



Factors Affecting Purchase Decision of Residential Apartment of Lower-Middle and Middle Income Group in Dhaka City

Nayeem Shahriar¹, Md. Imran Hossain Sajib²

¹Department of statistics, Jahangirnagar University, Dhaka, Bangladesh

²Institute of Business Administration, Jahangirnagar University, Dhaka, Bangladesh

ABSTRACT:

The key objective of this study is to explore the factors that affect customer's purchase decision of residential apartment in Dhaka City, capital of Bangladesh and one of the most densely populated cities in the world. Data for this study is collected from 470 respondents who are of lower-middle and middle income group living in Dhaka city area through structured and non-disguised questionnaire having close ended questions. The convenience sampling method is used for choosing the respondents through survey method where a five point Likert scale has been used to measure variables. This exploratory study also intends to categorize the considered 25 variables into factors. This study has found six factors which affect the purchase decision of a residential apartment among two particular income groups in a specific area. It concludes that the financial and project facilities factors affect the purchase decision of buyers followed by Physical quality and location and communication factors. Also the two factors environmental and promotional factors affect the purchase decision of the buyer from these two particular income groups. The real estate developers, market researchers and policy makers can be benefitted from the study as the customers from lower-middle and middle income groups are vital consumers having confined financial ability but need for a proper and sustainable housing. The influencing factors identified from this study can be used in estimating housing demand and to increase the supply on account of these two income group people to develop the real estate market policies and strategies.

Keywords: Dhaka city, Factor analysis, lower-middle and middle income, Purchase decision, Real estate, residential apartment.

1. Introduction

Housing is one of the fundamental needs of human life. A proper housing facility is very essential for a human being not only to sustain in daily life but also to develop all kind of social and national aspects. Housing is also an investment for a long term. Like many developing country, in Bangladesh, housing sector plays an important role as this country has a fast growing economy. Bangladesh, a south Asian country has a multi-cultural diversity with a very dense population especially in the major cities. Rapid change in infrastructural development and internal migration, providing proper shelter for citizens is a great challenge now. Residential housing structure has variations according to citizen's financial conditions. Major cities contain housing facilities which are mostly multi-storied and with bricked roof but in rural areas most of the housing structures are impermanent. As more nuclear families are forming and more internal migration are happening, the demand for residential apartments are increasing very fast as an apartment with basic facilities is considered as proper housing.

In major urban areas, proper housing facilities can be formed in two simplified types- self-constructed residential building and constructed by developer companies. The difference is where an owner makes a multi-storied building without making any contract with any developer company but by self-superintendence. These buildings are mostly not more than six or seven storied tall. Another option is where the land owner makes contract with a developer company and these buildings could be more than twelve to fifteen storied tall following area of lands. The land owner gets some apartments and the developer company gets some. In this case, the land owner sells all of his allotted apartments after keeping one or two unit for him and the developer company sell all of their allocated apartments to buyer. The third scenario is where the developer company owns the land and sells all the apartments after or between constructions. That is very simplified notion about the real estate sector of Bangladesh, the primary market of apartment buying or selling. There is also a big portion of second hand apartments operating in the market, which also is considered in this study.

The developer companies operate most of their activities in Dhaka City, a megacity and the capital of Bangladesh. Dhaka city has a population over two crores holding the title of highest dense city in the world. It is because Dhaka is the center and heart of economic and administrative activities of the country.

So, most of the citizens of Bangladesh have tendency to own a residential apartment in Dhaka city and the demand is increasing day by day. The majority of citizens living in Dhaka city are of lower -middle and middle income group. According to Asian Development bank (ADP), who earn between 2\$ and 20\$ per day will be defined as the middle income group. Usually, the residential apartment buyer of middle income group has to think of several things like financial ability, geographical advantages and all other facilities with their limited source of income. So, there are many factors and attributes to consider for purchasing a residential apartment in Dhaka city because it is complex decision for these particular income group people.

* Corresponding author.

E-mail address: shahriars592@gmail.com

2. Literature Review

Numerous studies have been conducted on the factors related to purchasing residential flat all over the world. A number of studies also have been undertaken in Bangladesh till now too. Urbanization, high population growth, the scarcity of open and vacant land, hazards in land purchasing, increasing the price of land, lack of public supports act as catalyst for Real Estate explosion. Khaled, Sultana, Biswas and Karan (2012) showed (on Perspective of Chittagong District, Bangladesh) that now people are not interested to buy a land for building their own house due to high price of land, insufficiency of land, high cost of land registration, and high price of building materials. However, enviable services amenities and project facilities in the apartment persuade the buyers to buy residential flats. Moreover, the land prices in Dhaka city has been increasing fast and the price of the constructions materials is also increasing. On the other hand, the city is growing upward and multi-storied building is seen as the solution of the problems. Mohiuddin (2014) explored that due to increased land cost as well as construction cost and other reasons such as reluctance of individuals to spend time and energy in house construction, increased awareness of apartment living and western influence residential apartments purchase tendency is becoming popular.

Purchasing a residential apartment is one of the most noteworthy economic choices that people make, and it necessitates congregation a lot of information concerning its features, qualities, facilities, design, prices and environments (Haddad, et al., 2011; Zadkarim and Emari, 2011; Kiefer, 2007). It is a crucial decision for every customer in Bangladesh because sometimes customers spend their whole-life savings to buy an apartment. At first a prospective consumer searches all the information he/she possesses internally (Blythe 2013). Level of experience, knowledge and expertise, duration of time elapsed since last purchase and satisfaction or dissatisfaction with previous purchases will impact the most in internal searches (Dey 2016). As real estate is not bought and sold in a frequent basis for most of the consumers, they do not tend to solely depend on internal search while making the purchase decision. Consumers also obtain related information from various external sources (Evans, Jamal & Foxall 2013). Real estates are pricy goods and for this reason consumers always try to make the best decision by going to the experts on these fields. They also collect information through personal inspection and attaining information from newspapers, brokers and most importantly from family & friends.

Globally, extraordinary studies have been conducted on location and size preferences [Labib, et al. (2013)], Customer Perception and Expectation [Khaled, M. C., et. al. (2012)], and the dimensions of customer satisfactions and services [Preko, A., et al. (2014); Khaled, M. C., et al. (2012); Zadkarim, S., & Emari, H. (2011); Zadkarim, S., et al. (2011); Leiser, K., & Ghor, A. P. (2011); Shahin, A., et al. (2010); Lee, Y., et al. (2009)]. Studies found that Location, Residential living environment, better communication with work place [Leiser, K., & Ghor, A. P. (2011)], near to educational facilities, biasness due to relatives [Zadkarim, S., & Emari, H. (2011)], living in the same area for long time, near to main road and affordable price, quality of municipality services and cost (Friedman 1981; Reshovsky, 1979), size and quality of apartment [Khaled, M. C., et al. (2012)] are some major factors that guided the choice for flats. Quality and types of apartment, size of apartment, security, fittings, interior design, sufficient ventilation, location, preferable services facilities (timely handover, quality maintaining, after sales service), good communication (transportation hub), project facilities (car parking, community hall room, generator) [Barua, S., et al. (2010)], price (installment pay, bank loan) [Dewri, L. V., et al. (2012); Islam, M. S. (2012); Khaled, Zadkarim, S., & Emari, H. (2011)], company brand & goodwill, expert opinion, advertisement and promotion [Islam, M. S. (2012)] also are almost equally important.

In one of the many studies conducted in perspective of Bangladesh, Labib, S.M., Bhuiya, M. M. R., & Rahaman, M. Z. (December, 2013) identified multiple factors that influence buyers to buy an apartment in Dhaka city. They explored that the prime concerns for selecting flat location are budget, residential environment and communication facility with different facilities. In another study Shah Alam and Kabir Pramanik (2015) explored six factors where project facilities, environmental issues, physical quality, location and communication facilities are considered as most influential factors. Comparatively promotional and prices have less impact on purchase decisions. Sinthia (2020) concluded that apartment facilities have the most significant impact on decision making process. Moreover, apartment price, financing arrangement and reputation of the developer regarding timely delivery and quality of work have significant impact on apartment buying decisions.

3. Objectives of the Study

This study attempted to:

- Identify the important factors which affect the purchase decision of a residential apartment in perspective of a buyer in Dhaka city. Where the buyer is from lower-middle and middle income group.
- Categorize the factors which affect the buyer's decision while purchasing a residential apartment.

4. Research Methodology

This study is a quantitative study where primary data were collected through personal interviews and mail questionnaires. To collect data, we had used a google form where the corresponding attributes were being enounced clearly. The population of this study was considered as the lower-middle and middle income group. As there is no clear definition of the lower-middle and middle income group in Bangladesh, for conducting this study, we consider the group with monthly income of 20,000-45,000 BDT as lower-middle income group and the group with monthly income of 46,000-1,20,000 BDT as middle income group. The convenience sampling techniques were applied to collect the primary data.

Twenty-five questions were being asked about the factors and relating attributes affecting the purchase decision of lower-middle and middle income group in Dhaka city. The questions are about the attributes identified as Price Affordability, Bank Loan Availability, Instalment system, Maintenance Cost, Nearby Social Institutions, Nearby Educational Institutions, Communication with Workplace, Availability of daily shopping facilities, Distance from Main Road, Neighborhood, Stillness of the area, Vastu Compliance, Developer Company's Reputation, Building appearance, Size of the Apartment, Elegance of area, Influence of advertisement, Garage accessibility, Lift and generator facilities, Water and Gas supply, Safety and Security, Playground, Community hall and roof facilities, Ventilation System, Interior and Building Plan. A five-point Likert scale was applied to conduct this study (from 1= 'Unimportant' to 5= 'Very Importance'). The five-point Likert scale implies that the high mean score denotes the higher level of

importance of the relating attribute. Also some demographic data were collected where the attributes are gender, age, occupation, educational qualification and average monthly income.

We have collected a total number of 500 questionnaires by survey procedure. Among them 30 questionnaires were rejected on the basis of completeness and legibility. The collected data were analyzed with SPSS software.

5. Result and Discussion

a. Demographic Profile of the Respondent

For this study total numbers of 470 responses were considered. Table 1 shows the respondents demographic profile. Here the percentage of male is 72.77% and that of female is 27.23%. The information of age discloses that most of the respondents (80%) were aged within 31-50. This makes sense as the mentioned age group generally invests the most in Purchasing Residential apartment. The government service holder (24.26%), Private job holder (28.30%) and bankers (17.23%) were the most prevalent professionals among the respondents. As the data shows highly educated i.e. Graduated (42.77%) and Post Graduated or above (47.02) respondents outnumbers others. As the research is about middle income and lower middle income group the average monthly income data also reflects the fact having more respondents with monthly Salary in between 15000-30000 (17.87%) and 30001-45000 (33.62%).

Table 1: Demographic profile of the Respondents.

Variables	Frequency	Percentage	
Gender	<i>Male</i>	342	72.77%
	<i>Female</i>	128	27.23%
Age in Years	<i>Under 20</i>	6	1.28%
	<i>20-30</i>	46	9.79%
	<i>31-40</i>	312	66.38%
	<i>41-50</i>	64	13.62%
	<i>51-60</i>	24	5.11%
	<i>Above 60</i>	18	3.83%
Occupation	<i>Govt. Job</i>	114	24.26%
	<i>Private Job</i>	133	28.30%
	<i>Banker</i>	81	17.23%
	<i>Teacher</i>	32	6.81%
	<i>Doctor</i>	9	1.91%
	<i>Business</i>	33	7.02%
	<i>Working Abroad</i>	26	5.53%
	<i>Others</i>	42	8.94%
Educational Qualification	<i>SSC</i>	11	2.34%
	<i>HSC</i>	37	7.87%
	<i>Graduation</i>	201	42.77%
	<i>Post-Graduate and Above</i>	221	47.02%
Average Monthly Income	<i>Below 15000</i>	61	12.98%
	<i>15000-30000</i>	84	17.87%
	<i>30001-45000</i>	158	33.62%
	<i>45001-60000</i>	61	12.98%
	<i>60001-75000</i>	40	8.51%
	<i>75001-90000</i>	14	2.98%
	<i>Above 90000</i>	52	11.06%

b. Factor Analysis Result

In this study, the Principal Component Analysis (PCA) method had been used to examine the inter-relationship among the responses for the variables. A total number of 25 variables were included. The descriptive statistics of 25 variables from the 470 responses were given in Table 2, where the Safety and Security variable had the highest mean, followed by Price of the Apartment and Water and Gas supply.

Table 2: Descriptive Statistics of the Variables.

SL.	Variables	N	Mean	Mode	Min	Max	Std. Deviation
1	Safety and Security	470	4.70	5	2	5	0.774
2	Price of the Apartment	470	4.69	5	3	5	0.608
3	Water and Gas supply	470	4.68	5	2	5	0.742
4	Ventilation System	470	4.52	5	2	5	0.783
5	Building Plan	470	4.33	5	2	5	0.896
6	Communication with Workplace	470	4.27	5	2	5	0.903
7	Installment system	470	4.25	5	2	5	0.995
8	Lift and generator facilities	470	4.20	5	1	5	0.984
9	Size of the Apartment	470	4.20	5	1	5	0.98
10	Availability of daily shopping facilities	470	4.20	5	2	5	0.866
11	Nearby Educational Institutions	470	4.12	5	2	5	0.908
12	Neighborhood	470	4.10	5	2	5	0.885
13	Garage accessibility	470	4.05	5	1	5	1.004
14	Bank Loan Availability	470	4.02	5	2	5	0.961
15	Nearby Social Institutions	470	3.99	5	2	5	0.954
16	Interior	470	3.97	4	1	5	0.88
17	Developer Company's Reputation	470	3.95	5	1	5	1.111
18	Maintenance Cost	470	3.93	5	2	5	1.015
19	Distance from Main Road	470	3.88	5	1	5	1.068
20	Stillness of the area	470	3.87	4	2	5	0.856
21	Playground, Community hall and roof facilities	470	3.80	5	1	5	1.216
22	Building appearance	470	3.76	4	1	5	1.035
23	Vastu Compliance	470	3.72	4	1	5	1.001
24	Elegance of area	470	3.61	4	1	5	1.071
25	Influence of advertisement	470	2.92	3	1	5	1.214

Table 3: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.851
Bartlett's Test of Sphericity	Approx. Chi-Square	5274.491
	df	300
	Sig.	0.000

Kaiser-Meyer-Olkin Measure of Sampling Adequacy (Table 3) was 0.851 which suggests the size of the sample is sufficient for the factor analysis. Table 3 also revealed that the approximate Chi-Square statistics is 5274.491 with 300 degrees of freedom which is significant at 0.05 level of confidence. As the KMO statistics is 0.851 which is greater than 0.050, we can conclude that the factor analysis method is an appropriate technique for analyzing the data of the variables.

Total variance explained is given in Table 4 which is 62.081% and that is statistically significant (Bajpai, 2011).

Table 4: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.911	31.645	31.645	7.911	31.645	31.645	4.186	16.745	16.745
2	2.171	8.685	40.330	2.171	8.685	40.330	3.527	14.110	30.854
3	1.924	7.695	48.025	1.924	7.695	48.025	2.496	9.984	40.838
4	1.297	5.188	53.213	1.297	5.188	53.213	1.962	7.847	48.685
5	1.151	4.602	57.815	1.151	4.602	57.815	1.810	7.241	55.926
6	1.067	4.266	62.081	1.067	4.266	62.081	1.539	6.155	62.081
7	0.928	3.714	65.795						
8	0.903	3.614	69.409						
9	0.849	3.395	72.804						
10	0.802	3.208	76.012						
11	0.655	2.619	78.631						
12	0.602	2.408	81.039						
13	0.586	2.345	83.384						
14	0.510	2.040	85.424						
15	0.503	2.013	87.436						
16	0.464	1.857	89.293						
17	0.424	1.695	90.989						
18	0.394	1.577	92.565						
19	0.373	1.490	94.056						
20	0.306	1.225	95.281						
21	0.291	1.165	96.446						
22	0.268	1.071	97.517						
23	0.245	0.981	98.498						
24	0.213	0.852	99.350						
25	0.163	0.650	100.000						
Extraction Method: Principal Component Analysis.									

Factor analysis results shown in Table 5 suggest that the 25 variables can be categorized into six factors. The varimax rotated component matrix is shown in Table 5 where the highest factor loading values (scores greater than 0.50) are sorted in six components.

The rotated component matrix has extracted 6 factors which were in term of the exploratory variables in term of highest factor loading values.

The four variables- Price of the Apartment, Bank Loan Availability, Installment system and Maintenance Cost have highest factor loading value of 0.729, 0.898, 0.774 and 0.698 respectively. The factor identified from these four variables can be named as financial factor.

There are five variables- Nearby Social Institutions, Nearby Educational Institutions, Communication with Workplace, Availability of daily shopping facilities and Distance from Main Road have highest factor loading value of 0.564, 0.563, 0.576, 0.611 and 0.691 respectively. The factor identified from these five variables can be named as location and communication factor.

A third factor is identified as the environmental factor consisting of the three variables as- Neighborhood, Stillness of the area and Vastu Compliance with highest factor loading value of 0.771, 0.652 and 0.523 respectively.

Another factor identified as the promotional factor is consisting of the five variables Developer Company's Reputation, Building appearance, Size of the Apartment, Elegance of area and Influence of advertisement having highest factor loading value of 0.534, 0.709, 0.522, 0.687 and 0.754 respectively.

The five variables- Garage accessibility, Lift and generator facilities, Water and Gas supply, Safety and Security and Playground, Community hall and roof facilities have the factor loading value of 0.634, 0.609, 0.644, 0.761 and 0.741 respectively. These five variables are resulted into the factor named as Project facilities.

The sixth and last factor has been identified as Physical quality factor have three variables- Ventilation System, Interior and Building Plan with highest factor loading value of 0.554, 0.749 and 0.751 respectively.

Table 5: Rotated Component Matrix^a

Variables	Component					
	1	2	3	4	5	6
Price of the Apartment	0.729					
Bank Loan Availability	0.898					
Installment system	0.774					
Maintenance Cost	0.698					
Nearby Social Institutions		0.564				
Nearby Educational Institutions		0.563				
Communication with Workplace		0.576				
Availability of daily shopping facilities		0.611				
Distance from Main Road		0.691				
Neighborhood			0.771			
Stillness of the area			0.652			
Vastu Compliance			0.523			
Developer Company's Reputation				0.534		
Building appearance				0.709		
Size of the Apartment				0.522		
Elegance of area				0.687		
Influence of advertisement				0.754		
Garage accessibility					0.634	
Lift and generator facilities					0.609	
Water and Gas supply					0.644	
Safety and Security					0.761	
Playground, Community hall and roof facilities					0.741	
Ventilation System						0.554
Interior						0.749
Building Plan						0.751
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. ^a						
a. Rotation converged in 15 iterations.						

6. Conclusion

The aim of this study was to explore factors affecting Purchasing decision of residential apartment of middle and lower-middle income people. From the analysis it can be concluded that, , the most influencing factors of purchasing residential apartment by middle and lower middle income group people are Financial Factor and Location and Communication Factor (Since they explain respectively 16.75% and 14.11% variances in the sample). Safety and security as well as Price of the apartment are the two most important individual variables a consumer considers while purchasing a residential apartment (According to Table 2). It can also be derived thatbeside Financial and Location and communication factors, middle and lower middle-income customers' buying decision is also affected by project facilities, Environmental, Promotional and Physical Quality factor. A residential building will only be attractive to the buyers if one or several of the mentioned facilities are available.

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