



Customers' Intention towards Purchasing Apartment in Dhaka City, Bangladesh: Offering an Alternative Buying Intention Model

Dr. Mostafa Kamal¹ Shah Alam Kabir Pramanik²

1. Adviser, Department of Real Estate, Faculty of Business and Economics, Daffodil International University, 4/2 Sobahanbag, Mirpur Road, Dhanmondi, Dhaka-1207, Bangladesh

2. Lecturer, Department of Business Administration, Faculty of Business and Economics, Daffodil International University, 4/2 Sobahanbag, Mirpur Road, Dhanmondi, Dhaka-1207, Bangladesh

Abstract

Various models and theories have been proposed to explain customers' buying attitude, buying intention and behavior. Taking a new approach this study has applied the theory of planned behavior to explain buying intention in context of Real Estate especially on apartment buying behavior. This study has aimed at exploring the antecedents of customers' buying attitude and investigating the impact of customers' buying attitude on buying intention. A questionnaire survey method has been used with 275 customers and response rate of 86.18 percent. Initially an Exploratory Factor Analysis has been directed using SPSS (Version 21). We have explored six factors project facilities, environmental issues, location and communication, physical quality, promotion and prices that act as antecedents of customers' buying attitude. After that, CFA has been carried out to confirm the factors. Structural Equation Modeling (SEM) has been used to test both the proposed model and hypothesized relationships among the constructs. It is found that project facilities, location and communication, physical quality and prices have significant impact on customers' buying attitude except the environmental issues and promotion. It is also found that buying intention is strongly influenced by buying attitude of the customers. The proposed model also has an acceptable fit to the data. Real Estate developers, marketers, policy makers can use the findings to better understand, segment and satisfy the customers. Therefore the findings of the study will definitely help in building customer based brand equity and customer loyalty particularly in Real Estate (Apartment Market) to gain competitive advantages as well as achieve sustainable development of the sector.

The study may be limited by its focus on a geographic section of the Bangladeshi Real Estate market.

Keywords: Buyers' attitude, Buying intention, Buying intention model, Real estate, Real estate marketing.

1. Introduction

The current trend of urban growth in Bangladesh is about 5-6 percent per annum (REHAB, 2013). At present 28 percent people live in urban areas which are expecting to be 34 percent in 2025 (The Daily Ittefaq, May, 2013). Dhaka city approximately accommodates a vast population of over 16.6 million with the estimated 4.7% growth rate per annum. There is a direct relationship between urbanization and demand for houses (Mollah, Haque & Pasha, 2009). As housing is the basic need of human being, it is expected that as a country becomes more urban, more houses will be needed to accommodate the increasing population in urban centers. Due to urbanization, rising house rent, scarcity of land, high price of land, hazards in land purchasing, high cost of land registration, restructuring of households to single family units, and high price of building materials, some dramatic changes have been occurred in the Real Estate industry that has changed the attitudes of the people of Bangladesh. Now people prefer to buy ready apartment from developers than purchase land for building their own houses (Khaled, Sultana, Biswas & Karan, 2012;

Mohiuddin, 2014; Mollah, et al., 2009). That's why people turn to Real Estate companies who are providing ready flats or apartments. In response, Real Estate business has enjoyed a boom over the years with growing rate (13.77% in 2013, Bony & Rahman, 2014). To meet up the increasing housing need many private Real Estate developers with very few provision of government housing have been trying to meet the demand of housing for the last more than twenty years in Bangladesh. As Real Estate sector is growing in Bangladesh, the competition in the Real Estate sector becomes intense. To sustain in the competitive market place the Real Estate marketers have to keep in mind that the buying behavior of apartment would be considered high involvement products that require complex decision making (Haddad, Judeh & S. Haddad, 2011). Buying an apartment is one of the most significant economic decisions that people make, and it requires gathering a lot of information regarding its features, qualities, facilities, design, prices and environments (Haddad, et al., 2011; Zadkarim & Emari, 2011; Kiefer, 2007). In Bangladesh it happens in most of the cases that people purchase an apartment by investing or spending all of their lifelong savings.



The success of Real Estate marketing depends on properly analyzing the buying behavior of Real Estate customers. To know about the needs of customers it is unavoidable to understand the factors and variables that stalwartly influence the customers to buy an apartment. To attract customers, ensure customers' satisfaction and for the sustainable development of the industry, analysis of customer buying behavior and attitudes are inevitable. This study focuses on factors and attributes that affect buyers' attitudes and the relationship between buyers' buying attitude and buying intentions. It focuses on "Buyers' Buying Intention" model that will be used as guidelines for developing differentiation, positioning and branding strategies to attract, retain and satisfy customers.

2. Literature Review

Consumer behavior is 'the behavior that consumers display in searching for purchasing, using, evaluating and disposing of product, service and idea which they expect will satisfy their needs' (Schiffman & Kanuk, 2010). Consumer decision making process is multidisciplinary and complex in nature. Learning about the consumer buying behavior is not easy because often, consumers themselves don't know exactly what influences their purchases (Kotler & Armstrong, 2005). "The human mind doesn't work in a linear way," says one marketing expert.

Numerous studies have been undertaken consequently copious theories or conceptual models have been proposed for explaining the consumer's decision making process, consumer attitude, behavior, and purchase intention. Most human decisions are not perfectly rational, because they are influenced by a multitude of factors, which may constrain or motivate them to act irrationally (Bettman, Luce & Payne, 1998). It has been recognized in the literature that information-processing theory (Miller, 1956) is central to all consumer behavior models (Bettman et al., 1998; Gabbott & Hogg, 1994; Sirakaya & Woodside, 2005). This theory states that the consumer decision-making process involves five main stages (1) problem recognition, (2) information search, (3) alternative evaluation and selection, (4) outlet selection and purchase, and (5) post-purchase processes (Hawkins, Best & Coney, 1995). Scholars from a variety of social science disciplines focus on how individuals go about making choice decisions (Sirakaya & Woodside, 2005). The Expected Utility Theory (Neumann & Morgenstern, 1947); Information Processing Theory (Miller, 1956); Social Exchange Theory (Homans, 1958); Attitude Theory (Fishbein, 1963); The Expectation Confirmation Theory (Oliver 1977, 1980); Goal Hierarchy of Motivation (Bettman, 1979); The Theory of Reasoned Action (Ajzen & Fishbein, 1980); Elaboration Likelihood Model of Persuasion (Petty & Cacioppo, 1980); Theory of Planned Behavior (Ajzen, 1985, 1991).

The Theory of Reasoned Action (TRA) was developed by Fishbein & Ajzen in 1975 which addresses human behavior as determined solely by the individual's intention to perform the behavior. It provides a clear distinction between beliefs, attitudes, intentions and behaviors. Behavioral intention is in turn determined by individual's attitude toward the behavior and subjective norm. TRA was extended by taking the issues of subsequent related control elements into account in predicting human behavioral intention and actual behavior (Ajzen, 1991; 2002). The extended model is called the Theory of Planned Behavior (TPB), which indicates that the intention is based on attitude toward the behavior, subjective norm, and perceived behavioral control.

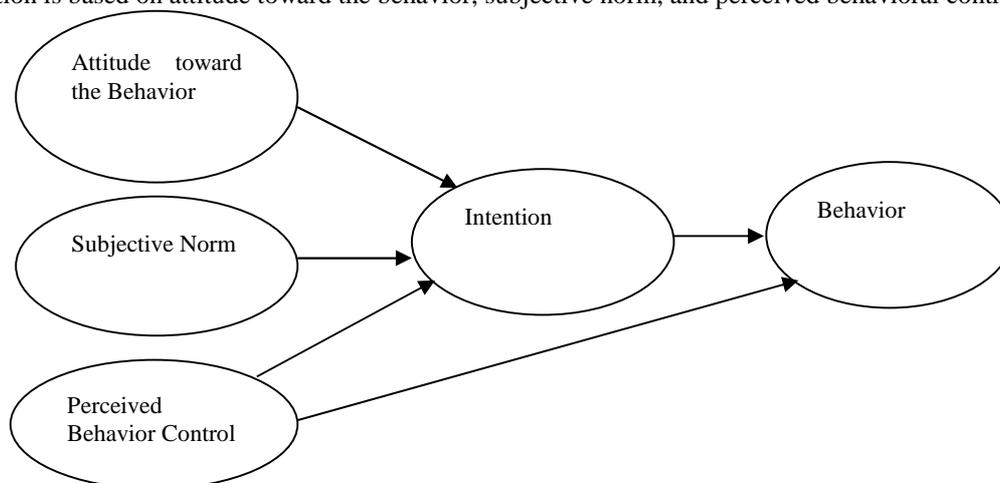


Figure 1. Theory of Planned Behavior (Ajzen, 1991)

Since it was published, the TPB has been the subject of considerable attention. Considering the important role of beliefs in human behavior, Ajzen (1991) emphasized three kinds of salient beliefs related to the three predictors of intention: behavioral beliefs which are assumed to influence attitudes toward the behavior, normative



beliefs which constitute the underlying determinants of subjective norm, and control beliefs which provide the basis for perceptions of behavioral control. Therefore, Ajzen (2006) developed the diagram of the TPB model in a more clearly way:

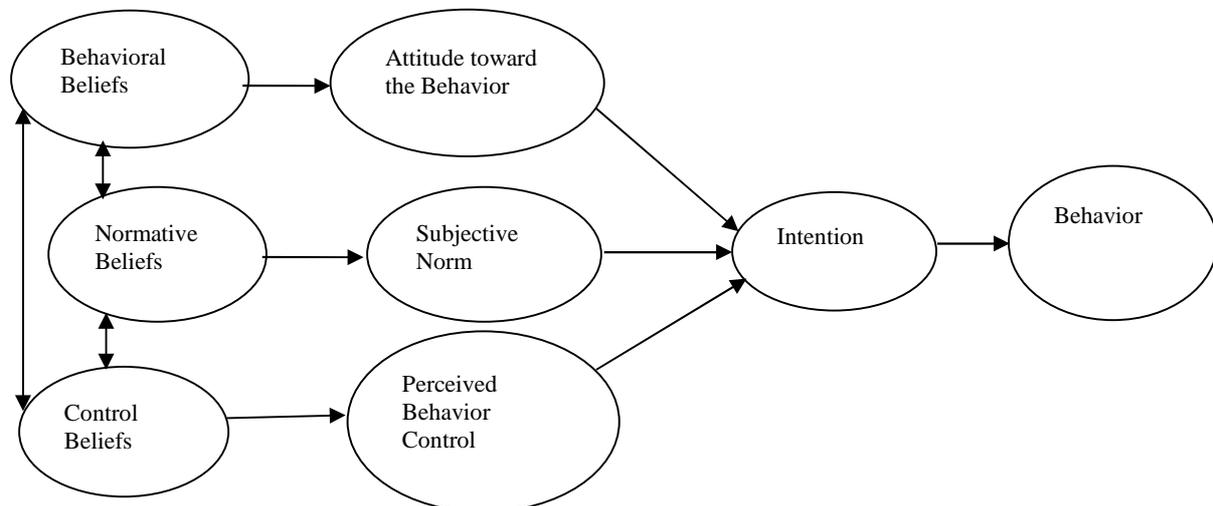


Figure 2. The Model of TPB (Ajzen, 2006)

Consumer decision making process, analyzing consumer attitudes, intention and behavior have been extensively investigated over many years by marketers, including Howard & Sheth (1969), Engel, Blackwell, & Miniard (2005), Mowen (1995), Peter & Olson (2001) and Hoyer & MacInnis (1997). Consumer decision making process for evaluating apartment purchasing behavior has been used by Rossi (1980), and Livette (2006).

Numerous studies on factors influencing customers to buy an apartment and dimensions of customer satisfaction have been undertaken in the field of Real Estate. But there is a scope for conducting a comprehensive study on those topics. What do the buyers consider to purchase an apartment? To purchase an apartment is a crucial decision for every customer in the Bangladesh because sometimes customers spend their whole-life savings to buy an apartment. Extraordinary studies have been conducted on location and size preferences (Labib, Bhuiya & Rahaman, 2013), Customer Perception and Expectation (Khaled, et. al., 2012), and the dimensions of customer satisfactions and services (Preko, Agbanu & Feglo, 2014; Khaled, et al., 2012; Zadkarim & Emari, 2011; Zadkarim, et al., 2011); Leiser & Ghor, 2011; Shahin, Jarib & Samea, 2010; Lee, Chen, Huang, Chang & Udomjarumane, 2009)

Labib, et al., (2013) explored the Real Estate buyers' preferences for location and factors that influence to choice an apartment. They showed the prime concerns for selecting flat location are budget, residential environment and communication facility with different facilities. They identified multiple factors that influence buyers to buy an apartment in the Dhaka city. Location, Residential living environment, better communication with work place (Leiser & Ghor, 2011), near to educational facilities, biasness due to relatives (Zadkarim, et al., 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, et al., 2012) are some major factors that guided the choice for flats. The priorities of these factors are not same for all areas in the Dhaka city.

Khaled, et al., (2012) aimed to identify the dimensions of customer perception and expectations & with the help of that dimensions they measured the customer satisfaction. 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, et al., 2010], price (installment pay , bank loan) [Dewri, Amin, Sen & Faridi, 2012; Islam, 2012; Khaled, et al., 2012; Zadkarim et al., 2011), company brand & goodwill, expert opinion, advertisement and promotion (Islam, 2012) also are almost equally important.

Preko, et al., (2014) have showed the relationship between services delivery dimensions and customer satisfaction. Moreover it showed the relationship among customer satisfaction, word of mouth communication and customer loyalty. This paper explored the factors like, customer satisfaction, word of mouth communication and customers' loyalty act as crucial elements for purchasing an apartment.



Zadkarim & Emari (2011) has identified the dimensions of customer satisfaction and offered a model of overall customer satisfaction with the help of customer satisfaction dimensions. In case of purchasing buyers consider some factors such as Customer cost (price, credits, installment payments); Physical quality (cracks, kitchen, lighting, electronic lighting and window to outside) [Khaled, et al., 2012]; Water facilities (plumbing facilities, water quality and water pressure, drainage, commode, internal architecture) [Dewri, et al., 2012]; Environment quality (traffic, noise, region security) [Dewri, et al., 2012]; Project facilities (parking, lobby, external staircase, lift, front attractiveness and quality, warehouse) [Khaled, et al., 2012]; Word of mouth (intentions to say positive things to others; recommend the apartments of project to another consumer, Encourage friends and relatives to buy the apartment from this project) [Preko, et al., 2014]. In another study Zadkarim & Emari (2011) also showed “Environmental quality acts as an important dimension of customer satisfaction in apartment industry”. Here they endeavored to add a new dimensions of customer satisfactions namely Services (dimensions of services are tangibility, reliability, assurance, responsiveness, empathy) [Khaled, et al., 2012; Zadkarim & Emari, 2011; Shahin, et al., 2010; Lee, et al., 2009]. Zadkarim & Emari (2011) have offered a hypothesized model on dimensions of customer satisfaction in the context of apartment buying behavior.

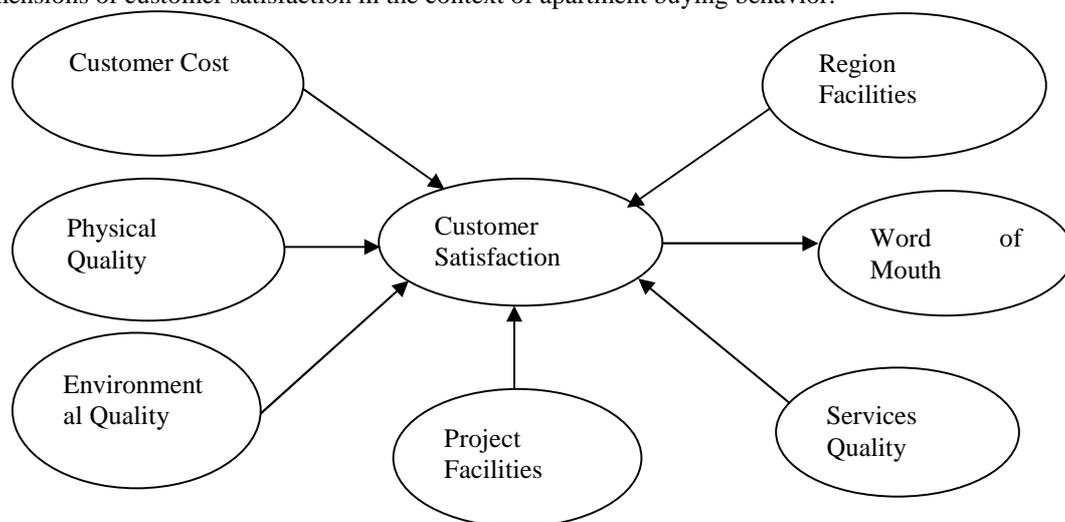


Figure 3. Hypothesized Model of Customer Satisfaction (Zadkarim & Emari, 2011)

Customers give concentration on the quality of services when they take the purchase decision of an apartment (Lee, et al., 2009). They also used Parasuraman’s SERVQUAL scale to compare services quality perception in the Real Estate industry. Now -a-days customers also prefer to services dimensions to buy an apartment. Bony & Rahman, 2014; Dewri, et al., 2012; Islam, 2012; Leiser & Ghor, 2011; Barua, et al., 2010; Khan & Barua, 2009; surveyed research on Real Estate sector of Bangladesh. Besides the current scenarios/trends, problems, prospects and challenges they also showed the growth rate (13.77% in 2013, Bony & Rahman, 2014) and contribution to the economic development of the country & GDP (778 million taka in 2013, Bony & Rahman, 2014). Barua, et al., (2010) brought out the new dimensions in the Real Estate industry that the buyer of apartment always would like to get a diversified product. Model towns, which are built with the structure of a small town including all facilities for people, like offices, shopping mall, houses, schools, swimming pools, gymnasium, banks, power plant etc. Projects that include swimming pool, gymnasium, shopping malls etc. in one building are also diversified products supplied by the Real Estate agents in Bangladesh. All these products wrapped with diversification have great demand in the market.

3. Conceptual Framework and Hypothesized Research Model

TRA and TPB have been utilized by marketing researchers to investigate the human behavior in the disciplines of marketing, Real Estate marketing, (Al-Nahdi, Habib & Albodour, 2015; Tan, 2013; Numraktrakul, Ngarmyarn & Panichpathom, 2012; Phungwong, 2010; Si, 2012; Lam & Hsu, 2006, Gibler & Nelson, 1998). Furthermore TPB has been used to investigate the factors influencing consumers to purchase their residential units (Phungwong, 2010; Si, 2012). The Theory of planned behavior is a suitable model to study the factors influencing apartment purchase intentions (Phungwong, 2010; Numraktrakul, Ngarmyarn & Panichpathom, 2012).

Now apartment choice decision has been an important area of study in the Real Estate marketing literature for decades. As consumer behavior is too complex scholars have not been agreed upon that a single model or theory can fully explain the consumer decision making. Really it is an intricate process to use one common model to explain buyers’ purchase intention for different types of apartments as well as different categories of buyers.



Surprisingly little academic inquiry has been made to assess buyers' attitude and intention of apartment choice in context of Bangladesh. Thus this study concentrates on buyers' buying attitude and buying intention to apartment choice. Reviewing literatures and considering the theory of planned behavior, our study is to explore attributes and factors that are predictors of buyers' buying attitude to purchase an apartment and examine the relationship between buyers' buying attitude and buying intention. Understanding the factors that influence buyers to choose apartment are important to Real Estate marketing, planning, development and positioning (Nahdi, Habib & Albodour, 2015; Phungwong, 2010; Numraktrakul, Ngarmyarn & Panichathom, 2012). To enhance our understanding of decision making from different ways this current study has proposed a Buying Intention Model for explaining buyers' buying attitude and buying intention in context of apartment buyers that is originally and developed from some research model of consumer behavior and planned behavior. Our proposed research model is:

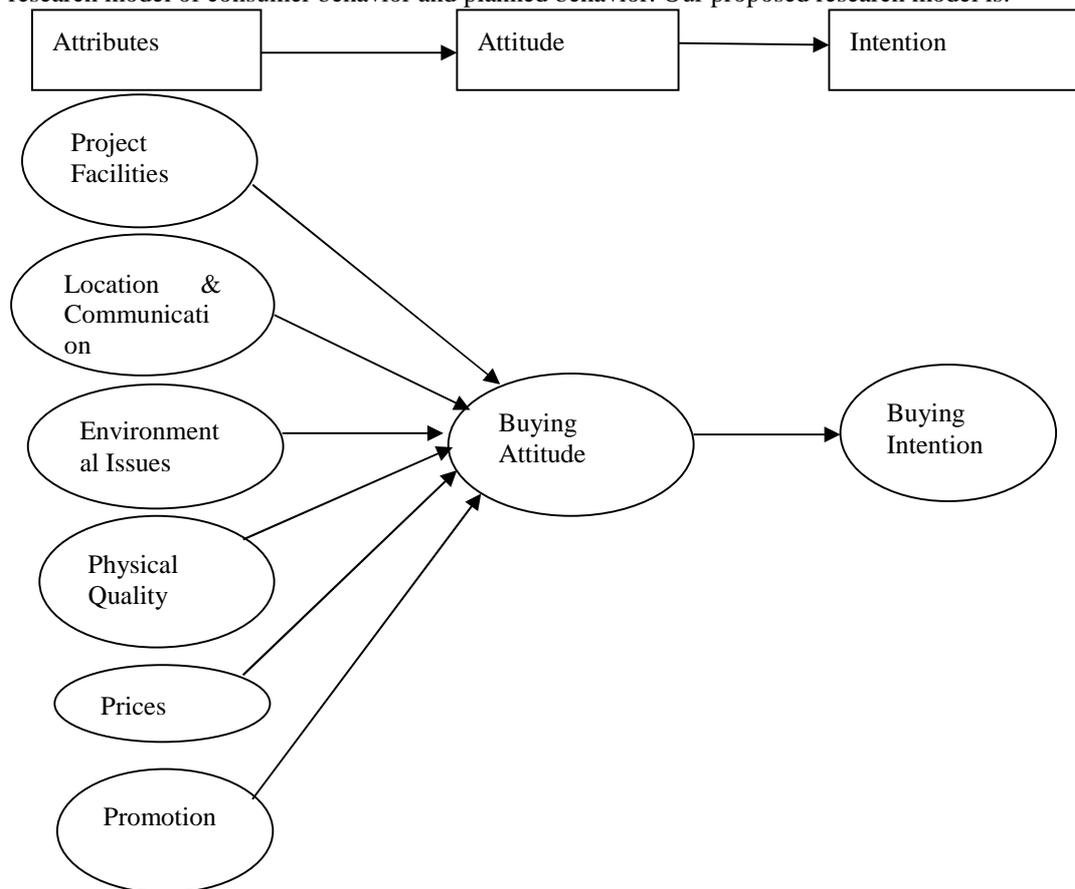


Figure 4. Hypothesized Model of Real Estate Customers' Buying Intention Model

Simply the hypothesized model of Customers' Buying Intention for apartment purchasing indicates that attributes of apartment affect the buyers' buying attitude and buyers' attitude influence the buying intention. Here attributes of apartment are predictors/ antecedents of buyers' buying attitude. Through the comprehensive literature review, pilot survey and discussing with the industry experts we have identified the six attributes that act as antecedents of buyers' buying attitude.

Project Facilities (PF): A new dimension has been emerged in the Real Estate industry that buyer of apartment would like to get a diversified product. Now buyers prefer apartment which includes model town/ mini town, car parking facilities, playground for children, lobby or community hall room, lift and generator facilities, warehouse facilities, shopping mall, schools, swimming pools, gymnasium, banks, power plant etc. (Khaled, et al., 2012; Zadkarim & Emari, 2011; Barua, Mridha & Khan, 2010). All these products wrapped with diversification have great demand in the market (Barua, et al., 2010). After several round revision and pilot survey we have considered only six variables under the construct project facilities. The items are Model town under the projects (PF_1); Car parking Facilities (PF_2); Community hall room/ lobby (PF_3); Lift and generator facilities (PF_4); Indoor game facilities (PF_5); Play ground for the children (PF_6).

Location and Communication (LOC): Location and communication facilities act as the most significant predictors of buying attitude in case of purchasing an apartment (Labib, et al., 2013; Khaled, et al., 2012; Zadkarim & Emari, 2011; Leiser & Ghor, 2011). Residential living environment (LOC_1); Better communication with workplace (LOC_2); Availability of transportation system/ Transportation hub (LOC_3); Near to educational



facilities (LOC_4); Near to main road (LOC_5); Quality and cost of municipal services (LOC_6) [Friedman 1981; Reshovsky, 1979]; Near to park and entertainment facilities (LOC_7); Living for long time in an area (LOC_8) are the variables that constitute the factor location and communication. In case of purchasing apartment buyers prefer residential living environment and better communication with work place and availability of transportation system (Labib, et al., 2013; Khaled, et al., 2012; Zadkarim & Emari, 2011; Leiser & Ghor, 2011; Shahin, et al., 2010; Khan & Barua, 2009; Islam, 2008).

Environmental Issues (ENVI): Now people are becoming environmental conscious. Environmental quality has been assessed by the buyers for purchasing apartment (Tu and Lin, 2008). When they purchase apartment they consider the density of population or traffic flow of that area (ENV_1); Environmental pollution of that area (ENV_2); Noise and sound of the adjacent area (ENV_3); Regional security (ENV_4); (Dewri, Amin, Sen & Faridi, 2012; Zadkarim & Emari, 2011). Regulatory or dictatorial environment (ENV_5) also has been considered by buyers in purchasing apartment (Labib, et al., 2013). "Environmental quality acts as an important dimension of customer satisfaction in apartment industry" (Zadkarim & Emari, 2011).

Physical Quality (PQ): Buyers' preferences for apartment depend on product and service quality. What exactly is quality? Various experts have defined it as "fitness for use," "conformance to requirements," "freedom from variation," and so on. Quality is the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs (Kotler & Keller, 2006). Based on the studies (Labib, et al., 2013; Zadkarim & Emari, 2011) a list of apartment factors that fit the institutional and cultural settings of apartment were identified for the development of the apartment Physical Quality Index (PQI). These factors are Size and type of apartment (PQ_1); Quality of basin, commode and tiles (PQ_2); Interior and exterior design (PQ_3); Standard color and electronic lightening (PQ_4); Sufficient ventilations and windows (PQ_5); Water facilities (PQ_6); Drainage system (PQ_7). Physical quality of apartment is significant predictors of buying attitude in purchasing an apartment (Khaled, et al., 2012; Islam, 2012, Zadkarim & Emari, 2011).

Prices (PR): Simply Price is the amount of money that is charged for a product or services (Kotler & Armstrong, 2005). Price is a fundamental phenomenon for purchasing an apartment. From the view point of customer price is the cost of customer that customers give up to get a certain benefits or products. The factor price consists of Comparison of prices with competitors (PR_1); Installment and credit system (PR_2); Availability of bank loans (PR_3); Reasonable prices (PR_4). The above mentioned items of the factor have been showed as imperative for purchasing an apartment ((Labib, et al., 2013; Khaled, et al., 2012; Dewri, et al., 2012; Zadkarim & Emari, 2011; Barua, et al., 2010; Islam, 2008).

Promotion (PRO): Marketing promotion refers to the specific blend of advertising, sales promotion, public relation and other direct marketing tools that marketer uses to persuasively communicate value and build a relationship with the customers (Kotler & Keller, 2005). The main objective of promotion is to inform, remind and persuade customers to purchase the products. Advertisement (PRO_1); Sales forces (PRO_2); Sales promotion (PRO_3); Brand reputations (PRO_4); Word of mouth communication (PRO_5); Opinions of the industry expert (PRO_6) are the items of the promotional factor. Promotional factor affects the buyers to purchase an apartment (Preko, et al., 2014; Khaled, et al., 2012; Islam, 2008).

Attitude (ATT): Attitude refers to "the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question" (Ajzen, 1991). Attitude is the person's favor or disfavor toward an action (Tonglet, Phillips & Read, 2004, Al-Nahdi, 2004, 2008; Al-Nahdi). Attitude is defined as a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor (Ajzen & Fishbein, 1980). Attitude is also defined as the way individuals respond to and are disposed towards, an object (Yusliza & Ramayah, 2011). There is a strong and steady relationship between attitude and buying intention (Cronin & Taylor, 1992; Kim & Han, 2010; Gopi & Ramayah, 2007). Customers' buying attitude stalwartly influence the buyers' buying intention to purchase a apartment (Numraktrakul, et al., 2012; Phungwong, 2010). Here the factor buying attitude is made of four factors namely overall evaluation of Location and environment (OEL1); Physical quality (OEQ2); Prices (OEP3); Project facilities (OEPF4).

Buying Intention (BI): Generally intention is an indication of a person's readiness to perform a given behavior, and it is considered to be the immediate antecedent of behavior (Shen, 2009). Intention is an indication of a person's willingness to perform the behavior, and it is an immediate antecedent of behavior (Nahdi, Habib & Albodour, 2015). Intention is the dependent variable which is predicted by an independent variable namely attitude (Ajzen & Fishbein, 1980; Ajzen, 1991; Taylor and Todd, 1995; Han & Kim, 2010). Therefore, in the case of apartment purchasing the intention to purchase is an antecedent of a purchase decision (Numraktrakul, Ngarmyarn & Panichpathom, 2012; Phungwong, 2010). In this study the buying intention is measured with the help of four items Commitment to buy and recommendation status (CBA); Feel loyalty to buy (FLB); Plan to buy (PBA); Buying an apartment will be wise decision (WDF). Many scholars have measured buying intention with the help



of the aforesaid dimensions (Nahdi, et al., 2015; Tan, 2013; Numraktrakul, et al., 2012; Phungwong, 2010; Houg, Chen & Tsai, 2007).

Research Hypothesis:

H1: Project facilities have positive effect on buying attitude in the Real Estate industry.

H2: Apartment situated in the nice location with communication facilities influence the buying attitudes positively.

H3: Environmental quality where the apartment is located has a significant effect on buying attitude.

H4: Quality of the apartment affects buying attitude of customers.

H5: Prices of the apartment influences the buying attitude.

H6: Promotional efforts influence customers' buying attitude.

H7: Buying attitude influences the buying intention.

4. Objectives of the Study

This study has been conducted for the following objectives:

- To explore attributes and factors that are antecedents of customers' buying attitude to purchase an apartment.
- To examine relationships among influential factors (antecedents of customers' buying attitude) and customers' buying attitudes in the Real Estate industry.
- To examine the relationship between customers' buying attitude and buying intention.
- To test the proposed Buying Intention Model with the help of SEM (Structural Equation Model).

5. Research Methodology

5.1. Sampling Design

For this study all the customers who have ability and willingness to buy an apartment in Dhaka city, Bangladesh were considered as target population. Sample frame included customers who came to different Real Estate developers during the data collection phase (1st January to 30 October, 2015). For this study we use two types of sampling techniques namely simple random sampling and convenient sampling. Initially, 275 questionnaires were distributed to the customers for their responses but a total 237 usable questionnaires were collected.

5.2. Data Collection and Analysis

Through literature review and field survey with open ended questionnaire we found more than 64 attributes that influence the customers to purchase apartment. Then, the relationships of similarities and dissimilarities (+, -) among the variables were portrayed based on empirical research. Then respondents' comment and ideas were incorporated into the design of the final questionnaire. After the several round revisions a total number of 44 attributes were considered for designing final questionnaire. To test the reliability of the questionnaire a pilot survey was used. In pilot test 40 questionnaires were approached and collected from the apartment customers. To test the internal consistency of each of the attributes, dimensions, and items of the customers' buying attitudes and buying intention we applied the Cronbach's Alpha reliability analysis. The results showed that the Cronbach Alpha coefficients for the overall questionnaire was **0.87**, indicating that the reliability of the questionnaire was quite high. This study collected data through a survey conducted in the major areas of Dhaka using a detailed structured self-administered questionnaire. The respondents were asked about different attributes those are usually considered for purchasing an apartment by using 7 point Likert scale. For the data collection process, 10 students from the graduate program of BBA, Department of Business Administration, Daffodil International University, Dhaka were selected as Research Assistants (RA). They were trained for two days so that they can collect data uniformly. Training covered making the initial contact with the respondents, asking the questions, probing, recording the answers, and terminating the interview etc. Exploratory Factor Analysis (EFA) was applied using Principle Components Analysis (PCA) as method of convergence and Kaiser as method of normalization. Then CFA (Confirmatory factor Analysis) was conducted to test the model with factors identified through EFA. Finally the goodness of fit of the proposed model was tested using Structural Equation Modeling (SEM) with the help of AMOS-21. All the data were analyzed in Statistical Package for Social Science (SPSS; Version-21) integrated with AMOS, MS Excel and finally report is produced based on the analyzed data. Total research methodology has been summarized in below figure.

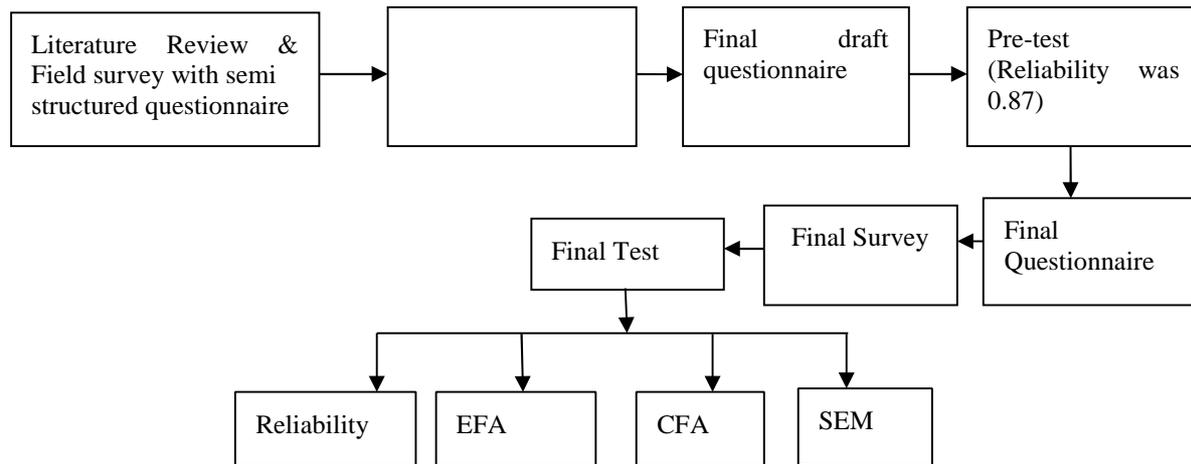


Figure 5. Summary of Research Methodology
 Revision with
 using judgmental
 method

6. Research Findings:

6.1. Scale Reliability

To test the internal consistency of each of the attributes, items of the customers' buying attitudes, and buying intention we applied the Cronbach's Alpha reliability analysis. In this study a total 44 items (36 items from the influential factors (antecedents of buying attitude); 4 items from the customers' buying attitude and 4 items from buying intention) were considered. In scale reliability analyze we found that the value of Alpha is 0.843 which is highly reliable (Nunnaally, 1978).

Table 1. Showing Reliability Coefficients for Each Variable

Reliability Statistics		
Measure	Cronbach's Alpha	N of items
Influential Factors	0.740	36
Customers' Buying Attitude	0.800	04
Buying Intention	0.793	04

6.2. Exploratory Factor Analysis

In order to identify the influential factors and attributes which influence customers to buy an apartment we conducted an exploratory factor analysis. Initially we considered 44 variables.

Kaiser-Meyer-Olkin (KMO) measure of sample adequacy test was applied on influential factors to test whether the sample was adequate to consider the data was normally distributed or not. The KMO value was **0.659** indicating that the sample size was adequate to consider the data normally distributed as the KMO values above 0.5 are considered to indicate normality of data. Bartlett's Test of Sphericity was used to test the null hypotheses that the variables in the study are not correlated. The Chi-Square test value was 6014.905, which was significant at **0%** level of significant. The test indicated that variables in the study are correlated and rejected the null



hypothesis (The population correlation matrix is an identity matrix). Therefore, the data was suitable for factor analysis.

Table 2. Showing the KMO Test Results

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin (KMO) Measure of Sampling adequacy.		0.659
Bartlett's Test of Sphericity	Approx. Chi- Square	6014.905
	Df	946
	Sig.	0.000

6.3. Influential Factors

The principal component analysis was used as the extraction method associated with the rotation method of Varimax with Kaiser Normalization. This study has examined communalities of each attribute accounted for the research. Initially 36 items were approached for this test. This study did not find absolute communalities score for all items. Hence, 14 items that scored less than 0.4 were dropped from the data set. Since data were collected from field survey, the authors considered current score level for 22 items included in 6 factors. Therefore, 6 factors were extracted on the basis of Eigen values and variance explained by them as well as the judgment of researchers. The factors were named based on communality of all the items that converged on that factor. Finally this study identified six factors namely project facilities, environmental issues, location and communication facilities, physical quality, promotion and prices those robustly influence the buyer preferences in choosing an apartment in Dhaka city.

6.4. Information Related to EFA

All the information related to EFA are shown in Table: 3

Table 3. All information related to EFA (Exploratory Factor Analysis)

Factors	Attributes	Mean	Standard Deviation	Factor Loading	Factor Mean	Cronbach's Alpha	Eigen Value	Variance (%)	Cumulative Variance (%)
Project Facilities	Model Town/ Mini Town under the Projects	5.4557	1.05923	.914	5.615	0.794	2.613	17.83	17.834
	Play ground for the Children	5.9873	.87566	.708					
	Car Parking Facilities	5.9705	.75575	.571					
	Lift Facilities & Generator	5.4852	.77896	.508					
	Community Hall Room	5.1772	.87951	.482					
Environmental	Noise and Sound of Adjacent Area	6.1772	1.04264	.874	6.142	0.789	2.170	14.80	32.642
	Density of Population or Traffic Flow	6.0338	.80709	.587					
	Environment Pollution of the Area	6.2152	.72494	.568					
Location & Communication	Residential Living Environment	6.0970	.70940	.563	6.236	0.71	1.850	12.62	45.270
	Near to Educational Facilities	6.2236	.77336	.546					
	Better Communication With Workplace	6.2489	.68985	.459					
	Availability of Transportation System	6.3755	.67516	.405					



Physical Quality	Drainage System	6.3502	.80762	.621	6.355	0.699	1.312	8.95	54.225
	Water Facilities of the Apartment	6.0506	.66189	.400					
	Interior and Exterior Design Of The Apartment	6.6203	.59597	.330					
	Sufficient Ventilation & Windows in the Apartment	6.4008	.67309	.333					
Promotion	Sales Force of the Company	4.8312	1.15210	.864	5.011	0.660	1.004	6.851	61.076
	Word of Mouth Communication	5.2152	.98726	.691					
	Brand Reputation of the Company	6.0464	.89842	.618					
	Advertising of the Apartment that Influence	3.9494	.86698	.539					
Price	Reasonable Prices of the Apartment	5.7637	.65989	.315	5.966	0.60	.773	5.27	66.349
	Installment Payment and Credit Facilities	6.1688	.56467	.297					
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.									
a. Rotation converged in 6 iterations									

6.5. Structural Equation Modeling (SEM) and Hypotheses Testing

SEM was conducted to evaluate the hypotheses formulated at the initial stage of the study as well as to test the goodness of Fit of the hypothesized model. Here the full structural equation model is considered and hypotheses to be tested relates to the pattern of causal structure linking several factors that bear on the construct of customers' buying attitude. Results of the hypotheses are shown in **Table 4**.

Table 4. Result of the Research Hypotheses:

Hypothesis	Dependent Variable	Independent Variable	Estimate	Standardized Estimate	SE	C.R.	P	Decision
H1	Buying Attitude	Project Facilities	0.229	0.27	0.061	3.77	***	Supported
H2	Buying Attitude	Location and Communication	0.369	0.43	0.080	4.92	***	Supported
H3	Buying Attitude	Environmental Issues	- 0.067	- 0.08	0.042	- 1.61	0.108	Rejected
H4	Buying Attitude	Physical Quality	0.371	0.31	0.099	3.74	***	Supported
H5	Buying Attitude	Prices	0.215	0.27	0.101	2.14	0.035	Supported
H6	Buying Attitude	Promotion	-0.11	-0.13	0.062	- 1.79	0.073	Rejected
H7	Buying intention	Buying Attitude	1.00	0.89	.111	9.43	***	Supported

In testing the hypothesized relationships among the antecedents of customers' buying attitude (Attributes) and customers' buying attitude (Buying Attitude), we conducted the CFA. In CFA we found that the Promotional Factor (PRO), Environmental Issues (ENVI) have not significant influence on customers' buying attitude in context of apartment purchasing. Although in CFA analysis we found that the factor Prices (PR) has significant



impact on customers' buying intention. We have eliminated the factor Prices (PR) due to lower loading and variance and low Eigen value. So the three factors namely promotion, environmental issues and prices have been abolished from the initial hypothesized research model. Therefore, we have reconfigured the hypothesized model by considering only three factors (Project Facilities-PF, Location and Communication-LOC, and Physical Quality-PQ) which have significant impact on customers' buying attitude assuming all three are correlated with each other and tested the final model with the help of SEM. The overall fit of a final hypothesized model was tested by using the maximum likelihood, goodness of fit indices and modification indices to ensure that final model has good fit to the data. The Chi-square statistic provided in the AMOS (a software package for SEM, Version-21) output and their fit indices such as the ratio of Chi-square to Degrees of Freedom (df), Goodness-of-Fit Index (GFI), The Root Mean Square Error of Approximation (RMSEA), and Parsimonious Fit Index (PFI). Chi square and Degree of freedom were 407.752 and 140. The Cmin/df value should be smaller than 3 to consider the model having good fit, for the current study the Cmin/df value is 2.760.

Goodness of fit indices of the final hypothesized model of Customers' Buying Intention is summarized in **Table: 5**.

Table 5. Key Goodness-of-fit Indices

Type of Fit	Key Index	Acceptable Level	In Proposed Model
Absolute Fit	Chi-Square ()	$2df \leq \leq 3df$	407.752
	Root Mean Square Error of Approximation (RMSEA)	$0.05 \leq RMSEA \leq .08$	0.070
	Goodness of Fit Index (GFI)	$0.90 \leq GFI \leq 0.95$	0.85
	Root Mean Squared Residual (RMR)	$0.05 \leq RMR \leq .10$	0.048
Parsimonious Fit	Parsimonious Normed Fit Index (PNFI)	$PNFI > 0.5$	0.641
	Parsimonious goodness-of-fit index (PGFI)	$PGFI > 0.5$	0.622
	Parsimonious Fit Index (PCFI)	$PCFI > 0.5$	0.695

Source: Adapted from Kline, 2005; Engel & Moosbrugger, 2003; Byrne, 2001; Kelloway, 1998.

Finally we can conclude that the proposed hypothetical model of buying intention in context of apartment buying has a good fit. The final model of buying intention is figured below:

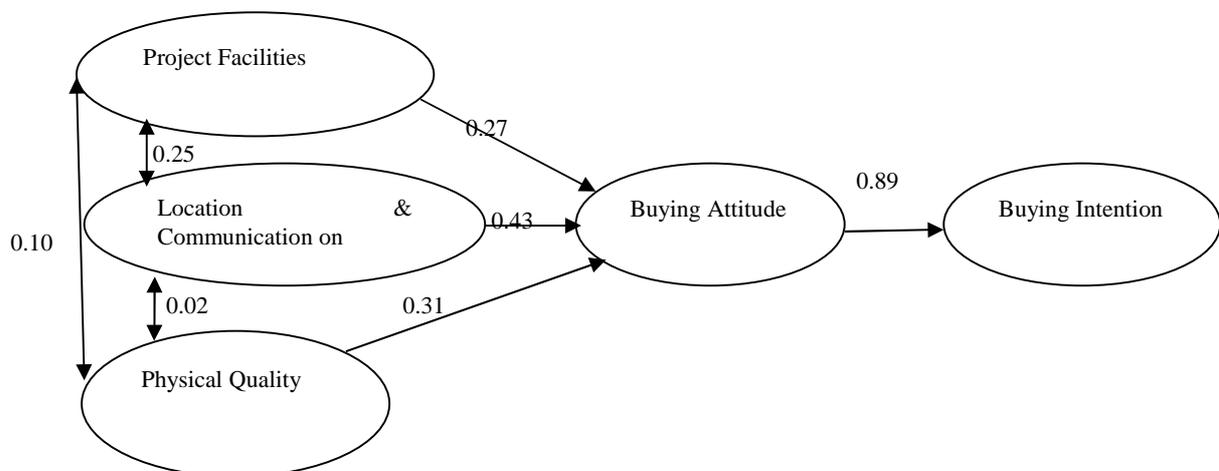


Figure 5. Model of Buying Intention

Final model of buying intention in figure: 6 indicating that project facilities, location and communication and physical quality act as antecedents of customers' buying attitude and customers' buying attitude has a



significant impact on the buying intention of buyers in purchasing an apartment. The factors project facilities, location and communication and physical quality of an apartment are correlated with each other. The model that has been generated from the output of AMOS is shown in Appendix.

7. Conclusion and Implication:

This study has conducted on consumers' buying intention to purchase an apartment. The objectives of the study are to identify antecedents of customers' buying attitude and to show relationship between the customers' buying attitude and buying intention. Through a comprehensive reviewing of literatures we have proposed a model of buying intention to apartment buying behavior that has been developed on the basis of theory of planned behavior. Finally this study has explored six factors (Project Facilities, Environmental Issues, Location and Communication, Physical Quality, Promotion and finally Prices) through EFA which influence buyers' attitude to take buying decision of an apartment. Then CFA was conducted and the factor price has been eliminated due to lower loadings variance and low Eigen value. After that the proposed model of buying intention is empirically tested and through the SEM (Structural Equation Modeling) by using AMOS (Version-21). Here we have found that the factors promotion and environmental issues have not significant impact on customers' buying attitude. Therefore we have reconfigured and tested the buying intention model by considering the three factors project facilities, location and communication, physical quality assuming they are correlated. That indicates customers' buying attitude is stalwartly influenced by three antecedents namely project facilities, location and communication, physical quality. (Hypotheses H1, H2, H4, H5 = Supported; and H3, H6 = Rejected). Finally the relationship between customers' buying attitude and buying intention has been tested that indicates customers' buying attitude has significant impact on buying intention (H7 = Supported). The proposed model has been evaluated through maximum likelihood, goodness of fit indices and medication indices to ensure that final model has good fit to the data. The proposed model is found have an acceptable fit to data. The findings of the buying intention model will be useful for Real Estate marketers to recognize customers' needs, segment and serve them in better way.

The findings of the study will definitely help in building customer based brand equity and customer loyalty specially in Real Estate industry to gain competitive advantages as well as achieve sustainable development of the sector. This study is expected to be beneficial for Real Estate marketing strategies and future studies on customers' attitude and buying intention in context of apartment buying behavior. This study is not out of limitation. To validate the model further investigation will be needed in other study context since the current study was an attempt to apply the theory of planned behavior to buying intention model in context of apartment buying mostly in Dhaka and basis of small sample size.

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Appendix: 1

The below figure indicates the output of final model of Buying Intention that has been generated from AMOS (Version- 21) by analyzing the data.

