, balcony, etc.

Availability of Gymnasium, Swimming Pool and other sports facilities – Many apartment complexes and housing societies offer recreational facilities to the residents to service their lifestyle needs.

Size of Individual Rooms – The size of the rooms within the apartment is also an important factor. Some buyers prefer big, airy rooms while others might want smaller rooms.

Traffic – This variable refers to the density of vehicular movement in the location in which the apartment is located.

Monthly Living Costs – This refers to certain average monthly expenditure is incurred as living expenses such as maintenance fee, cable TV bill and so on. Some buyers may keep this into consideration.

In the pilot survey conducted by us we identified the following factors to be of importance:

Parking Space – The availability of sufficient parking space.

Perceived Safety of Locality – This is a big concern for some customers, especially single women and old people and may significantly influence the purchase decision.

Preference for Ground Floor – This variable refers to the customers' preference for the ground floor relative to other floors.

Water Supply – This variable means to measure how important it is for the consumers that there is continuous, guaranteed and good quality water supply.

Availability of Domestic Help – This can be important consideration, especially for working couples.

Power Backup – This refers to 24×7 power backup in case of power outages. This is frequently advertised by builders and it may influence buying behaviour.

Proximity to friends'/relatives' homes – This can be an important variable for some customers such as young working mothers.

Methods

Pilot Survey

For the pilot survey, 12 respondents were contacted over telephone and were asked open-ended questions like “ When you bought the apartment, did you look at the costs, or the amenities?”, “ What was that one thing that you were not ready to compromise on?”, “ Did the social status of the neighbourhood or the brand name of the builder really matter to you?”, “ What are the factors you will look for in your next purchase?”. The respondents consisted of people who had purchased an apartment in the last one year and mainly composed of family or family friends. Builders and property developers were also included in the pilot survey. The pilot survey revealed many India-specific factors such as domestic help, power supply, water supply and others that have been enumerated in the previous section. <https://assignbuster.com/factors-affecting-purchase-decision-of-apartments-metropolitan-india-economics-essay/>

Survey

The online questionnaire was floated and the link to the questionnaire was sent to personal contacts that were known to have purchased or were intending to purchase an apartment in the time span of a year. The contacts were also encouraged to forward the link to their friends and families that fit under our criteria. Leads were also generated from builders and property developers to whom the survey was also sent.

Sample

The valid sample was designed to include people residing in Indian metropolitan cities who had purchased an apartment in the past 1 year or intended to purchase in the next 1 year. Out of the 172 responses received, 13 were rejected since the respondents had not purchased a property in a metropolitan city. Another 13 were rejected because either the respondents had not purchased the apartment in the last one year or were undecided as to when to purchase the property. Finally out of all the respondents 146 (84.9%) were identified.

Analysis of Respondents

Measures

The 25 variables were measured by a Likert scale with responses ranging from 1 (Very Low Importance) to 5 (Very High Importance).

The above figure indicates the 25 variables we conducted our study with.

The five factors, from Affluence to Site Specific, emerged after doing a factor

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analysis. All these factors have a significant role in the purchase decision of an apartment.

Apart from the above, we have used the following scales for the demographic variable:

Gender: Nominal Scale

Age: Continuous Scale

Number of Member in Family: Continuous Scale

Intention of purchase: Nominal Scale :- To ascertain whether the apartment was purchased for living purposes, as an investment, for putting on renting or otherwise

City- Nominal Scale :- To ascertain whether purchase was made in metropolitan cities like Bangalore, Chennai, Delhi, Mumbai, Kolkata or otherwise

Timing of purchase- Nominal Scale. To ascertain whether purchase was made in the past one year or the intention is to purchase within the next one year, or otherwise.

Analysis Methods

This study uses four tests to analyse the decision variables in purchase of an apartment. The first test conducted is the factor analysis which is used to club the variables in order to determine the purchase criteria of apartments. Thus, in this analysis the broad set of variables are constricted to determine

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the smaller set of factors that can explain what home owners look for when purchasing an apartment. After this, a cluster analysis was conducted to determine the various clusters (groups) that exist within the demographic population. On the above said factor analysis and cluster analysis, a one way ANOVA was conducted in order to determine the difference in preference (or importance) of each factor between the clusters. Finally, a discriminant analysis was conducted to identify factors that best explain the difference in the decision variables of first time purchasers with others.

Results

The first test conducted was the factor analysis. Under this test, we followed the Principal Component Analysis method on the 25 variables to combine the correlated variables into factors. The KMO value calculated is 0.799 is above the suggested value of 0.5 which indicates that it is good idea to proceed with Factor Analysis. On the basis of the computations as represented in the Rotated Component Matrix (Table 1), the following factors were received: Affluence, Financial, location, lifestyle, Site-Specific. The variables were classified into a factor if their loading for the respective factor was greater than 0.4. Also, two other unnamed factors were received which remained so due to the fact that no factor can be formed between two variables. We have followed the Kaiser criterion (1960) of retaining only those factors that are greater than one. The initial research on 25 variables was reduced as the variables on domestic help, floor and proximity to friends/relatives was removed after the factor analysis was done. Domestic help was removed because it loaded on three factors (Financial, Location and Lifestyle) equally.

Preference of Ground Floor was removed from the analysis as it showed a <https://assignbuster.com/factors-affecting-purchase-decision-of-apartments-metropolitan-india-economics-essay/>

positive loading and negative loading on each of two factors which means that while some considered ground floor to be in consideration other considered the penthouse to be better. Proximity to friends/relatives was removed as it was the only variable in factor 6 (unnamed) and thus no factor can be made by one variable.

The results of the Factor Analysis are as under:

Table 1

Factor Loadings- Purchase of an Apartment

Rotated Component Matrix

Variable Name

Affluence

Financial

Location

Lifestyle

Site-Specific

Unnamed

Factor 1

Factor 2

Factor 3

Factor 4

Factor 5

Factor 6

Traffic

0. 768

Gym/Pool/Sports Facility

0. 755

View from Apartment

0. 721

Builder Reputation

0. 644

Parking Space

0. 568

Status

0. 513

Monthly Cost of Living

0. 764

Household Income

0. 735

Availability of Loan

0. 691

Availability of Domestic Help

0. 498

0. 414

0. 435

Proximity to Schools/Office

0. 778

Proximity to Transport

0. 607

Proximity to City

0. 575

0. 424

-0. 401

Proximity to Shops/Parks

0. 546

Interior Design

0. 768

Branded Components

0. 712

Power Backup

0. 594

Structure

0. 741

Size

0. 580

0. 598

Safety

0. 549

Preference of Ground Floor

-0. 415

0. 423

Proximity to Friends/Relatives

0. 845

Water Supply

0. 410

House Price

0. 405

Exterior Look

0. 426

0. 405

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

Rotation converged in 21 iterations.

Table 2

Factor Analysis

Factor No.

Factor Name

Eigen Values

Total Variance (%)

Cumulative Variance (%)

1

Affluence

6.826

27.306

27.306

2

Financial

2.9

11.600

38.906

3

Location

1.835

7.342

46. 248

4

Lifestyle

1. 504

6. 016

52. 264

5

Site-Specific

1. 447

5. 788

58. 052

6

—

1. 129

4. 516

62. 568

7

—

1. 059

4. 236

66. 804

The second test that was conducted was the Cluster analysis, done to segment the respondents on demographic variables of Age, Gender, City and Number of members in the family. Squared euclidean distance and average linkage hierarchical clustering method was used. At fusion coefficient value of 1. 0, two distinct clusters were evident. On conducting a One way ANOVA to compare means with the demographic variables we observe that the two clusters are different with respect to mean age with a significance of 0%. The first cluster consists of a younger population with an average age of 37 approximately and the second cluster has an average of 58 years approx.

The results of the Cluster Analysis are as under:

Table 3

Cluster Analysis Results

Variable

Cluster 1

Cluster 2

Mean

SD

Mean

Age

37.056

6.48

57.7

Gender

0.57

0.497

0.35

City

3.10

1.261

3.4

No of Members in the Family

3.508

1.295

3. 9

The third test we conducted was the One-Way ANOVA between the Cluster Membership and the Factor Scores. The factor score for each of the 5 identified factors was calculated for each respondent by summation of the variables under each factor. Subsequently, one way Anova test for difference of means was conducted with each factor score as the independent and cluster membership as the grouping variable. On conducting the test with each of the factors it was observed that there was a significant difference between the two clusters for the Financial factor at 5% significance level. Cluster two, consisting of elder population had a significantly lower mean of Financial factor. At 10% significance level, cluster two had a lower mean in Location and Site Specific factors.

The result of the above is as under:

Table 4

Difference of means of factor scores across clusters

Mean

St. Dev

F value

Significance

Affluence

Cluster 1

26. 635

6. 667

0. 310

0. 578

Cluster 2

25. 75

6. 129

Financial

Cluster 1

14. 968

3. 427

6. 351

. 013

Cluster 2

12. 75

4. 918

Location

Cluster 1

15. 77

3. 213

2. 752

. 099

Cluster 2

14. 45

3. 859

Lifestyle

Cluster 1

19. 175

3. 422

0. 728

0. 395

Cluster 2

18. 45

4. 161

Site Specific

Cluster 1

16. 214

2. 908

3. 841

0. 052

Cluster 2

14. 8

3. 533

Finally, we conducted the Discriminant Analysis. The discriminant analysis was conducted on the population using “ First Time” as the grouping variable, differentiating the first time buyers with others. All the 25 variables were taken as the independents and Means and Univariate ANOVAs descriptive statistics were used. The results are as published in Table 5. At 10% significance level, it indicates that Financial factors , namely “ House income”, “ Availability of loan”, “ Domestic help”, “ House price”, and “ Monthly cost”, as well as “ Status of neighbourhood” and “ Builder reputation” are significant differentiators for first time buyers and the rest. The Financial factors were significantly more important for first time buyers

where as “ Status of neighbourhood” and “ Builder reputation” were more important for the rest.

Table 5

Variable

Wilks' Lambda

Significance

Mean Of Non-First Time purchasers

Mean of First Time Purchasers

House Price

0.977

0.073

3.955

4.28

Loan

0.930

0.001

2.489

3. 406

House Income

0. 922

0. 001

3. 511

4. 218

Status

0. 974

0. 51

4

3. 644

Builder Reputation

0. 974

0. 54

3. 755

3. 366

Monthly Cost

0. 977

0. 07

3. 067

3. 485

Domestic Help

0. 971

0. 039

3. 22

3. 723

Discussion & Implications

By examining the Eigen Values (Table 2) of the remaining five factors in the table Total Variance Explained, it can be seen that the population considers that the factor Affluence (6. 826) as the most important for their consideration in purchase of an apartment. The next factor of importance is Financial (2. 900) after which are Location (1. 504), Lifestyle (1. 447) and Site-Specific (1. 129) respectively. This is as close to our expectations of the factors that could be the drivers of purchase but as against our expectation of financial factor having the highest factor. This may be due the fact that our survey was primarily conducted with the cosmopolitan society which places their comfort over the cost.

Cluster Analysis result in Table 3 indicates Cluster 2 as having a mean age of approximate 58 years, essentially consisting of people who have already earned sufficiently in their lives. Table 4 shows that Cluster 2 values Financial factors much lesser than the younger cluster understandably since Financial factors such as “ Ability to get loans”, “ House price” and so on are much more important to the younger generation than the elders. Also, Location factors such as “ Proximity