

The Impact of Socio-Economic Factors on the Investment Prospect of Real Estate Developers: Case Study of Dhaka City

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Abstract: *The real estate sector is one of the key contributors to the development of the economy of Bangladesh. Although volume wise contribution to the economy is increasing over the last few years, however, the sector wise contribution to the economy is hovering around the 7% mark. The boon in the real estate business was mainly due to the development of Dhaka city and its increasing population. The promise of better lives has led to increased rural-Dhaka as well as small cities- Dhaka city migration.*

The real estate sector in Dhaka city has entered a maturity phase as increased number of real estate firms competing with each other and encroaching upon each other's profit. Our primary objective is to understand the socio-economic variables that influence the realtors' investment perspective towards a certain area and the problems faced by them. For this purpose we divided Dhaka city in three hierarchical zones: Zone A, areas requiring highest investment for realtors, Zone B and Zone C, areas requiring least investment.

We conducted a bivariate analysis followed by regression analysis and comprehended the predictors influencing the investment prospect for developers. Our analysis revealed that customers' income, developers' experience in this sector and the apartment size in the different zones play significant roles in determining the area preference for realtors' investment. As this market has entered a maturity phase, the developers should keep their target consumers in mind and do a segmentation based on the predictive factors showing significant relationship.

Keywords: *economy, investment, real estate, realtors*

I. Introduction

Bangladesh is one of the fastest growing economies of the world with a Gross Domestic Product (GDP) growth rate on an average of 6% over the last five years. The real estate sector is one of the sectors playing a major role in boosting the economy of the country.

Initially, this sector flourished due to increased attraction of all towards Dhaka City. Dhaka, the capital of the country is not only the economic hub of the country but also the epicenter of social and cultural attraction. Together with increasing population, 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. This has been complemented by the fact that there has been a major shift in small cities-to-Dhaka city migration: 43.5 persons among 1,000 people moved to new urban centers in 2012, which was 34.4 in 2008 [1]. As a result, over the years Dhaka has seen an escalating population growth fueled by high rural-Dhaka city migration as well as an increased migration rate from other urban cities. Thus to satisfy the dwelling needs of the habitants the real estate sector came to its fore with this development process.

This sector is contributing about 7 to 8 percent to Bangladesh's gross domestic product (GDP) and with an annual turnover of about Bangladesh Taka (BDT) 20 billion [2]. This sector has created over 2.5 million employment opportunities and helped develop 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 etc. Consequently, the real estate and housing sector becomes one of the key contributors to economic development of Bangladesh.

1.1 Objectives

- To identify and analyze the socio-economic factors influencing the developers' perspective on the choice of investing in a certain area.
- To understand the challenges faced by the realtors in the current market scenario and their implications.
- To provide future directions based on the findings.

1.2 Scope

This research is limited within Dhaka city. The representative samples were drawn from the existing developers and realtors of Dhaka city. The focus of the study is solely on residential complexes of the city.

1.3 Methodology

This study is conducted based on both primary and secondary data. The secondary research based on the background study on this sector to garner the idea of the current market status of the sector. For secondary sources the study used various websites, online and printed articles, and research papers on real estate sector.

Primary data is obtained from interviews with real estate developers and realtors operating within Dhaka city. Firstly, face to face interviews were conducted with top officials of various real state companies that acted as a pilot study to derive relevant questions. Based on the outputs of the pilot study, a questionnaire with mostly close ended was finalized to collect relevant information. Sampling Method: This research used convenience sampling method because of easy accessibility of the target groups.

Sampling Frame: The study has divided Dhaka city into three primary zones based on common socio-economic perception about the residents of that particular area. Zone A included the areas requiring high investments from realtors like Gulshan, Banani and Dhanmondi while Zone B is inclusive of the areas requiring a medium investment such as Mohakhali DOHS, Niketan and Azimpur. Zone C comprised of areas requiring the least investment among the zones- Badda, Mirpur and Shewrapara.

Sample Size: to gain developers' insights on the investment perspective of the issue 45 top officials/owners of various real estate firms were interviewed.

Data Analysis: Quantitative analyses were done using Statistical Package for Social Science (SPSS) version 16, and MS Excel statistical tools. It is noted that for bivariate analysis, a 1% level of significance is chosen while for regression analysis a 5% level of significance is taken.

II. Literature Review

Bangladesh is one of the populous most countries of the world with a population of 163,654,860 with an expected population growth rate of 1.59% as on July 2013 [3]. Dhaka, the capital of the country takes the brunt of the share of the country due an increasing Dhaka trending movement. This population growth and due to an increased rural-urban migration has led Dhaka being the most populous city of the country with a population of over fifteen million.

2.1 Evolution of Dhaka City

Bangladesh achieved its independence in 1971 under the leadership of Bangabandhu Sheikh Mujibur Rahman. Dhaka, being the capital had the major amenities and received most attention for development. Dhaka was professed to become the most developed city of Bangladesh. The lack of profitable jobs in the agrarian sector together with the promise of better and healthier lives led to the rural to urban migration. This migration was typically Dhaka centered. This perceived opportunity together with the promise of better future has led to the growth of the population in the city. Dhaka is not only the capital of the country but is believed to be the administrative and educational center of the country. 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 [2].

Due to various factors, including absence of an urbanization policy or a human settlement policy, urban growth and urban development in Bangladesh is basically Dhaka oriented [4]. To meet these challenges of increased population and provide people with housing facilities the private sector came to the fore. The huge population increase has led to the need of Dhaka to expand vertically.

2.2 Evolution of Housing in the City

The current urban population is about 30% that is expected to grow at rate 2.96% (2010-15 est.) [3]. Population growth intensified by rural-urban growth has been the bane of Dhaka City over the years. The huge population increase has led to the need of Dhaka to expand vertically. The Real Estate and Housing Association of Bangladesh (REHAB) is the organization of the real estate agents, developers and builders with more than 450 members registered as in 2009. Other than these realtors there are about 400 real estate agents not registered with REHAB.

To fulfill this demand of housing needs the real estate business started its journey in the mid-1970s. By the 1980s there were around 42 developers and realtors while currently there are around 1500 companies associated in the real estate sector.

The basic reasons for the development of the real estate sector are-

- High land prices.
- Growing population with increasing rural- urban migration.
- Lack of preferred land availability.
- Easier access of loans and funds for business.
- Inflation of house rents.

2.3 Development of the Real Estate Sector

In 1998 and 2005 REHAB undertook two different estimates on price of land, construction cost and apartment sales price of different areas in Dhaka. The results shows an increase in price of land by 5-6percent while construction cost has appreciated by around two times and sales price has rocketed by 4-7 percent [5].This rocketing of sales price of apartments meant that it became an eye catching prospect for businessmen expecting a profitable return.

If we give a look at the number of realtors over the years we can safely say that there is an exponential growth in the number of developers in the business over the years. The graphical depiction below confirms this-

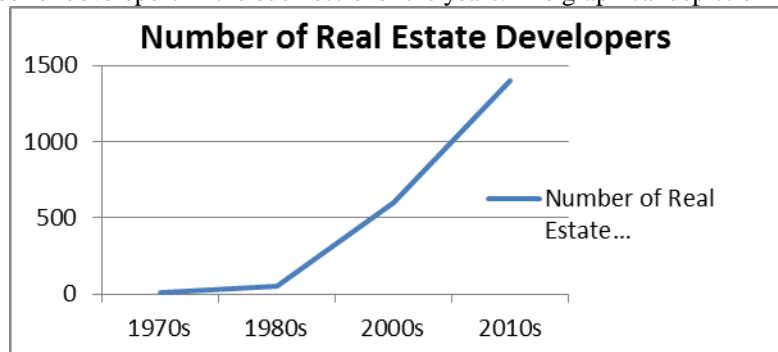


Figure 1: Number of real estate companies

2.3.1 GDP Wise Contribution to the Economy

Gross domestic product (GDP) is the market value of all final goods and services from a nation in a given year i.e. a total measure of production. The gross domestic product (GDP) is one the primary indicators used to gauge the health of a country's economy [6]. It is of prime importance to check how the real estate sector has impacted the GDP to truly understand it standing from an economic point of view.

Table 1: GDP contribution by real estate sector

GDP Contribution by Real Sector	BDT million	Share (%)	Increase in GDP (%)
2007-08	400,210	7.40%	-
2008-09	486,241	7.33%	21.50%
2009-10	534,769	7.16%	9.98%
2010-11	589,709	6.92%	10.27%
2011-12	684,081	6.95%	16.00%
2012-13	768,281	6.94%	12.31%

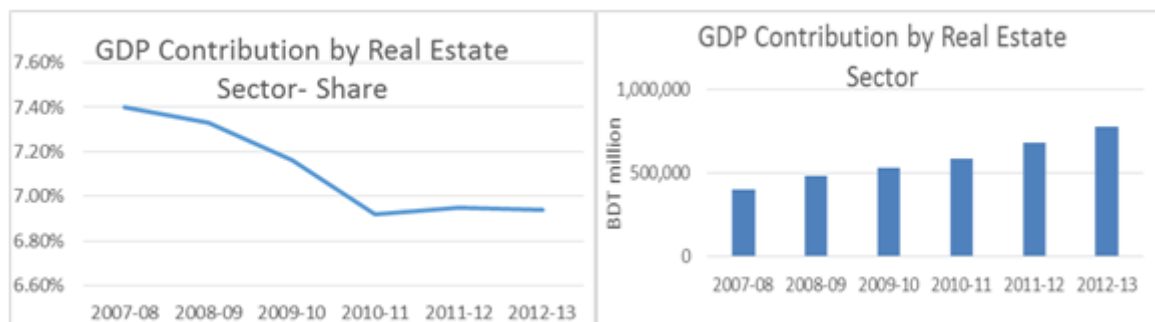


Figure 2: GDP contribution by real estate sector

From the information presented above it can be said that sector wise share of real estate service sector had showed a downward trend till 2010-11 after which it can be said to have shown a stagnant pattern. It could be contributed to the fact that the world entered the phrase of Global Recession in 2008. Anyhow, this information does not show the real picture. If the contribution by the real estate sector is observed it could be discerned that the contribution by real estate sector in volume had increased during the same period.

2.3.2 Life Cycle of the Industry

Over the years we can say that the number of real estate developers has increased i.e. an exponential growth took place. At the same time volume of sales has gone up. It is important to understand which state of the industry life cycle it is. The various stages of the industry life cycle is shown below-

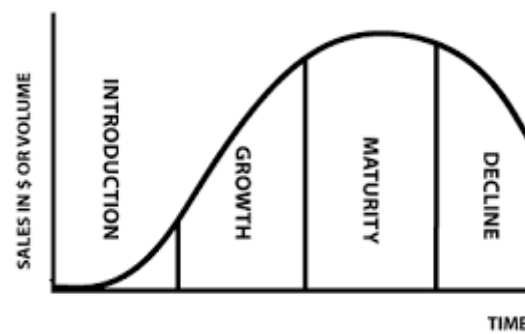


Figure 3: Industry life cycle

While there is an exponential growth in the number of real estate companies, since 2009-10 the growth in GDP has not matched the previous trend. This as a whole matched with the financial downturn of all financial institutions. But the worrying factor is arrival of too many real estate companies as this has proven to be an established market. This means that the industry as a whole is entering into the maturity phase with companies encroaching upon each other's profit by competing in the same market. Therefore, in the very near future various companies will be trying to differentiate by providing specific amenities for specific segments

III. Findings

We collected data to analyze and interpret relevant information according to our objectives set. In this section, findings of the study against the objectives are discussed in detail.

3.1 Relationship between Relevant Variables

Here, in this section we decided to check the impact of one factor on one another and analyze the relationship between these various factors. The factors were:

- Preferred area of investment: Here, investors chose their preferred zone for investment i.e. which zone they are inclined to invest in. The choices were Zone A, Zone B and Zone C.
- Reason for investment: The realtors chose the reason that influences their choice of investing in a certain area. The potential choices are: availability of land, expected faster sale of apartments and favorable dealings with consumers.
- Prime worrying reason for the realtors: The realtors chose their response for this from the options of: lack of available preferred land, unprofitable consumers, political turmoil and saturated market.
- Income strata: The developers gave their response to the fact on which income zone are most of their consumers. This ranged from a choice of range from- BDT. 20000- BDT. 40000 to over BDT. 300000.
- Reason for the consumer choice of area: Customers' choice of preferred area is based on the following options (school going children, Proximity to office, status quotient and economy) that influence their preference area.
- Age group: The realtors had to suggest the average age group in which their consumers belong.
- Length of Business: The realtors replied on the numbers of years of experience they have in the state sector.
- Consumer Preference for apartments: Consumers were then asked in why do consumers prefer or buy from them. Their options are: affordability, niche operations, design considerations, and aid in loan management.
- Apartment size and Family size: The realtors give their response on the average apartment size they make and the usual family size of their consumers.
- Reason behind their existence in this business: The realtors were asked why they are in this business. Is it because of high profitability, their relevant expertise in this sector or is it the passion that drives them.

3.1.1 Analyzing Relation between the Factors

To establish the correlations among the variables a bivariate analysis was carried out. In Pearson correlation test Double asterisk (**) explains the variables that have significant correlation with each other. This can be later used to develop and test required hypothesis.

Table 2: Bivariate analysis

Correlations:

	1	2	3	4	5	6	7	8	9	10	11
1.Preferred Area	1	.640**	.013	.844**	-.253	.526**	.526**	-.126	.820**	.179	-.162
		.000	.933	.000	.094	.000	.000	.410	.000	.239	.288

2. Reason for Investing		1	-.238 .115	.624** .000	-.310* .039	.279 .063	.178 .241	-.115 .450	.686** .000	.304* .042	-.121 .429
3. Prime Worrying Reason for Realtors		1	-.036 .812	-.020 .897	.104 .497	.121 .427	.180 .237	-.065 .670	-.025 .873	.118 .438	
4. Income strata		1	-.173 .257	.532** .000	.410** .005	-.128 .401	.715** .000	.304* .042	-.216 .154		
5. Reason for the Consumer Choice of Area		1	-.026 .867	-.374* .011	.295* .049	-.287 .056	-.059 .703	.059 .702			
6. Consumer Age Group		1	.343* .021	-.139 .361	.492** .001	.519** .000	-.178 .241				
7. Length of Business		1	-.227 .134	.329* .027	.071 .643	-.106 .487					
8. Consumer preference for apartments		1	-.149 .329	-.095 .534	-.065 .671						
9. Apartment Size		1	.261 .084	-.288 .055							
10. Family Size		1	-.037 .810								
11. Reason behind Existence in this Sector		1									

**Correlation is significant at the 0.01 level (2-tailed).
List wise N=45

3.1.2 Model Development

The factors that showed a significant influence on the investment perspective of realtors towards a certain area can be further analyzed using regression model. Thus, the factors are used to develop a model. From the bivariate analysis the factors that showed significant correlations are: reasons for investing, income strata of customers, their age group, the realtors' experience in this business and the apartment size of the relevant zone. Thus, reasons for investing, income strata, age group, and experience and apartment size are our predictors or independent variables. These are used in regression to reveal their impact on developers' investment prospect in Dhaka city.

One of the basic assumptions while running a multiple regression analysis is the ratio of independent variables to sample size should be at least 1 is to 5. From our bivariate analysis we found that we have five independent variables and so should at least have a sample size of at least 25. As our sample size is 45 so this criterion is fulfilled.

Table 3: Model summary of regression model

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.917 ^a	.842	.821	.32974

a. Predictors: (Constant), Reason for Investing, Length of Business, Consumer Age Group, Income Region, Apartment Size

The high adjusted R Square of .821 explains that 82.1% variability of preferred zone in terms of investment perspective of realtors is explained by the variability of the independent variables.

3.1.2.1 Hypothesis Testing-Model

In order to check the utility of the model we run a hypothesis test.

Ho: There is no significant relationship between any of the socio-economic factors and developers' investment perspective in choosing an area.

Table 4: Anova table for regression model

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22.560	5	4.512	41.498	.000 ^a
	Residual	4.240	39	.109		

Total	26.800	44			
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a. Predictors: (Constant), Reason for Investing, Length of Business, Consumer Age Group, Income Region, Apartment Size

b. Dependent Variable: Preferred Area

From the table above we find a p value of 0.00 which is less than the 5% level of significance set for hypothesis analysis meaning we can reject the null hypothesis, Ho. This means at least one of the predictors have significant correlation with the dependent variable i.e. realtors' choice of preferred area and thus, the model developed is utilitarian.

3.1.2.1.1 Hypothesis Testing- Independent Variables

Hypothesis testing is done to check the correlation each of the independent variables i.e. the predictors which showed a significant relationship with the dependent variable in the bivariate analysis. This is done to check the relationship of the individual predictor with the dependent variable.

1. **Ho:** There is no supported evidence between realtors' choice of area and income of customers.
2. **Ho:** There is no supported evidence between realtors' choice of area and customer age group.
3. **Ho:** There is no supported evidence between realtors' choice of area and length of business.
4. **Ho:** There is no supported evidence between realtors; choice of area and apartment sizes.
5. **Ho:** There is no supported evidence between realtors; choice of area and reason for investing.

Table 5: Coefficient table of regression model

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	-.399	.487		-.819	.418		
Income Strata	9.590E-6	.000	.433	4.198	.000	.381	2.626
Consumer Age Group	.002	.010	.015	.192	.848	.656	1.523
Length of Business	.035	.012	.203	2.843	.007	.797	1.255
Apartment Size	.000	.000	.396	3.766	.001	.368	2.721
Reason for Investing	.055	.088	.058	.624	.537	.469	2.134

The equation from regression model is:

$$Y = -0.399 + 9.59E-6 * X1 + 0.002 * X2 + 0.035 * X3 + X4 + 0.055 * X5 \quad (\text{Equation 1})$$

Where:

Y= Realtors' preferred zone of investment

X1= Income strata of buyers

X2=Buyers' age

X3= Experience in business of developers

X4= Apartment size

X5= Reason for investing

By examining the collinearity statistics, we can examine whether we have a multi- collinearity i.e. whether the variables are very highly correlated. From the collinearity statistics box, we observe that none of the variables have a value of greater than 0.9 therefore we have met the assumption that none of the independent variables are highly correlated.

3.1.2.1.1.1 Hypothesis 1

Ho: There is no supported evidence between realtors' choice of area and income of customers

From our Table above we can observe that while p- value for customers' income is 0.000, that of customer age is .848. This means buyer income has a significant relationship with developers' preference of zone as p value is less than the 5% level of significance set. Thus, we can reject null hypothesis.

3.1.2.1.1.2 Hypothesis 2

Ho: There is no supported evidence between realtors' choice of area and customer age group

In case of customers' age, the p- value exceeds the alpha value and thus we say it does not have a significant relationship. This means we can reject the null hypothesis. It can be inferred from this that there is no significant relationship between this predictor and investment perspective of developers.

3.1.2.1.1.3 Hypothesis 3

Ho: There is no supported evidence between realtors' choice of area and length of business.

In case of relationship between length of business and investment perspective of realtors, the p-values is .007 which is less than the 5% level of significance set meaning rejection of null hypothesis. Thus, experience in real estate business has significant relationship with realtors' investment preference in the city.

3.1.2.1.1.4 Hypothesis 4

Ho: There is no supported evidence between realtors' choice of area and apartment sizes.

It can be inferred that p-value for this relationship is less than 5% level of significance set meaning rejection of null hypothesis. This means there is significant relationship between apartment size in relevant area and realtors' choice of area.

3.1.2.1.1.5 Hypothesis 5

Ho: There is no supported evidence between realtors; choice of area and reason for investing..

We can understand that reason for investing does not have a significant relationship with developers' preference to invest as it has t-value less than t-critical.

3.2 Summary of Major Findings

Developers choose the area for investment primarily based on the income level of their target consumers. Another key area of our finding is that apartment sizes influence the zone the realtors' prefer to invest. This is complemented by the fact that in high investment areas there are usually on an average larger apartments provided while in less investment oriented areas there are economical apartments. Finally, the number of years in business in this sector i.e. their experience plays a part in their choice of selecting the area for investment. For example, it is seen that new businesses prefer to invest in lower income strata areas i.e. Zone C while established businesses have a proclivity towards investing in Zone A.

There is a relationship between income strata of buyers and their area of residence. In addition to this, in the consumer end, age has a relationship with family size.

Apartment size which influences choice of area for investment by a realtor is in turn influenced by the income level and age of consumers.

Interestingly, there is no significant relationship between problems identified by developers and their proclivity towards investment.

IV. Recommendations:

Based on the above findings it can be inferred that investments in real estate sector by developers and realtors depends on buyer income strata, apartment sizes of relevant areas and experience in business. Of these income strata plays the most significant role. Thus, while segmentation is done by the realtors, they should cater to the needs of the consumers by keeping this factor in mind.

For realtors, it is imperative to remember there is a relation between zones and apartment size. As we move towards the more expensive zones, those having the perception of greater socio-economic values, apartment sizes tend to increase. This brings about the notation that people in this zone tends to take apartments as a luxury rather than a necessity. So, from here we garner the idea that developers should not only provide larger apartments but ensure all the facilities provided are done with the different segments in mind.

As we can say the industry has entered its maturity phase, there will be high completion and lower profit margins for the companies. To avoid shakeout, understanding consumer perspective is imperative. Differentiating itself by understanding the needs and demands of the consumers in the zones served is now of prime importance.

V. Conclusion

The real estate sector over the years has played a huge role in the development of our economy. Although the volume-wise contribution to GDP has been on the spiral up the sector wise share has seen a stagnant phase. Over the last few years, a lot of companies have come to the fore in this sector but contribution to the GDP has not grown at the same rate. This shows that the sector reached its maturity state. The boundaries of central Dhaka remain the same and so does the market. Thus, now realtors have to satisfy the customers in order to stay in business and make profits.

Income, apartment size and experience of realtors are key variables determining the realtors' intention for investing. Of these, an income stratum is taken to be one of the major influencers. Thus, while segmentation this socio-economic factor should be taken as the basis for targeting..

The analysis uses a relatively small sample size therefore; it might pose a problem for generalization. In addition to this, research is limited to areas within Dhaka and therefore may not provide the generic view.

Further study can be carried on the relationship between income level and apartment size and understand whether income impacts apartment size that in turn impacts the realtors' preference for investing in an area.

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