

Customers' Attitude toward the Performance of Real Estate Business in Dhaka City: An Empirical Study

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ARTICLE INFO

Article History

Received: May 01, 2025

Accepted: August 10, 2025

Keywords:

Customers' attitude, Real estate business, Performance evaluation, Dhaka, Perception

JEL Classification:

R3, R30

ABSTRACT

Purpose: The purpose of this study is to investigate customers' attitudes toward the performance of real estate businesses in Dhaka city.

Methodology: This study used the Fishbein multi-attribute model to assess customers' attitudes toward the performance of real estate businesses. The model considers customers' beliefs and evaluations of 15 attributes. Hypotheses were tested at a 5% significance level, with results validated using p-values ($p < .05$).

Findings: Customers' overall attitude toward the performance of real estate businesses scored 38.986, which is lower than the expected positive benchmark of 44.504. While customers showed positive attitudes toward car parking space, security services, and backup power supply, their attitudes toward the remaining 12 attributes fell below the expected standard.

Practical Implications: This study helps real estate companies align strategies with customer expectations by identifying areas needing improvement, such as timely apartment handovers, fire safety, and building code compliance. Policymakers can use the findings to address gaps and foster sustainable growth.

Originality/Value: This study is original in nature in terms of data and concept. This study will contribute to a significant extent to improving the performance of the real estate industry in Bangladesh. This study will help real estate companies to develop customer-centric strategies as well.

Limitations: The study's generalizability is limited by its small sample size, use of convenience sampling, and focus on Dhaka city. Broader, more representative sampling across regions is recommended for future research.

1. Introduction

Due to rapid urbanization, population growth, and increased economic activities, the real estate business in Dhaka City has become one of the fastest-growing sectors in Bangladesh. According to the Population and Housing Census Report 2022, the population size is 165.16 million, with an annual growth rate of 1.22%. The urban population percentage is 31.51%. The population of Dhaka's north and south city

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corporation areas is 10.27 million, and the population density is 39,353 and 30,474 per square kilometer in Dhaka's south and north city corporation, respectively. The country's total number of urban dwelling units in 2022 is 1.17 million, among which 2.31 million are in the Dhaka division (Bangladesh Bureau of Statistics, 2022). The population size, growth rate, urban percentage, and density indicate that the demand for housing is very high, especially in Dhaka. 912 real estate companies are registered members of the Real Estate and Housing Association of Bangladesh (REHAB). Since the demand for housing is very high in Dhaka city, the potentiality is so high that the housing developer may perform differently to create a positive customer perception, which is essential for the sustainability of the companies (Dewri et al., 2012).

The heightened competition amongst real estate companies is due to the growing want of people and families to rent or own property. The heightened competition means that companies need to do more than produce better assets; they need to make sure their propositions align with the tastes and expectations of their customers as well. Understanding what customers think about the effectiveness of real estate companies is essential for companies that want to gain a competitive advantage and build long-term customer loyalty.

Descriptive and engineering studies of customer satisfaction in real estate form a rapidly growing body of literature. However, many such studies suffer from limitations in methodology, breadth, and focus, and the results are often not actionable. Some studies have been limited in scope, focusing only on specific consumer groups or attributes, such as location and price, while ignoring a comprehensive range of factors that may influence customers' buying or leasing decisions about a home (Jain & Aggarwal, 2017). Previous research has relied on simple satisfaction measures or traditional regression models, neither of which reflects the complexity and multidimensional nature of customer attitudes and behaviour in the real estate market (Chandrashekar & Devasagayam, 2016). Such a narrowing of the research approach ignores the relationships between various elements, including safety services, parking options, and general building quality that can significantly impact tenants' perceptions.

Finally, it is worth mentioning that, though the real estate industry in Dhaka is evolving at an alarming speed, there exists a severe lack of studies that directly study client sentiments as far as the growing real estate industrial area of Dhaka is concerned. The fact remains that Dhaka is a unique market where socio-economic factors such as income levels, cultural expectations, and infrastructure development can significantly shape consumer perceptions of real estate companies. As a result, earlier research that overlooks such local characteristics provides an incomplete picture of customer behaviour in the Dhaka real estate market.

Hence, this study aims to bridge these gaps by taking a holistic perspective and incorporating several factors that influence clients' perceptions toward real estate firms in Dhaka City. This specific study explores 15 unique features vital for the customer decision-making process, such as location, parking availability, utilities cost, security services, distances from essentials, on-time apartment delivery, financing availability, backup electricity supply, fire-proof features, down payment plans, construction quality, building code compliance, and floor decoration. This study aims to include a broader range of customer perceptions by considering these traits that are often overlooked in previous studies.

The key methodological innovation of this paper is the application of Fishbein's Multi-Attribute Attitude Model (Fishbein, 1963). In contrast, ordinary models rely on primitive satisfaction measures, which makes this model more advanced in reflecting the influence of different factors on customers' overall sentiments towards the real estate business. It enables the evaluation of not only the degree and significance of customer opinions regarding various factors but also provides a higher level of understanding with regard to the elements that influence consumer attitude. In previous studies, this methodology has either been overlooked or not applied in real estate, particularly in developing markets like Dhaka.

In view of that, this study focuses on addressing this lack of a comprehensive multi-attribute model which can adequately analyse customer perception in the context of Dhaka real estate. Buoyed by extensive marketing and customer service efforts, Real Estate firms in Dhaka hardly seem to know the attribute-wise micro-level data, which can help them add to customer satisfaction and enhance business potential. Based on a holistic set of these attributes, this study attempts to fill this gap through the analysis of an extended list of features using an advanced analytics approach, which can provide real estate firms with vital insights to improve the quality of services, client interactions, and overall satisfaction.

This study seeks to complement previous research by offering a comprehensive, context-sensitive understanding of customer attitudes about real estate companies located in Dhaka City. Its insights will clarify the particular attributes that affect consumer satisfaction under the city's rapid urban growth and unique socio-economic scenario. The findings of this study are expected to benefit real estate developers, marketers, and lawmakers, enhancing the overall performance of the real estate sector in Bangladesh, specifically in Dhaka City.

2. Problem Statement

However, in the fast-emerging real estate business of Dhaka City, client satisfaction plays a dominant role in determining the viability and profitability of real estate companies. Although fully-fledged developments for residential investment projects have been on the rise and fierce competition has emerged between the real estate companies, the multifactorial decision-making model developed on the basis of the client's motivation and intentions lacks full-scale representation. Previous studies have often focused on a narrow set of features, for instance, price or location, omitting a multitude of features necessary to buyers. In addition, existing research has relied on simple satisfaction measures or rudimentary analytical frameworks that fail to capture the nuances of customer emotions in the unique socio-economic context of Dhaka.

This study addresses this knowledge gap, and the objective of the study is to assess customer perceptions across a broad spectrum of 15 different attributes of real estate firms, including location, parking facility, utility cost, security, construction quality, on-time delivery, financing and fire safety. The problem is not the lack of a single cross-attribute model, such as buffer methods, that enables the analysis of what influences total consumer satisfaction and purchase choices under numerous variables. Additionally, most contemporary research fails to provide any insights relevant to Dhaka, as the city's socio-economic, urban development, and infrastructure characteristics shape customer perceptions significantly.

Using Fishbein's Multi-Attribute Attitude Model (Fishbein, 1963), this study presents a comprehensive, empirical assessment of the effect of different facets of service on customers' overall attitude toward real estate companies in Dhaka City. The study fills the existing methodological gap in the existing literature, offering a more nuanced analysis of the customer perspective and seeking to help real estate marketing companies identify precisely what features are prominent in the customer's mind and crucial for customer happiness and, hence, business success.

3. Objectives of the Study

This research aims to identify customers' attitudes towards the performance of real estate companies in Dhaka City by studying different performance attributes they perceive. The specific objectives of the study are as follows:

1. To determine the significant factors affecting customer perception of real estate firms in Dhaka.

2. To evaluate the relative importance of each of these attributes to explain overall customer satisfaction.
3. To discover any notable deviation between customer expectations and the actual performance of real estate companies in Dhaka City.
4. To suggest more recommendations to real estate companies in Dhaka City regarding enhancements in customer satisfaction and competitive advantage factors.

4. Literature Review

Over the past few decades, the real estate sector of Bangladesh has changed a lot, especially in Dhaka. Although previous literature has addressed a multitude of issues in this sector, few have investigated customer attitudes regarding the performance of real estate companies, one of the more important factors in the intensifying competition in the urban housing sector. In previous studies, identification of just a few features, like geolocation and price are utilized to classify the sector, and customer attributes are limited to a few (Jain & Aggarwal, 2017; Hossain et al., 1998). These limitations commonly impact the creation of adequate customer satisfaction models crucial for enhancing industry performance.

Roy (2002) examined how the private real estate sector could meet the housing demand of Bangladesh. Although this study focused mainly on market trends, it does not detail customer views. Unlike the previous study, the present study is intending to fill in the gap by taking customer attitudes comprising of a number of real estate features, including location, parking, security services, and delivery on time (Dewri et al., 2012). While the real estate sector is utilized as a case here, this exercise provides a more holistic overview of the input variables likely impacting customer satisfaction in Dhaka's real estate sector.

According to some studies, such as those conducted by Talukder and Bhuiyan (1992) and Hossain et al. (2020), have identified marketing strategies in real estate and factors of employee turnover in different real estate companies of Dhaka. Although these studies are relevant to aspects of marketing and internal business practices, they do not provoke clear implications for customer perceptions of real estate firm performance. To fill this gap we explore customer perceptions regarding real estate companies operating in Dhaka by recognizing that customer satisfaction is multidimensional in nature (Chandrashekar & Devasagayam, 2016).

Abroad, different customer satisfaction models have been used to investigate consumer perceptions in the real estate sector. For example, the Fishbein Multi-Attribute Attitude Model used in Jain and Aggarwal (2017) and Roy et al. (2019) to showcase the role of nuanced attitudes of customers in varying markets. Socioeconomic factors play such an important role in not just consumer behaviour, but also in our understanding of the market, making this a good fit for Dhaka. By implementing this model in this study, more nuanced information related to customer attitudes can be extracted from the data, providing useful insights for real estate companies; useful from the perspective of providing actionable outcomes.

As such, it is vital to understand that the socio-economic and urban challenges unique to Dhaka shapes customer perception in ways that are not always adequately reflected in the findings from global studies. Research by Barua et al. Despite findings by Ali & Treece (2010) on the private housing real estate sector, however, which stressed the necessity of policy measures that were substantive enough to induce long-term sustainability (Ali et al. 2010), the sensitive nature of customer attitudes towards real estate firms, specifically, was not examined. By addressing these points that are often neglected in research, this work contributes to a fuller understanding of customer satisfaction by concentrating on a wide range of customer feedback.

In addition, some studies including Rahman (2016), Hossain et al. However, they do not consider the from a customer perspective what aspects of real estate businesses the consumers value the most, as cited by Harris and Ogbonna (2006). This work builds on the aforementioned studies by evaluating the customers' attitudes towards 15 different characteristics of real estate businesses, as well as using the Fishbein model in order to calculate the attitudes towards each specific characteristic in a sounder manner.

Based on the literature presented above, we notice that while a decent amount of research exists in relation to customer satisfaction in the real estate sector in both Bangladesh and across the world, none have as yet looked into the more complicated aspects of consumer behavior which are multifaceted in nature. The present study advances the field by considering a wider set of attributes—security, parking, fire safety, and customer service—in evaluating their effects on customer satisfaction in the context of Dhaka's real estate market.

5. Methodology of the Study

The different aspects of the methodology of this study are specified in subsequent sections.

5.1 Sources of Data

Both primary and secondary data were used for this study. A structured questionnaire-based survey was conducted to collect the required primary data. The secondary data were collected from several published sources, such as reports of the Bangladesh Bureau of Statistics, reports of the Real Estate and Housing Association of Bangladesh (REHAB), relevant books, articles from academic journals, and annual reports of concerned real estate companies.

5.2 Questionnaire Design

The primary data of this study were collected with the use of a succeeded questionnaire conducted on customers who bought apartments or flats of real estate companies in the Dhaka City. The questionnaire was meticulously developed to gather pertinent information about customer perceptions regarding the functional performance of these companies in relation to 15 specific service-related attributes.

Step 1: Create Initial Questionnaire

Existing literature and past research on customer satisfaction in the real estate industry (Jain & Aggarwal, 2017; Dewri et al., 2012) were used to develop the questionnaire. These questions include various service attributes, such as location of the thoroughfare, car parking lane, security installation services and labor charges, building quality, timely delivery, financing patterns, and fire safety systems, among others. All the attributes were chosen according to how many aspects it has regarding customer satisfaction in the real estate range of Dhaka.

Step 2: Pre-testing

To test the final survey, the pre-test was conducted with a smaller sample of 50 respondents from Dhaka City. This pre-test involved administering the questionnaire to validate its clarity, reliability, and comprehensibility. The questionnaire was thereafter modified to develop clarity, and all questions were perceived as easy and more understandable based on feedback provided by the respondents during this phase. Some questions were reworded, and response options altered, to better reflect customer expectations.

Step 3: Final Survey Implementation

Then and only then, based on the results from step 2, we can finalize the survey before implementation (step 3). After the pre-test, the final version of the questionnaire was administered to 300 respondents

who have purchased real estate from companies in Dhaka. Participants were selected using a convenient sampling method. Given enough time for the responses, the survey took two months (August–September 2024). We reached respondents through in-person interaction at the real estate offices and through online platforms adopted by real estate firms.

Step 4: Format of the Survey

The surveys were made up of three sections:

Demographic Data: This consisted of some questions related to the age, sex, marital status, educational level, occupation and income level of respondents. This helped to understand how demographic aspects can impact how customers perceive real estate companies.

Customer Attitude Evaluation: This part required respondents to evaluate 15 characteristics related to real estate services, for example, area, parking space, security, utility charges, etc. Respondents rated each attribute on a 5-point Likert scale, from 1 (very dissatisfied) to 5 (very satisfied). This enabled quantification of the customer sentiment toward each attribute.

Overall Experience with Real Estate Firms: The last section collected information about customer sentiment when it comes to real estate firms: Finally, this section ended with an open-ended question for respondents to write any additional comments or suggestions they had in relation to their experience with the real estate company.

Step 5: Data Collection Process

Following the distribution of the questionnaires, the gathered data was entered into a database and cleaned. Surveys were then conducted by a trained team of enumerators for data collection to provide uniformity and reduce bias. Participants were assured that their responses would remain anonymous and were informed that involvement in the study was not mandatory. The data had an adequate response rate of approximately 85% for ensuring reliability and representativeness.

Step 6: Ethics

Informed consent was obtained from all participants, and data was collected in accordance with the study purpose and was used appropriately. Data were collected following ethical standards, and respondents were allowed to leave the study at any moment.

5.3 Data Analysis Procedure and Proposed Model

To measure the customers' attitude toward real estate business, the Fishbein multi-attribute model (Fishbein, M. 1963) was used, which is symbolized as:

$$A_0 = \sum_{i=1}^n (b_i e_i) \quad (1)$$

In the model, A_0 refers to an overall attitude toward an object; b_i indicates the strength of one's belief about the attribute (i) of that object, and e_i refers to the evaluation of feelings or importance of the attributes. Along with the Fishbein model, collected data were processed and analyzed using quantitative techniques. Descriptive and empirical analyses were conducted. Descriptive analyses were made based on the frequency distribution, mean calculation, standard deviation (SD), and coefficient of variation (CV) to explore and interpret the different aspects of the data demographic.

The significance of the hypothesis is tested by using left tailed Z test. A prepared statement on each of the fifteen attributes of the performance of the real estate companies is measured on a five-point Likert scale to identify the customers' attitude, where 1 means very dissatisfied, and 5 means highly satisfied. Statistical software SPSS version 28.0.1.1 was used for statistical analysis of the data.

5.4 Hypothesis Development

This study is designed following the Fishbein multi-attribute model, which proposed two elements to measure the customers' attitude (A_o) toward an object, which is, b_i - belief about the attribute led from the customers' experience of the object and e_i - evaluation of the attributes, that means how important that attribute for the object.

Fifteen attributes have been selected to measure the attitude based on the prior study and the pilot survey. To measure the belief (b_i) and evaluation (e_i) of each attribute, respondents were asked to rate their belief (b_i) on a five-point Likert scale on which 5 represent the highest score and 1 represent the lowest score. Similarly, to measure the evaluation or importance (e_i) of each attribute 0 to 100% rating scale is used which is categorized into 5 ranges, i.e. 0-20% (0 - 0.2), 20 -40% (0.2 - 0.4), 40-60% (0.4- 0.6), 60-80% (0.6-0.8) and 80-100% (0.8 - 1.0), on which 0 represent the lowest importance and 1.0 represent the highest importance of each attribute.

The hypothesis is proposed on the belief (b_i) of each attribute, assuming that each attribute is similarly vital to all customers, though, in reality, it is not similar to all, so the average importance (mean) is used as standard importance for each attribute.

It is proposed that the customers' belief (b_i) of each attribute is positive, and the score should be at least 3.5 or more on the 5-point scale. So, the hypothesis is that customers' belief (b_i) of each attribute is positive.

$H_0 = b_i \geq 3.5$, [customers' belief (b_i) of each attribute is positive; equal or more than 3.5]

$H_1 = b_i < 3.5$, [customers' belief (b_i) of each attribute is not positive; less than 3.5]

To test the hypothesis, the left-tailed Z test is used at a 5% significance level.

5.5 Study Limitations

The foremost limitations of the study are associated with the sample size, sampling technique, and working population. More than 300 samples might be needed to generalise the findings to the concerned population. Random or judgmental sampling techniques would have been better than the convenience sampling technique. A convenience sampling technique made the data collection process more accessible for the researchers. Sample respondents were chosen from Dhaka city only, which can be considered another limitation to generalising the result nationwide.

6. Empirical Analysis and Findings

The data collected from the respondents were analyzed for the fulfillment of the objectives of the study. Descriptive data were collected based on different demographic variables, and respondents' categorical data were collected based on the types and sizes of houses or apartments they purchased. Customer attitude-generating data were collected based on customers' responses on a five-point Likert scale against fifteen factors of the performance of the real estate business. The result of the empirical analysis is presented in the following sections.

6.1 Demographic Attributes of the Respondents

The demographic data and its analysis are presented in the subsequent table.

Table 1. Demographic characteristics of the respondents (N*=300).

Options/Characteristics	Frequency	Percent	Valid Percent
Sex			
Male	250	83.33	83.33
Female	50	16.67	16.67
Total	300	100.0	100.0
Age			
Below 40 years	30	10.0	10.0
40-50 years	126	42.0	42.0
Above 50 years	144	48.0	48.0
Total	300	100.0	100.0
Marital Status			
Single	24	8.0	8.0
Married	210	70.0	70.0
Divorced/separated	66	22.0	22.0
Total	300	100.0	100.0
Level of Education			
Primary	30	10.0	10.0
High School	108	36	36
College	144	48	48
University	18	6.0	6.0
Total	300	100.0	100.0
Profession			
Service holders	75	25	25
Businessmen	165	55	55
Housewives	15	5	5
Others	45	15	15
Total	300	100.0	100.0
Monthly Income			
Below BDT 50000	17	5.67	5.67
50000-100000	60	20	20
100000-200000	75	25	25
Above 200000	148	49.33	49.33
Total	300	100.0	100.0
Location of residence			
Dhanmondi	70	23.33	23.33
Gulshan/Baridhara	105	35.0	35.0
Banani	45	15.0	15.0
Uttara	60	20	20
Others	20	6.67	6.67
Total	300	100.0	100.0

Source: Field survey, August-September 2024

Note: *N = Total Respondents = 300

Table 1 shows the demographic characteristics of the respondents. Out of 300 respondents, the dominant portion (83.33 percent) are male, whereas only 16.67 percent are female. About 48 percent of the respondents are above 50, and 42 percent are between 40 and 50 years. Marital status shows that more than two-thirds of the respondents (70 percent) are married; on the other hand, 22 percent of customers are divorced/separated and come to purchase apartments from real estate companies. Table 1 also reveals that 48 percent of respondents have a college degree, and 36 percent completed high school-level education. The highest number of respondents (55 percent) are business people, whereas 25 percent of customers are service holders. About 49.33 percent of respondents' monthly income is above BDT 200000, whereas it is seen that 25 percent of respondents' monthly income is between BDT 100000-200000. 35 percent of customers' residences are in Gulshan/Baridhara, and 23.33 percent are in Dhanmondi, who have purchased apartments from real estate companies.

6.2 Categorical Analysis of the Respondents

To determine the category of the real estate industry customers, a few sets of questions were used in the survey and the responses are as follows.

Table 2. *Categorical characteristics of the respondents (N^{*}=300).*

Category/Attributes	Frequency	Percent	Valid Percent
Ownership Duration			
Less than one year	24	8.0	8.0
Between 1 to 3 years	66	22.0	22.0
Between 3 to 5 years	114	38.0	38.0
More than 5 years	96	32.0	32.0
Total	300	100.0	100.0
Type of apartments purchased by the respondents			
Condominium with swimming pool, gym.	24	8.0	8.0
Semiditus Duplex	18	6.0	6.0
Flat	258	86.0	86.0
Total	300	100.0	100.0
Size (space) of the apartment purchased by the respondents			
1000-1200 sft	36	12.0	12.0
1200- 1500 sft	96	32.0	32.0
1500-2000 sft	114	38.0	38.0
More than 2000 sft.	54	18.0	18.0
Total	300	100.0	100.0
Sources of information to select the seller			
Newspaper	102	34.0	34.0
Bill Board	90	30.0	30.0
Electronic Media	18	6.0	6.0
Rehab Fair	90	30.0	30.0
Total	300	100.0	100.0

Source: Field survey, August-September 2024

The categorical analysis of respondents indicates that the majority of consumers are apartment owners who acquired their properties during the last 3 to 5 years. Approximately 38% of the participants acquired the apartment within a brief timeframe of 3 to 5 years. Concerning the preferred forms of residence among clients, it has been shown that 86% of respondents like flats or apartments. For instance, merely 3% and 4% of respondents express a preference for duplexes and condominiums featuring swimming pools and gymnasiums, respectively. The research reveals that the majority of respondents possess limited purchasing capacity, compelling them to prioritize essential needs and amenities over luxuries.

It is evident that 32% and 38% of respondents choose flats sized 1200-1500 sq. ft. and 1500-2000 sq. ft., respectively. The majority of respondents favor medium-sized apartments. The preferred apartment size is contingent upon the customers' financial capacity and family size. They seek apartments that are neither tiny nor substantial in size.

Nevertheless, the newspaper remains the most effective medium for acquiring information regarding apartment purchases. To emphasize the issue, 34% of respondents obtained information from newspapers, 30% from Billboard advertisements, and another 30% from the REHAB fair, indicating that the majority of customers relied on conventional media rather than electronic media. The media preference correlates with the respondents' age, as seen by the demographic data showing that 48% are over 50 years old, while 38% are aged between 40 and 50. The type of product is another factor influencing the preference for traditional media; due to the high involvement and expense associated with apartments, consumers favor traditional media over electronic and online platforms.

6.3 Attitude toward the Real Estate Business

It is already indicated that to measure the customers' attitude toward real estate business Fishbein multi-attribute model was used, which is:

$$A_0 = \sum_{i=1}^n (b_i e_i) \quad (2)$$

Where,

A_0 = One's overall attitude toward the object (0)

b_i = The strength of one's belief about an attribute (i) or factor of that object

e_i = The evaluation of feelings (goodness or badness) of the attribute (i) or factor of that object

n = The number of attributes considered of that object

i = individual attribute of that object

Factor wise customers' beliefs and evaluations are found from the field survey as follows;

Table 3. Factor-wise mean value of customers' beliefs and evaluations of real estate business (the attributes are arranged from highest positive attitude to lowest).

Sl.	Attributes	b_i	e_i	$b_i e_i$
1.	Support for financing arrangements by the real estate company is good to pay the price	3.36	1.00	3.360
2.	I am willing to pay a high price for an apartment if it is situated in a good location	3.4	0.875	2.975
3.	Car parking spaces are enough which is provided by the company.	3.7	0.789	2.919

4.	Do you think utility charges are satisfactory?	2.9	1.00	2.900
5.	The apartment building has a well-guarded round-the-clock security service.	4.10	0.707	2.899
6.	The location of apartments are situated within walking distance of schools, colleges, hospitals, and other essential amenities	3.24	0.874	2.832
7.	The company hand over the apartment in due time.	2.78	0.975	2.711
8.	The loan facilities (EMI) provided by the real estate company are satisfactory.	2.85	0.932	2.656
9.	The Apartment has a backup power supply in case of power failure.	4.38	0.576	2.523
10.	The fire safety systems of the apartment are satisfactory	2.68	0.935	2.506
11.	The down payment systems of your company are satisfactory.	2.90	0.814	2.361
12.	I feel that buying this apartment was a good bargain for me.	2.26	1.00	2.260
13.	The apartment is built with high-quality materials; cement, rod, ceramic, etc.	3.16	0.71	2.244
14.	The company maintained the Bangladesh building code	3.20	0.67	2.144
15.	The company provides its interior decoration for me.	2.26	0.751	1.697
Total				38.986

Source: Field survey, August-September 2024

According to the model explained above with data presented in table 3, customers' overall attitude toward the selected attributes of Apartment Company,

$$A_0 = \sum_{i=1}^n (b_i e_i) = 38.986$$

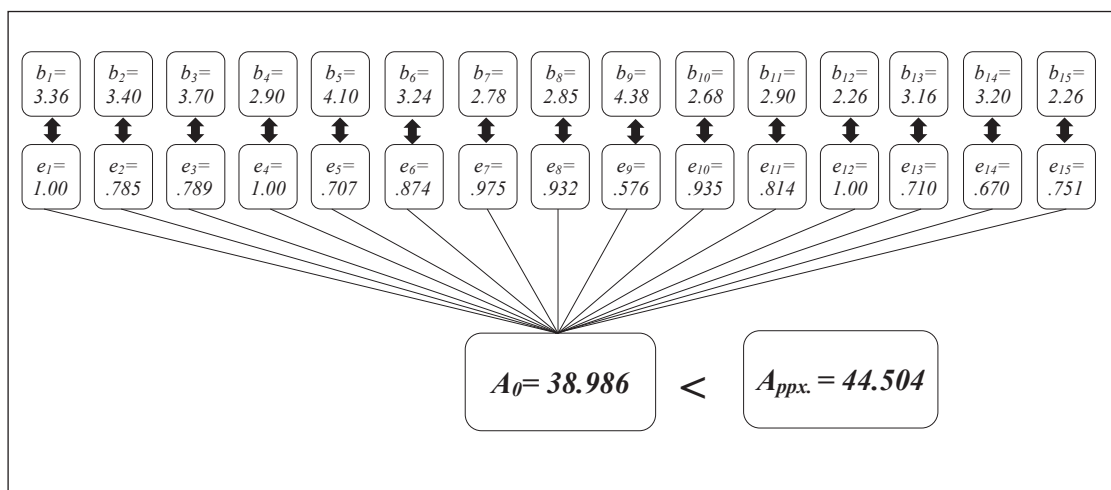


Figure 1. Customers' attitude toward the performance of real estate business.

Source: Field survey, August-September 2024

The cumulative score of attitudes toward the performance of the real estate sector, based on the fifteen criteria, is 38.986. This study model hypothesised a value of 44.504, which is significantly different from the observed score. The clients developed a more favourable disposition towards factors such as financial support, readiness to pay a premium for superior locations, availability of parking, utility expenses, and security services. They exhibited the least favourable disposition toward aspects such as interior design, adherence to building regulations, premium materials, advantageous acquisitions, and down payment arrangements.

Table 4. *Standard deviation and coefficient of variation of customers' beliefs of each attribute (the attributes are arranged based on the coefficient of variation from lowest variation to highest variation).*

Attribute no.		Attributes	bi	cv
9.	Backup power supply	4.38	0.565	13%
5.	Well security services	4.10	0.704	17%
14.	Compliance with building code	3.20	0.667	21%
3.	Car parking space	3.70	0.785	21%
1.	Support for a financing arrangement	3.36	0.723	22%
13.	High-quality building materials	3.16	0.689	22%
12.	Good bargained purchase	2.26	0.541	24%
2.	Willingness to pay a high price for a better location	3.40	0.853	25%
6.	Location	3.24	0.866	27%
11.	Down payment systems	2.90	0.895	31%
8.	The loan facilities (EMI)	2.85	0.928	33%
15.	Interior decoration for me.	2.26	0.747	33%
10.	Fire safety systems	2.68	0.931	35%
7.	Hand over the apartment in due time	2.78	0.97	35%
4.	Utility charges	2.90	1.10	38%

Source: Field survey, August-September 2024

The data in Table 4 indicates that the variation in beliefs among respondents is minimal (13% - 24%) across the seven attributes, including backup power supply, security services, compliance with building codes, and car parking space. Conversely, the divergence in perceptions among the respondents is significantly greater—exceeding 25% (25%-38%)—across the remaining eight qualities, including utility charges, timely apartment handover, fire safety, interior quality, loan facilities, and others.

7. Test of Hypotheses

Table 5. Calculation Z score for the hypothesis test.

Sl.	Attributes	Observed ($n=300$) $\bar{x}$				Proposed μ_{H_0}			Value of Z for $b_i e_i$	
		b_i	σ^2	e_i	$b_i e_i$	b_i	e_i	$b_i e_i$	Computed	Critical 5% Sig.
1.	Support for a financing arrangement	3.36	0.5227	1.00	3.360	≥ 3.5	1.00	≥ 3.500	-3.354	-1.645
2.	Willingness to pay a high price for a better location	3.4	0.7276	0.875	2.975	≥ 3.5	0.875	≥ 3.063	-1.787	-1.645
3.	Car parking space	3.7	0.6162	0.789	2.919	≥ 3.5	0.789	≥ 2.762	3.464	-1.645
4.	Utility charges	2.9	1.2100	1.00	2.900	≥ 3.5	1.00	≥ 3.500	-9.448	-1.645
5.	Well security services	4.10	0.4956	0.707	2.899	≥ 3.5	0.707	≥ 2.475	10.432	-1.645
6.	Location	3.24	0.7500	0.874	2.832	≥ 3.5	0.874	≥ 3.059	-4.540	-1.645
7.	Hand over the apartment in due time	2.78	0.9409	0.975	2.711	≥ 3.5	0.975	≥ 3.413	-12.535	-1.645
8.	The loan facilities (EMI)	2.85	0.8612	0.932	2.656	≥ 3.5	0.932	≥ 3.262	-11.310	-1.645
9.	Backup power supply	4.38	0.3192	0.576	2.523	≥ 3.5	0.576	≥ 2.016	15.543	-1.645
10.	Fire safety systems	2.68	0.8668	0.935	2.506	≥ 3.5	0.935	≥ 3.273	-14.269	-1.645
11.	Down payment systems	2.90	0.8010	0.814	2.361	≥ 3.5	0.814	≥ 2.849	-9.444	-1.645
12.	Good bargained purchase	2.26	0.2927	1.00	2.260	≥ 3.5	1.00	≥ 3.500	-39.698	-1.645
13.	High-quality building materials	3.16	0.4747	0.710	2.244	≥ 3.5	0.710	≥ 2.485	-6.066	-1.645
14.	Compliance with building code	3.20	0.4449	0.670	2.144	≥ 3.5	0.670	≥ 2.345	-5.219	-1.645
15.	Interior decoration for me.	2.26	0.5580	0.751	1.697	≥ 3.5	0.751	≥ 3.004	-30.305	-1.645
	Total				38.986			≥ 44.504		

Source: Field survey, August-September 2024

To test the hypothesis Z test for the mean is used and the formula for calculating the Z score is as follows.

$$Z = \frac{\bar{x} - \mu_{H_0}}{\sqrt{\frac{\sigma^2}{n}}} \quad (3)$$

Where,

$\bar{x}$ = Sample mean

$\mu_{(H_0)}$ = Hypothesized/expected population means

σ^2 = Variance of samples

n = Sample size

Since the test is a left-tailed Z test the critical value of Z at a 5% significance level is -1.645. If the computed value of Z is equal to or lower than -1.645, then H_0 is rejected. If the computed value of Z is more significant than -1.645, then To test the significance of the test result, a p-value of Z is used at a 5% significance level, which means if the p-value is $p < .05$, the result is significant.

Table 6. Result of the hypothesis test and significance test.

Sl.	Attributes	Observed (n =300)		Proposed $b_i e_i$ (μ_{H_0})	Value of Z		Result H_0	p value	Significance
		$b_i e_i$ ($\bar{x}$)	σ^2		Computed	Critical 5% Sig.			
1.	Support for a financing arrangement	3.360	0.5227	≥ 3.500	-3.354	-1.645	Rejected	0.00040	Significant
2.	Willingness to pay a high price for a better location	2.975	0.7276	≥ 3.063	-1.787	-1.645	Rejected	0.03673	Significant
3.	Car parking space	2.919	0.6162	≥ 2.762	3.464	-1.645	Accepted	0.00027	Significant
4.	Utility charges	2.900	1.2100	≥ 3.500	-9.448	-1.645	Rejected	0.00001	Significant
5.	Well security services	2.899	0.4956	≥ 2.475	10.432	-1.645	Accepted	0.00001	Significant
6.	Location	2.832	0.7500	≥ 3.059	-4.540	-1.645	Rejected	0.00001	Significant
7.	Hand over the apartment in due time	2.711	0.9409	≥ 3.413	-12.535	-1.645	Rejected	0.00001	Significant
8.	The loan facilities (EMI)	2.656	0.8612	≥ 3.262	-11.310	-1.645	Rejected	0.00001	Significant
9.	Backup power supply	2.523	0.3192	≥ 2.016	15.543	-1.645	Accepted	0.00001	Significant
10.	Fire safety systems	2.506	0.8668	≥ 3.273	-14.269	-1.645	Rejected	0.00001	Significant
11.	Down payment systems	2.361	0.8010	≥ 2.849	-9.444	-1.645	Rejected	0.00001	Significant
12.	Good bargained purchase	2.260	0.2927	≥ 3.500	-39.698	-1.645	Rejected	0.00001	Significant

13.	High-quality building materials	2.244	0.4747	≥ 2.485	-6.066	-1.645	Rejected	0.00001	Significant
14.	Compliance with building code	2.144	0.4449	≥ 2.345	-5.219	-1.645	Rejected	0.00001	Significant
15.	Interior decoration for me	1.697	0.5580	≥ 3.004	-30.305	-1.645	Rejected	0.00001	Significant

Source: Field survey, August-September 2024

8. Discussion

The clients' attitudes towards only three aspects of real estate products—car parking space, security services, and backup power supply—are good and exceed the minimal required criterion of positive beliefs. Customers' perceptions of the remaining twelve qualities are unfavorable and fall below the established threshold for positive thoughts. The disparity between respondents' attitudes and the proposed attitude regarding all fifteen qualities is substantial.

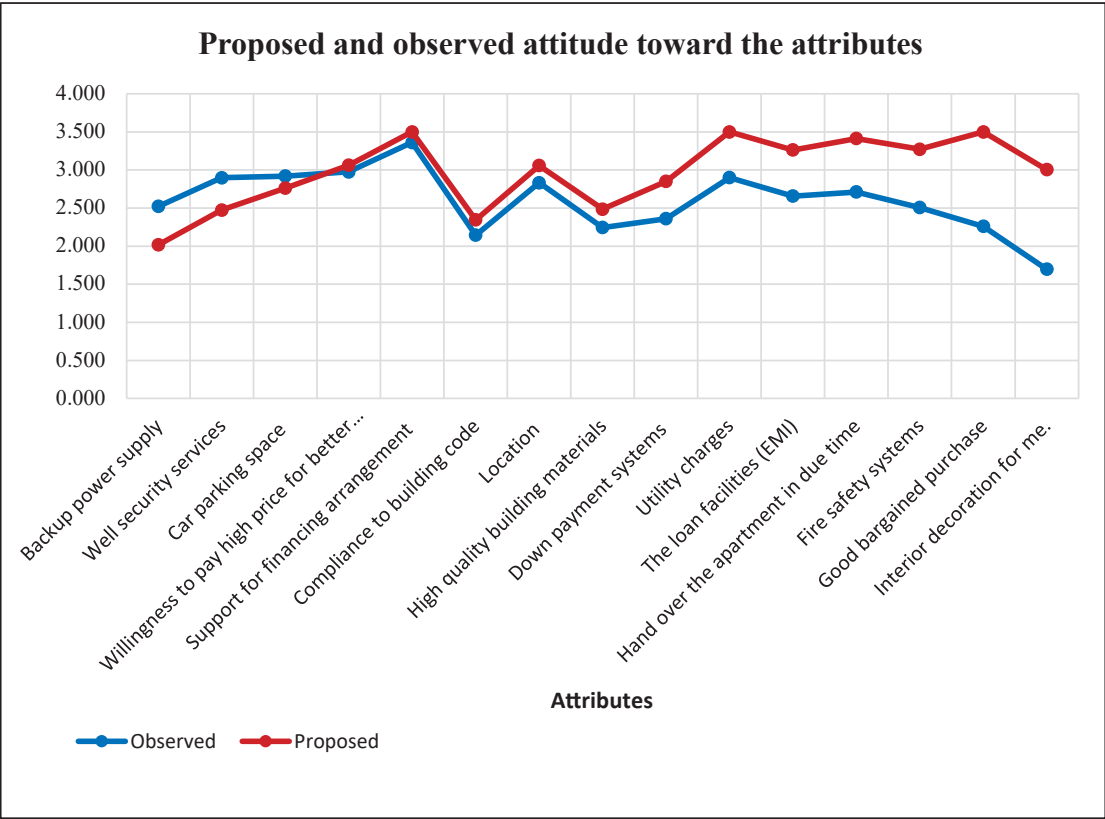


Figure 2. Observed and hypothesized attitude toward each attribute.

Source: Field survey, August-September 2024

Figure 2 indicates that respondents exhibit a more favorable attitude toward only three traits compared to the proposed model's attitude. The respondents' sentiments towards the remaining twelve qualities are more neutral than the proposed value. The qualities in the above picture are organized according to the ascending order of the disparity between the proposed and observed values of attitude. The disposition towards a readiness to incur a premium for a superior site, endorsement of finance

arrangements, adherence to building codes, and location exhibits a relatively lesser variance from the intended attitude. The perspectives on interior décor, advantageous purchases, fire safety systems, timely apartment handover, financing options (EMI), and utility expenses range significantly from the suggested viewpoint.

9. Conclusions

The demand for housing in metropolitan regions of developing nations such as Bangladesh is significantly rising. Innately, individuals prefer to reside and conduct their lives in a secure and tranquil environment. While renewal can be found in numerous locations, true rest and mental rejuvenation can be achieved at home; nevertheless, for many, the aspiration to acquire and construct a residence in Dhaka city remains a distant dream. The real estate industry is a significant sector in our nation. This study examines customers' perceptions of the performance of the real estate sector in Bangladesh. This report delineates consumer expectations from the real estate company, their level of satisfaction, and their specific demands. Data for this study was obtained from real estate firms and clients. This paper presents some recommendations to address these issues. Marketers utilizing this research can adjust their strategies in real estate marketing. The government can utilize this report to address the customer's issue. The government's role is essential in REB. The government should initiate improvements in this sector.

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