The Impact of Socio-Economic Factors on the Purchase Decision of Real Estate Customers: Case Study of Dhaka City

Fairuz Chowdhury[1,] Dr. Khair Jahan Sogra[2]

[1](*BRAC Business School, BRAC University, Bangladesh*)
[2] (*Institute of Business Administration, University of Dhaka, Bangladesh*)

Abstract: *The demand of housing in urban areas of Bangladesh is dramatically increasing due to high population growth rate and rapid rural-urban migration. Theses twin factors together has increased the demand for built in apartments in city areas. Over the past two decades, this real estate sector has been playing a crucial role in meeting the continual demand for housing for all regardless of their income capacity.*
This has motivated the researcher to investigate the various contextual factors that influence consumers' purchasing decision apartment and comprehend the current market trend in this sector. The study has divided Dhaka city into three primary zones based on socio-economic perception about the residents of that particular area. We discerned that income levels directly influence choice of area. Besides, this research observed key psychographic reason impacted consumers' choice for purchasing an apartment. It is also worth mentioning that individuals make informed choices. This means prospective clients are well aware of the market price of the apartments.
Keywords: *customers, investment, purchase decision, socio-economic factors.*

I.   Introduction

Housing is one of the basic rights of humans. The right to live in one's own home is a fundamental right of people and it is internationally recognized. The demand of housing in urban areas of Bangladesh is dramatically increasing due to high population growth rate and rapid rural-urban migration. The current trend of urban growth in this country is about 5%-6% per annum with Dhaka taking the brunt of the impact. To counter this growing growth rate, the private sector has undertaken initiatives to maximize the use of land. This has led to the development of the real estate industry.

In Bangladesh the real estate has emerged as a pivotal parameter for the engine of economic growth. This sector has been contributing about 7-8% to Bangladesh's gross domestic product (GDP) and the annual turnover about Bangladesh Taka (BDT) 20 billion [1]. Not only has this sector generated 2.5 million employment opportunities, but helped create the demand for over 250 ancillary industries e.g. steel, cement, tiles and sanitary ware, cable and electric ware, paint, glass and aluminum, brick, building materials, housing fittings and fixtures and so on. Therefore, the real estate and housing sector is one of the key contributors to any national economic development process.

1.1 General Objective
To investigate the impact of socio-economic factors impacting the consumers' investment prospect on the real estate sector.

1.2 Specific Objectives
The specific objectives of this study are:
- To identify and analyze the contextual factors that influence clients' purchasing decision of an apartment.
- To comprehend whether consumers make informed choices while purchasing an apartment.
- To suggest future directions to the real estate developers.

1.3 Scope
The scope of this research is limited within Dhaka city. Therefore, the representative samples represent the existing and potential consumers living within city area limit.

1.4 Methodology
This study is conducted based on both primary and secondary data. The secondary research was mainly required for the background study on this sector, and to develop an idea of the current market status of the sector. For secondary sources, the study used various websites, newspapers, annual reports, online and printed articles, journals and previous research papers on real estate sector.

Primary data was obtained from interviews with potential and existing customers living in Dhaka city. For this purpose, a structured questionnaire survey was conducted for gathering information. The questionnaire was mostly close ended and was used to discern relevant information. To complement the information generated from the questionnaire survey, face to face interviews were done with the top officials and owners of various real estate companies.

Sampling Method: This research has used convenience sampling method because of easy accessibility of the target groups to the researcher.

Sampling Frame: The study has divided Dhaka city into three primary zones based on socio-economic perception about the residents of that particular area. Zone A includes areas requiring high investments like Gulshan, Banani and Dhanmondi while Zone B is inclusive of areas requiring mid-level of investments- Mohakhali DOHS, Niketan and Azimpur. Zone C comprises of areas of least investment- Badda, Mirpur and Shewrapara.

Sample Size: For each zone 30 prospective and existing clients were randomly selected and interviewed for analysis purposes.

Data Analysis: Quantitative analysis is done using Statistical Package for Social Science (SPSS 16.0) and MS Excel statistical tools. While for bivariate analysis both 1% and 5% level of significance is fixed but for hypothesis testing and regression analysis, a 5% level of significance is chosen.

II.   Background/Literature Review

Bangladesh is one of the most densely populated countries in the world with an approximate 2.19% share of the world's population. It has an estimated population of 158.2 million people which is expected to grow at a rate of 1.5% over the next few years [2]. It has an ever increasing proportion of urban population. The urban population has increased from 31 million from 2000 to the current estimate of 48 million [2]. Alarmingly though this migration towards the metropolitan has been severely Dhaka centered. This has led Dhaka to be one of the most populous cities in the world with 12 million inhabitants [2].

2.1 History of Dhaka City

Cities are always developed and transformed through the interaction between different social, political, economic, and technological forces. The city itself is 400 years old and has evolved continuously through pre-Mughal, Mughal and post- Mughal eras especially the British rule. Since gaining its independence in 1971 under the leadership of Bangabandhu Sheikh Mujibur Rahman, the flow of migration and development has been solely Dhaka centered.

2.2 Evolution of Housing in the City

During the period from 1981 to 2000, the greater Dhaka population grew at an average rate of 5.5% from about 3.44 million to 10.0 million. During the same period the built up area increased from 104 sq. km (39% of the city area) to 150 sq. km (55%). To make provision for accommodation and comfortable living of this large population transformational developments of Gazipur, Kaliakoir, Savar, Tongi, Narayanganj, Keraniganj and Purbachal have been undertaken.

2.3 Development of the Real Estate Industry

High population growth rate and rapid rural-urban migration has become a bane for Dhaka. The current trend of urban growth in this country is about 5%-6% per annum with Dhaka taking the brunt of the impact. As usual the trend of rural to urban migration keeps on the spiral up with 26.5 persons among 1,000 people moved to urban centers in 2012, which was 17.4 in 2008.There has been a major shift in urban-to-urban migration: 43.5 persons among 1,000 people moved to new urban centers in 2012, which was 34.4 in 2008 [3]. It is expected that by 2020 Dhaka will become one of the ten largest cities of the world with a population of estimated 20 million [1].This huge explosive population has led to the need of Dhaka to expand vertically. Here comes the need of real estate sector. Since the past two decades, this sector has been playing a very important role in providing housing regardless of high, middle and low-income people.

In short, the main reasons for the boost in real estate business in Dhaka city are:
- Increased rural-urban migration.
- Scarcity of vacant desirable lands in desirable parts of the city.
- Lack of houses provided by the public sector.

In our country real estate business started in Dhaka in late seventies. The Eastern Housing of Islam Group is the pioneer in this industry [4]. During 1970s there were fewer than 5 companies in Bangladesh engaged in this business. In 1988 there were 42 such developers working in Dhaka and now this estimate is over 450 companies. Since its inception the private developers have supplied more than 100000 units of apartments to the nation.

The real estate sector contributes revenue of around Tk. 2 billion a year to the government. Since its inception the private developers have supplied more than 100000 units of apartments to the nation. The sector now employs about 2 million human resources consisting of architects, engineers, and management officials, direct and indirect labors. The average contribution to GDP of this sector for the five year period from 2005 to 2010 has been 12-14% [5].

III.   Findings

Data collection was done to gather and analyze relevant data in accordance with the objectives. In this section, findings of the study against the objectives are discussed in details.

3.1 Analysis of Contextual Factors

Following are the findings of questionnaire survey:

3.1.1   Demographic Profile

The demographic factors used in the study are:

- age group
- monthly household income
- personal monthly income
- educational qualification
- occupation

3.1.1.1 Zone-wise Age Group

Knowing if one particular age group has a preference of purchasing apartment would mean that developers could construct the apartment and provide amenities with them in mind. This would help in segmentation and targeting perspective from the developer side. Following Table 1 shows age group of the respondents and Fig 1 shows zone-wise age group of the customers.

Table 1: Age Group Analysis

Age Group Analysis			
	Zone A	Zone B	Zone C
25-35	2	10	9
35-45	18	18	16
45-55	10	2	5
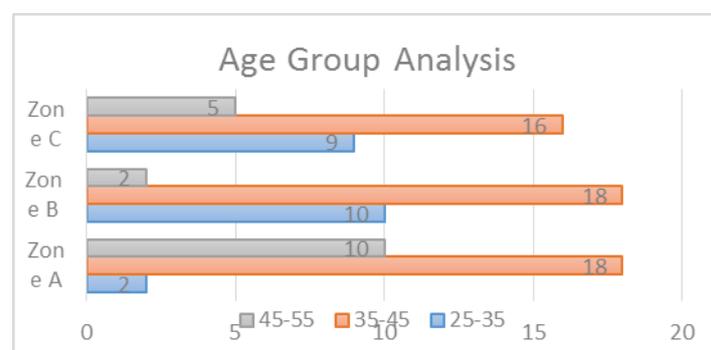
Figure 1: Breakdown of age groups

3.1.1.2 Influence of Income

The analysis uses two parameters- household income and personal income of the individuals interviewed. But first understanding of these two terms is of prime importance. Household income is a measure of the combined incomes of all people sharing a particular household or place of residence. It includes every form of income, e.g., salaries and wages, retirement income, near cash government transfers like food stamps, and investment gains. On the other hand, personal services income is income earned mainly by one's personal efforts and skills. The breakdown of personal income relative to the zones is given below-
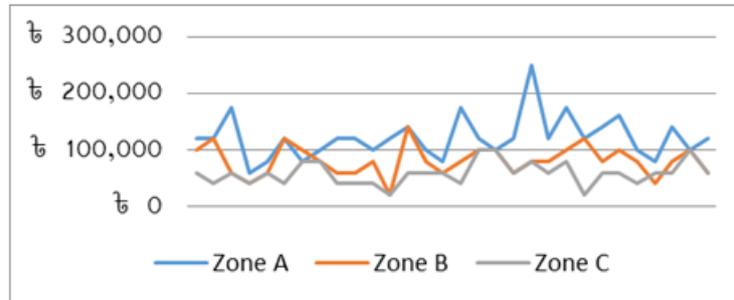

Figure 2: Income spread across the zone

3.1.1.3 Zone-wise Educational Qualification

The division of the educational qualifications is as follow: HSC/HSC, Bachelors', Engineer, Doctor, Masters', MBA and PhD. The breakdown of the educational qualifications of the prospective residents of the different zones is presented below:
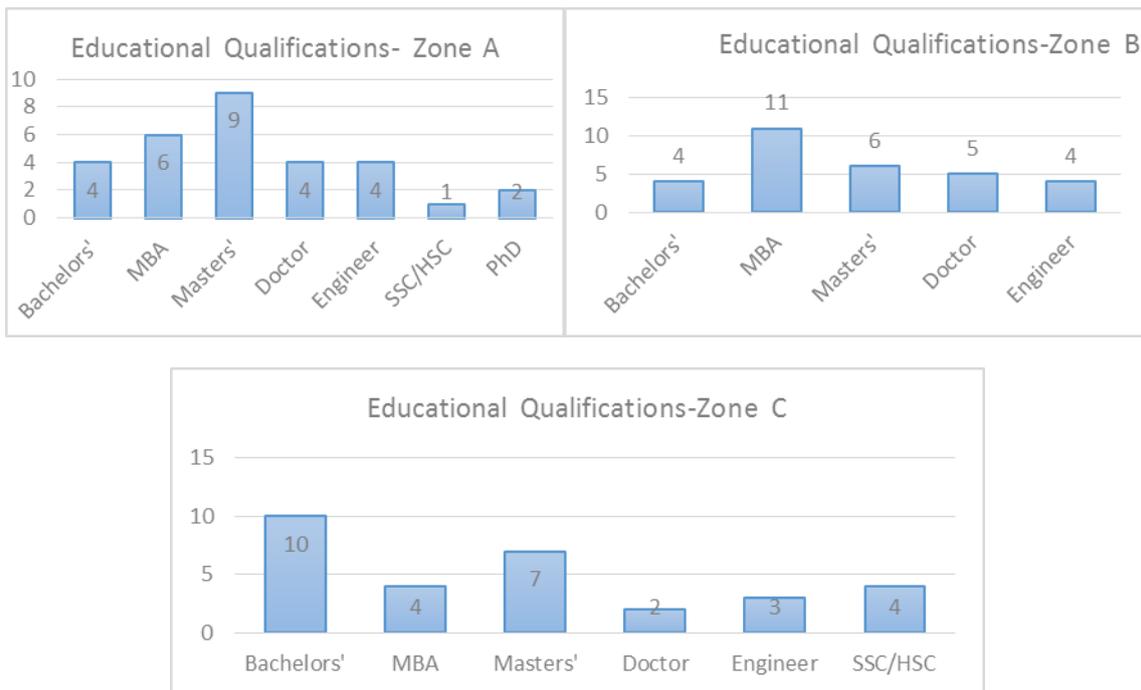
Figure 3: Educational qualifications of prospective clients in the three zones

3.1.1.4 Occupation Analysis

Occupation is the principal work done by an individual to earn a living. An analysis is done to identify the various occupations that prospective clients. The information has been is presented below-
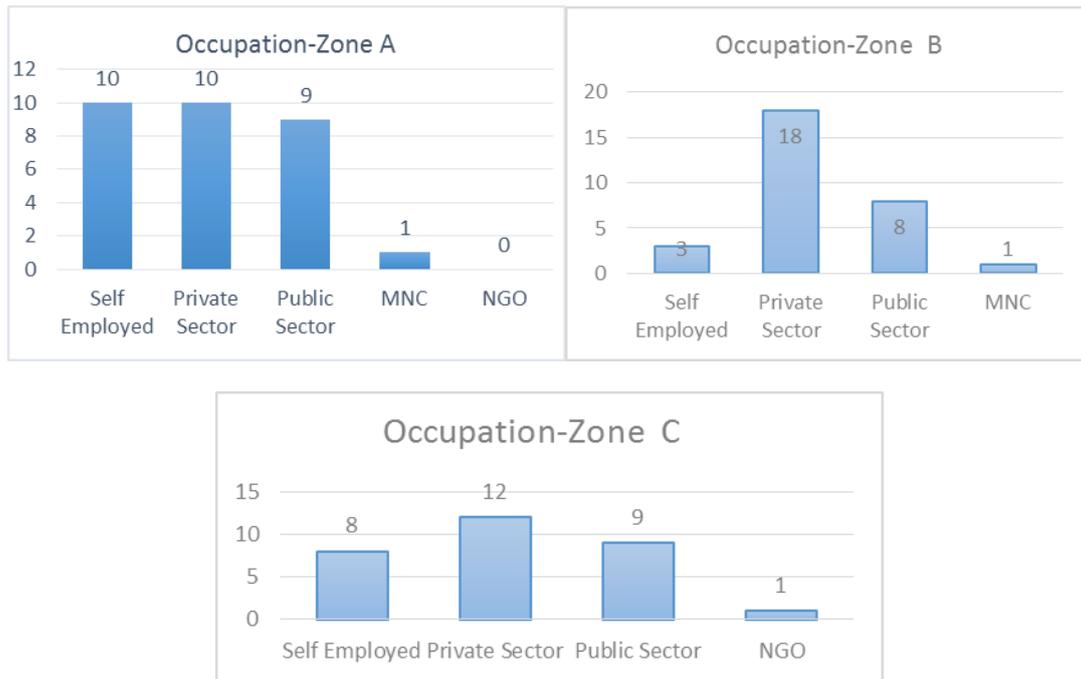
Figure 4 Occupations of customers

3.1.2 Bivariate Correlations among Predictors

To establish the correlations among the variables a bivariate analysis is carried out. Here, in the Pearson correlation test the asterisk marks explain the variables having significant correlation with each other. This can be later used to develop and test required hypothesis.

Table 2: Correlations among Demographic Variables

Correlations		1	2	3	4	5	6	7
Choice of Zone for owning an apartment	Pearson Correlation	1	.256*	.649**	.663**	.205	.000	-.038
	Sig. (2-tailed)		.015	.000	.000	.053	1.000	.722
Age Group	Pearson Correlation		1	.389**	.326**	-.078	.031	.324**
	Sig. (2-tailed)			.000	.002	.467	.774	.002
Household Income strata	Pearson Correlation			1	.848**	.052	.108	.235*
	Sig. (2-tailed)				.000	.626	.310	.026
Personal Income strata	Pearson Correlation				1	.097	.093	.110
	Sig. (2-tailed)					.361	.381	.304
Educational Qualifications	Pearson Correlation					1	-.146	-.266*
	Sig. (2-tailed)						.171	.011
Occupation	Pearson Correlation						1	-.078
	Sig. (2-tailed)							.464
Family Size	Pearson Correlation							1
	Sig. (2-tailed)							

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).
N=90

3.1.3 Influence of Psychographic Factors on Area Preference

Psychographic factors are those that differentiate segments of individuals in terms of their lifestyles, values, attitudes and opinions. Here we analyze the psychographic variables relevant in this study.

3.1.3.1 Drivers for Area Choice

The reasons for the preference of zones are divided into five categories- neighborhood, proximity to school of children, proximity to office, affordability and others. The term neighborhood incorporates the psychological factors such as self-esteem, belongingness to a social class and belief that the safety of that zone was indeed of premium quality. These results are presented-
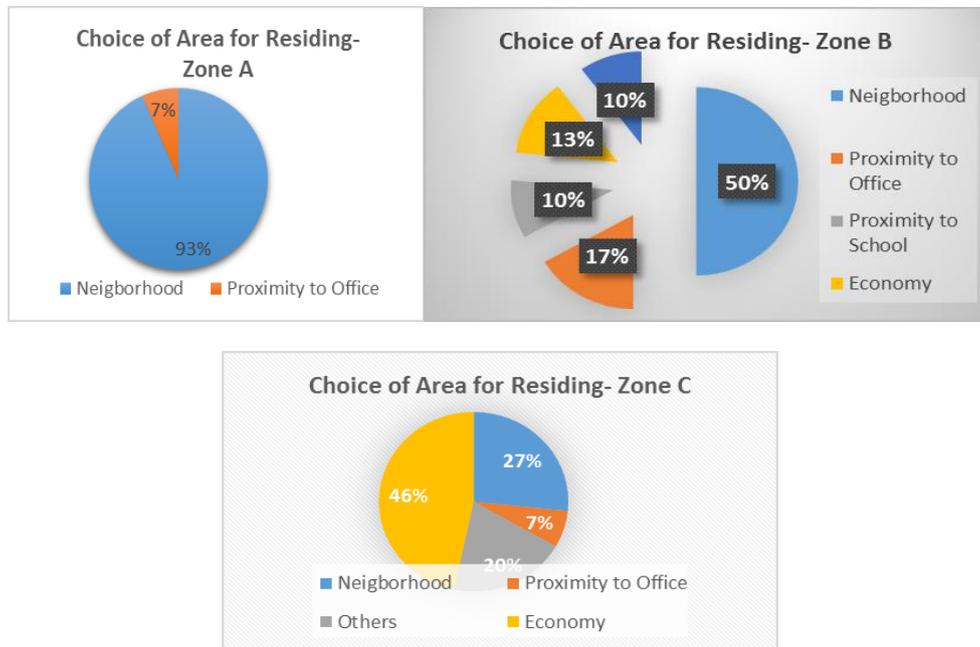

Figure 5: Factors impacting choice of zones

3.1.3.2 Perspective of Purchasing

The purpose of purchasing an apartment can be due to either one's living or one's investment purpose. Therefore, the reasons for owning an apartment in these three zones are analyzed. The information is provided below-
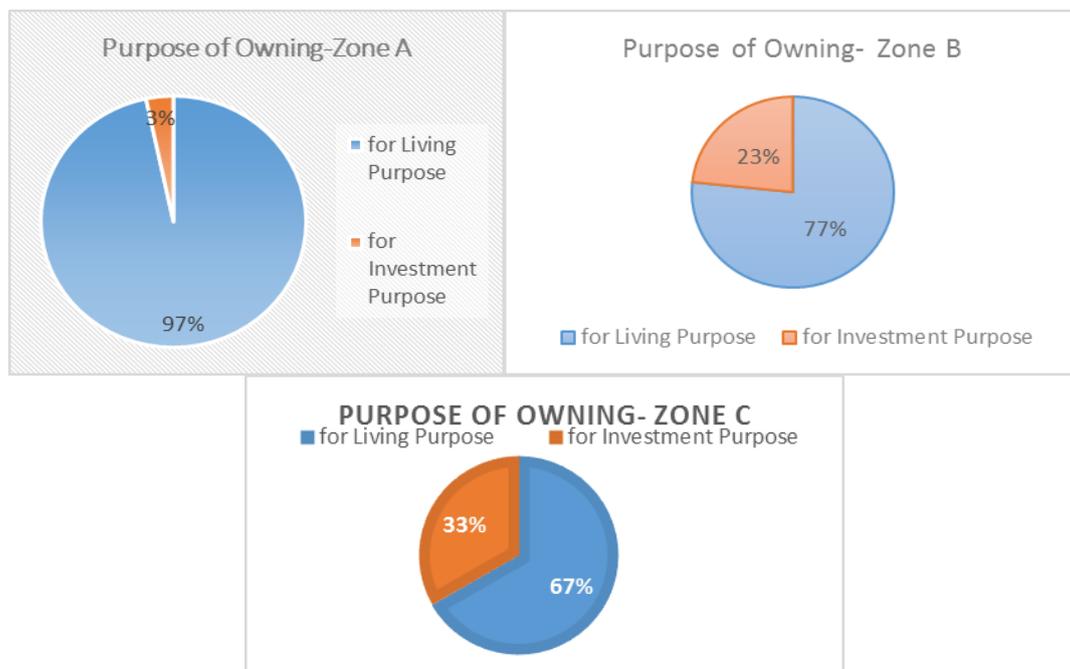

Figure 61: Factors impacting purchase of apartments

Thus, we can state that prospective purchases for investment purposes increases from Zone A through to Zone C.

3.1.4 Analyzing Relation among Psychographic Factors
To establish the correlations among the variables a bivariate analysis is carried out. Here, in the Pearson correlation test the asterisk marks explain the variables having significant correlation with each other. This can be later used to develop and test required hypothesis.

Table 3: Relation among Psychographic Variables

Correlations		1	2	3
Choice of Zone for owning an apartment	Pearson Correlation	1	-.594**	.200
	Sig. (2-tailed)		.000	.059
Choice of residing in a certain area	Pearson Correlation		1	-.092
	Sig. (2-tailed)			.388
Purpose of Owning an apartment	Pearson Correlation			1
	Sig. (2-tailed)			

**. Correlation is significant at the 0.01 level (2-tailed). N=90

3.2 Model Development
The demographic and psychographic variables having significant relationships with choice of area of owning an apartment can be further analyzed by using the regression tool. The main objective of this is to pinpoint the relevant factors that influence the proclivity towards a certain area. From the bivariate analysis, we garnered the factors: household income strata, personal income strata, age and choice of residing in a certain area as key determinants of predilection towards choice of certain area. Thus, these variables are used in the regression analysis to decipher the impact of demographic and psychographic predictors on the choice of area. One of the basic assumptions of running a regression analysis is to ensure the number of independent variables to sample size should at least be in the ratio of 1 is to 5. Our sample size is 90 which comprehensively satisfy the requirement set by the four predictors.

Table 4: Model Summary of Regression Model

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.771a	.594	.575	.53513

a. Predictors: (Constant), Choice of residing in a certain area, Age Group, Personal Income strata, Household income strata

The significant adjusted R Square of .594 explains that around 60% variability of choice of zone in terms owning an apartment is explained by the variability of the independent variables.

3.2.1 Hypothesis Testing- Model
To check the usefulness of the model we had to run a hypothesis test.
Ho: There is no significant relationship between the contextual predictors (demographic and psychographic factors) and individuals' choice in preferring an area.

Table 5: Anova Analysis for Regression Model

Anova						
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	35.659	4	8.915	31.131	.000a
	Residual	24.341	85	.286		
	Total	60.000	89			

a. Predictors: (Constant), Choice of residing in a certain area, Age Group, Personal Income strata, Household income strata

b. Dependent Variable: Choice of Zone for owning an apartment

From the analysis above it can be interpreted that we reject the null hypothesis as p value of 0.00 is less than that of level of significance set. Therefore, there is significant relationship between the contextual factors and clients' preference for certain area. Thus, the model is utilitarian.

3.2.2   Hypothesis Testing-Predictors
Hypothesis testing of each of the contextual factors that has shown significant relationship with clients' preference of area in the bivariate analysis is undertaken to check if their correlation holds.
1. Ho: There is no supported evidence between clients' choice of area and personal income strata of customers.
2. Ho: There is no supported evidence between clients' choice of area and customer age group.
3. Ho: There is no supported evidence between clients' choice of area and household income strata of customers.
4. Ho: There is no supported evidence between clients' reason of area preference and choice of residing in an area.

Table 6: Coefficients of Regression Model

Coefficients							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	3.926	.744		5.279	.000		
Household Income	3.927E-6	.000	.183	1.346	.182	.258	3.876
Personal Income	7.224E-6	.000	.344	2.625	.010	.278	3.597
Age Group	.007	.009	.056	.742	.460	.835	1.198
Choice of residing in a certain area	-.215	.042	-.392	-5.175	.000	.830	1.205
a. Dependent Variable: Choice of Zone for owning an apartment							

The equation from regression model is:
$Y = 3.926 + 3.927E\text{-}6*X1 + 7.224E\text{-}6*X2 + 0.007*X3 - .215*X4$ (Equation 1)
Where: Y= Clients' choice of area for owning an apartment
X1= Household Income strata of customers
X2= Personal Income strata of clients
X3= Clients' age
X4= Key reason for residing in a certain area

It is important to check the collinearity statistics to check for multi-collinearity. From the table above we can observe that none of the predictors have a value of greater than or equal to 0.9 meaning that none of the variables are very highly correlated.

3.2.2.1 Hypothesis 1
Ho: There is no supported evidence between clients' choice of area and personal income strata of customers.
From our analysis we can infer that p value is less than that of level of significance set. Thus, we can interpret that there is significant relationship between clients' choice of area and personal income strata of customers.

3.2.2.2 Hypothesis 2
Ho: There is no supported evidence between clients' choice of area and customer age group.
From the table above we can observe that t critical is less than the t value. Therefore, we can interpret that there is no significant relationship between clients' choice of area and age of customers. Thus, we cannot reject the null hypothesis.

3.2.2.3 Hypothesis 3
Ho: There is no supported evidence between clients' choice of area and household income strata of customers.
From our analysis we can infer that p value is greater than that of level of significance set. Thus, we can interpret that there is no supported evidence between clients' choice of area and household income strata of customers meaning we cannot reject the null hypothesis.

3.2.2.4 Hypothesis 4

Ho: There is no supported evidence between clients' reason of area preference and choice of residing in an area. From the analysis performed we observe that t value is less than t critical meaning significant relationship between clients' choice of area and preference of residing in an area. Thus, we can reject the null hypothesis.

3.3 Testing whether Clients Make Informed Choice

This is done to comprehend whether the prospective clients were aware of the current market price. Thus to check their accuracy in perception of apartment price a correlation between their expected price and the approximate actual price of that apartment for each zone is performed. The approximate price actual price is calculated by multiplying the individual's preferred apartment size (square feet) by the approximate price per square feet of floor area of each zone. The data is represented in the graphs below-
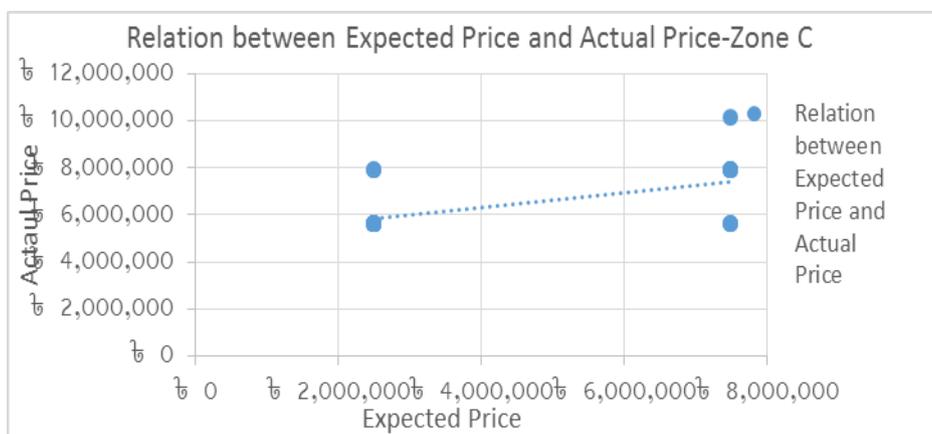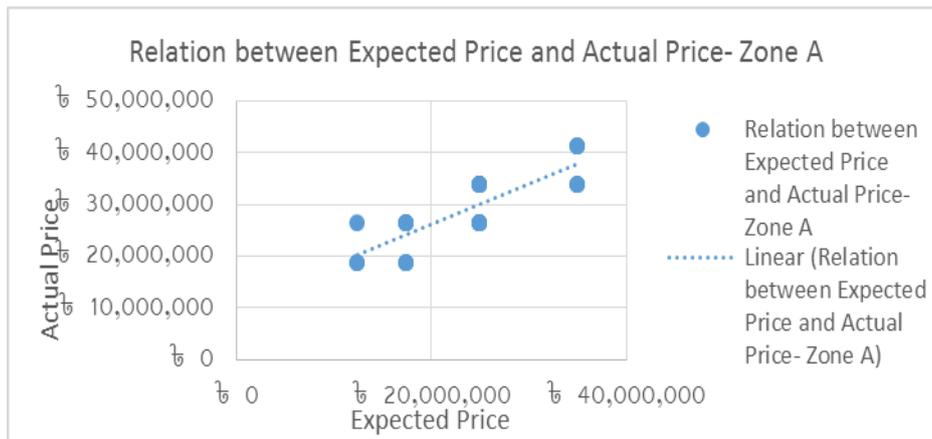
Figure 72: Relation between expected and actual price of apartments

To check whether the customers make informed choices a bivariate analysis is conducted. As portrayed in the table below there is strong correlation between the expectations of the customers and the actual (approximate) prices of apartments.

Table 7: Relation among psychographic factors

Correlations			
		Expected Price of Apartment	Actual Approximate Price of Apartment
Expected Price of Apartment	Pearson Correlation	1	.945[**]
	Sig. (2-tailed)		.000
	N	90	90
Actual Approximate Price of Apartment	Pearson Correlation	.945[**]	1
	Sig. (2-tailed)	.000	
	N	90	90
**. Correlation is significant at the 0.01 level (2-tailed).			

Further analysis is undertaken to examine whether there exists a correlation between the two parameters in the population too. Thus, a hypothesis testing is done to comprehend whether the individuals preferring a certain area make informed choices.
The hypothesis developed is as follows:

Ho: There is no supported evidence between expected price of apartments and the actual price.

			Zone A	Zone B	Zone C
Correlation bet. Exp. and Act. Price			0.82	0.83	0.613941
t value			7.58282319	7.741355	4.115613
df			28	28	28
alpha			0.05	0.05	0.05
Tails			2	2	2
t cri			2.048407142	2.048407	2.048407
P value			2.92803E-08	1.97E-08	0.000308
Sig			yes	yes	yes

Figure 83: T-test to check whether clients make informed choices

For all the three zones, it is inferred that t value exceeded t critical and p value was less than that of level of significance causing the rejection of null hypothesis. Therefore, the conclusion that individuals make informed choices.

IV.   Recommendations

The key recommendations are as follows-
        We concluded that personal income level impacts the proclivity towards a certain area. Thus while designing apartments and providing facilities it should be kept in mind which segment is being catered to and provide these amenities keeping in mind the segment being served. A segments needs and demands should be assessed while building and providing amenities. In addition to this, we observed that a psychographic factor, customers' choice for certain area plays a key role in impacting the buyers' preference for owning an apartment. Thus, we can conclude that depending on the area certain factors impact the segment e.g. for zone C, affordability plays an important role while for zone A, the neighborhood factor is of prime relevance. Therefore while segmenting this factor is a key determinant. We can interpret that prospective clients make informed choices while purchasing. Henceforth for maintaining a company's goodwill no develop/realtor should try to use chicanery and charge higher price for an apartment.

V.   Conclusion

Over the years, the real estate has emerged as a pivotal parameter for the engine of economic growth. The analysis is done to determine the predictors influencing customers' choice of residing in an area. The analysis has used a relatively small sample size therefore; it may not represent the global view. The main factor that influences the choice of areas to a potential client is their income level. Thus when relators provide amenities they should also keep in mind the segment they are catering to. Of the psychographic factors, certain drivers of area choice impacts customers' preference for an area. Another noteworthy observation is that customers are well aware of the market i.e. irrespective of the zones. Further study can be carried out to check whether income strata and drivers of area choice are related so as to identify one reason that influences customers' preference for an area.

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