

**MODELING APARTMENT PURCHASE
INTENTION USING THE EXTENDED THEORY
OF PLANNED BEHAVIOR IN DHAKA CITY,
BANGLADESH**

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INTENTION USING THE EXTENDED THEORY
OF PLANNED BEHAVIOR IN DHAKA CITY,
BANGLADESH**

by

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LIST OF ABBREVIATIONS

| | |
|-------|--|
| AVE | Average Variance Extracted |
| CFA | Confirmatory Factor Analysis |
| CR | Composite Reliability |
| EFA | Exploratory Factor Analysis |
| GDP | Gross Domestic Product |
| HTMT | Heterotrait-Monotrait Ratio of Correlations |
| KMO | Kaiser-Meyer-Olkin |
| LV | Level of Validity |
| MGA | Multi-Group Analysis |
| NHA | National Housing Authority |
| PLS | Partial Least Squares |
| RAJUK | Rajdhani Unnayan Karttripakkha (Capital Development Authority) |
| REHAB | Real Estate and Housing Association of Bangladesh |
| SEM | Structural Equation Modeling |
| SPSS | Statistical Package for Social Science |
| TPB | Theory of Planned Behavior |
| TRA | Theory of Reasoned Action |
| USM | Universiti Sains Malaysia |
| VAT | Value Added Tax |
| VIF | Variance Inflation Factor |
| WUP | World Urbanization Prospects |

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**MEMODELKAN NIAT MEMBELI PANGSAPURI MENGGUNAKAN
TEORI LANJUTAN GELAGAT TERANCANG DI BANDARAYA DHAKA,
BANGLADESH**

ABSTRAK

Mengetahui faktor yang mempengaruhi dan kesannya terhadap niat untuk membeli pangsapuri adalah penting bagi syarikat hartanah. Oleh itu, mengenal pasti faktor mempengaruhi niat pembeli untuk membeli pangsapuri adalah objektif kajian ini. Untuk mencapai objektif kajian ini, pendekatan kuantitatif menggunakan teknik statistik generasi kedua yang dikenali sebagai pemodelan persamaan struktur kuasa dua terkecil separa (PLS-SEM) telah digunakan. Untuk mengenal pasti faktor yang berkaitan, analisis faktor penerokaan (EFA) telah dijalankan ke atas sampel 236 peserta dalam tinjauan pertama. Selepas menyemak semula soal selidik berdasarkan keputusan EFA, data baharu telah dikumpul daripada 304 sampel dalam tinjauan kedua untuk keputusan yang lebih baik dalam CFA. Berdasarkan Teori Lanjutan Tingkah Laku Terancang (TPB), kajian ini mencadangkan elemen kritikal lain seperti persepsi kualiti fizikal dan akses kepada wang. Faktor-faktor ini dikenal pasti melalui tinjauan literatur komprehensif yang berkaitan. Saiz sampel yang diperolehi melalui soal selidik yang ditadbir sendiri ialah 304. Kedua-dua perisian SPSS dan SmartPLS 4 digunakan untuk menjalankan analisis data. Dapatan kajian menunjukkan kesan positif pembolehubah tidak bersandar terhadap niat untuk membeli apartmen (sikap, norma subjektif, persepsi kawalan tingkah laku, persepsi kualiti fizikal, dan akses kepada wang) Setelah menganalisis penyederhanaan yang berkaitan dengan akses kepada wang, didapati tiada kesan penyederhanaan terhadap pembolehubah bebas dan bersandar. Kajian ini memberi sumbangan berharga kepada kesusasteraan sedia ada terutamanya

model TPB dengan memperkenalkan dua peramal penting, persepsi kualiti fizikal dan akses kepada wang, Faktor-faktor ini digunakan untuk menentukan niat membeli pangsapuri daripada industri hartanah di Bandaraya Dhaka, Bangladesh.

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ABSTRACT

Understanding the factors that influence apartment purchase intention is crucial for real estate companies. This research aimed to identify these factors and their impact on buyers' intentions. To achieve this, a quantitative approach using partial least squares structural equation modeling (PLS-SEM) was employed. To identify the relevant factors, an exploratory factor analysis (EFA) was conducted on a sample of 236 participants in first survey. After revising the questionnaire based on the EFA results, new data were collected from 304 samples in second survey for better result in CFA. The study, rooted in the Theory of Planned Behavior (TPB), considered elements such as perceived physical quality and access to money. These factors, identified through a literature review, were incorporated to a sample size of 304 complete questionnaires. SPSS and SmartPLS 4 software facilitated data analysis. The findings indicated positive effects of independent variables (attitudes, subjective norm, perceived behavioral control, perceived physical quality, and access to money) on apartment purchase intention. The moderation analysis revealed no significant moderating effect of access to money. This study contributes valuable insights by introducing two predictors, perceived physical quality and access to money, to the TPB model in the context of apartment purchases in Dhaka City, Bangladesh's real estate industry.

CHAPTER 1

INTRODUCTION

1.1 Background of study

Bangladesh, a small South Asian country, has a population of 169.48 million (Worldometer, 2023), making up 2.2 percent of the global population. It's the eighth most populous country, with one of the highest population densities globally. Housing for all is a significant challenge due to the growing population. The economy's rapid expansion boosts people's purchasing power. In Dhaka, the capital city, the real estate industry, especially apartment construction, is thriving due to the increasing population and housing demand (Sonia, 2020).

Housing property investments were once thought to be dull, but today they play a crucial part in the modern economy (National Housing Authority, 2016; Ullah et al., 2021). Investment in the real estate sector increases as GDP and employment prospects rise (Singh & Gupta, 2020). The real estate industry has an important impact on the economy's growth and job prospects because it expands the market for apartments (Al-Haddad et al., 2020). The apartment market and real estate firms provide the nation with enormous amounts of Value Added Tax (VAT), which can be viewed as an economic engine (Li et al., 2020).

Most developer companies operate in Dhaka City, Bangladesh's capital and a megacity (Shahriar & Sajib, 2021). Dhaka City, with a population of around 18.6 million, has a high density of 44,500 people per square kilometer (WorldAtlas, 2022). The city's population, constituting more than 10% of the country's total (Bangladesh Bureau of Statistics, 2022), generates housing needs due to Dhaka City being the administrative and economic core. As a result, many Bangladeshis aspire to own a

residential apartment in Dhaka City, and this desire is continually increasing. On the other hand, the Real Estate and Housing Association of Bangladesh (REHAB) reported that Dhaka City alone has more than 12,000 vacant apartments (The Business Standard, 2022). This significant number of unoccupied units highlights the disparity between supply and the demand from consumers (Al-Haddad et al., 2020). Therefore, it is crucial to understand the human behavior that impacts individuals' decisions to purchase apartments. The Theory of Planned Behavior (TPB) (Ajzen, 1991) serves as an underpinning theoretical framework designing the structural research model of this study. The TPB highlights that attitudes, subjective norms, and perceived behavioral control influence individuals' decisions and, consequently, their behavioral intentions.

The cost factor is also a vital issue for apartment buyers in Dhaka City. Dwellers are even struggling to rent houses, especially the low- and middle-income groups (Chowdhury, 2018), indicating that the cost of living is very high. A significant portion of the living expenses has to be spent on renting houses. This drives them to buy apartments.

There are currently several options for housing in Dhaka City. These options range from traditional homes to modern condominiums and eco-friendly spaces that is built based on evolving buyer preferences (Brown et al., 2022). This variety demands a detailed understanding of market availability, amenities, and pricing. There is very limited eco-friendly housing since it consumes more space, and this capital city can hardly provide such land for building eco-friendly houses. Therefore, the demand for apartment is increasing due to its nature of offering more homes by building multistorey buildings (Kamruzzaman, 2019).

The study focuses on factors influencing apartment purchase intentions. The study used a quantitative methodology to address research questions. Exploratory factor analysis (EFA) was used to identify relevant factors. The proposed model's relationships were analyzed using partial least squares structural equation modeling (PLS-SEM). Data analysis was conducted using SPSS and SmartPLS 4.0 software. Apart from TPB factors, two other predictors emerged as significant in the results.

1.2 Real Estate Industry in Dhaka city, Bangladesh

The constitution of Bangladesh recognizes housing as a fundamental human need. According to Article 15(a) of the Constitution of Bangladesh, the government plays a crucial role in ensuring housing rights. The article emphasizes the state's fundamental responsibility to achieve planned economic growth, constant growth of productive forces, and a steady improvement in the material and cultural standard of living. This includes providing basic necessities such as food, clothing, shelter, education, and medical care to its citizens (*Fundamental Principles of State Policy*, 1972).

The Bangladeshi government is obligated to support all housing initiatives in Bangladesh as a provider of housing, a facilitator for the most vulnerable population groups, and a provider of housing for all other groups (National Housing Authority, 2016). As part of its commitment to providing all citizens with planned residential amenities in a healthy environment, the government of Bangladesh is concerned about the developing housing shortage.

The Bangladeshi government falls behind many countries in ensuring affordable housing. The current housing demand is 6 million units, but only 31,500 are supplied annually, with 17,000 from the private sector, as reported by the

International Finance Corporation in 2022. The demand is projected to rise to 10.5 million units by 2030. Despite employing both conventional and unconventional methods, the government's housing initiatives, according to the Real Estate and Housing Association of Bangladesh (REHAB) in 2022, are not effectively meeting the actual demand. As a result, the private sector steps in. However, the right products are not being constructed by private developers considering consumer behavior in Dhaka City, Bangladesh. Consequently, unsold apartments are creating problems in the housing market.

Real estate is a crucial sector in this nation, contributing 12–15% to the country's GDP, as estimated by REHAB. Rapid urbanization creates a substantial market demand for more housing units in Bangladesh's real estate sector (Hossain et al., 2020). In Dhaka city, the capital, the scarcity of land has led to increased interest in apartment living (Seraj, 2015). With limited land for construction and high land prices, individuals prefer purchasing apartments in the private real estate market, which offers mid-rise or high-rise buildings (Mohiuddin, 2014).

Living in suitable housing is a fundamental right, leading to a rising demand for appropriately allocated property (Li et al., 2020). This demand intensifies with rural-to-urban migration (Al-Haddad et al., 2020). Bangladesh experiences significant socioeconomic development, a burgeoning middle class, and financial growth, impacting land use and the economy swiftly (Li et al., 2020). The improving economy in metropolitan areas drives up housing demand and purchasing power (Singh & Gupta, 2020). As living standards increase, so does the need for housing. Thus, careful management of residential land usage is crucial to minimize pressure on cultivable fields (Li et al., 2020).

Dhaka, the capital city of Bangladesh, is known for its extremely high population density, reaching 44,500 individuals per square kilometer (WorldAtlas, 2022). The public sector in Bangladesh struggles to meet the housing needs of Dhaka City's growing population. By 2025, the national urban population growth rate is expected to be 3.5 percent, increasing from the current 28 percent to 40 percent of Bangladesh's total population (The World Bank, 2018). Housing is crucial for ensuring that Dhaka Metropolis becomes a sustainable, affordable, livable, and fair city for urban residents. Moreover, by 2035, the population within RAJUK's jurisdiction (Capital Development Authority) is projected to grow from 15 million to 26 million. As per its Detailed Area Plan (2022–2035), providing appropriate housing in suitable locations is a directive.

The housing market and economics focus on residential real estate markets. Demand for housing is mainly driven by demographic factors. However, income, pricing, location, credit availability, consumer and investor preferences, substitutes' prices, and complements' prices also play a significant role. In Dhaka city, the housing market is highly segmented, influenced by factors like location, housing unit prices, city dwellers' lifestyles, age, occupation, and income. Consumer behavior is a crucial factor in this market segmentation (Ahamed, 2020). According to a report by the Real Estate and Housing Association of Bangladesh (REHAB), there are over 12,000 unoccupied apartments in Dhaka city (The Business Standard, 2022). Nevertheless, private developers are not providing the right product, taking into account the consumer behavior in Dhaka City. As a result, the housing market is experiencing issues due to unsold apartments.



Figure 1.1 Location of Dhaka city

The design of residential homes varies depending on a person's financial situation. The demand for residential apartments is rising quickly as more nuclear families are being formed and more internal migration is taking place. This is because an apartment with basic amenities is seen as adequate housing.

Housing facilities fall into two categories: self-built residential buildings and those constructed by real estate development companies. In the first category, the

building's owner initiates the construction of a multi-story structure. Apartments are distributed between the landowner and the apartment construction company. The development company sells all permitted apartments to buyers, while the landowner sells his allowed units, retaining one or two for personal use. In the second scenario, the real estate development firm oversees the site and sells each apartment during or after construction. This simplifies Bangladesh's real estate industry, which is the primary marketplace for buying or selling apartments. Nevertheless, considering Dhaka City's consumer behavior, private developers are not offering the appropriate products, resulting in unsold units that cause problems for the property industry.

1.3 Problem statement

In Dhaka city, the burgeoning population growth is driving an increased demand for housing. However, the limited availability of urban housing land has particularly impacted developers focusing on apartment construction, intensifying competition within the housing market (Rahadi et al., 2020). This surge in urban housing prices has led individuals to consider apartment purchases as viable options or real estate investments (Karim, 2020), creating opportunities for housing societies and apartment businesses.

Acknowledged by the government as vital for economic progress (National Housing Authority, 2016), housing represents a fundamental necessity for individuals. Access to suitable housing is not just essential for daily life but is pivotal for societal and national advancement. Furthermore, housing stands as a significant long-term investment. In the context of Bangladesh's rapid economic growth, the housing sector holds substantial importance, particularly in major cities characterized by multicultural diversity and dense populations.

For middle-class families, purchasing an apartment signifies a lifetime investment (Singh, Gupta, & Singh, 2018). Beyond its role as a physical structure, a house or apartment represents a multifaceted asset offering security, tranquility, and financial value (National Housing Authority, 2016). Urban areas, boasting flexible and diversified income sources, witness a surge in apartment demand, providing opportunities for individuals to rent or buy apartments (Al-Haddad et al., 2020). It is necessary to mention here that there is no supply of terrace house, semi-detached house, townhouse, or bungalow in the real estate market of Dhaka city, Bangladesh. However, condominium flat is also considered here as apartment.

Dhaka city, the epicenter of the country's commercial and administrative activities, stands out with its remarkably high population density (worldpopulationreview.com, 2022). Besides Dhaka, other major cities, burdened by overpopulation and unplanned rapid urban expansion, also grapple with housing challenges. Despite Dhaka city covering only 1% of the country's land area, it accommodates over 10% of the total population (Detailed Area Plan 2022-2035, 2022). As Dhaka city continues to expand rapidly, the housing challenge looms large due to its dense population, with population growth and evolving consumer behavior outpacing housing and relevant infrastructure development. The exponential increase in land values in Dhaka city and other large cities (Alam, 2018) exacerbates the housing crisis stemming from the scarcity of available land for housing demands (Rahadi et al., 2020). The soaring land prices and escalating costs of building materials pose significant barriers to real estate companies striving to provide affordable housing options for individuals with fixed incomes.

Over the last four decades, the private real estate industry has been a significant contributor to the supply of apartments. However, despite various strategies to promote

purchases, many fully constructed apartments remain unsold or experience prolonged selling periods (Rahman & Siddik, 2017). The existing market seems to lack the precise types of apartments that align with consumer demands. With a plethora of options available, buyers consider various factors in their apartment selection process (Rachmawati et al., 2019). The real estate market in Bangladesh, particularly in Dhaka city, has experienced substantial growth (Seraj, 2015). Despite the high demand and abundant supply of housing, the mismatch between available products and consumer preferences often results in ineffective market reach (Maslova & Burgess, 2022). According to the Real Estate and Housing Association of Bangladesh (REHAB), over 12,000 suitable apartments remain unoccupied in Dhaka alone (The Business Standard, 2022). The substantial number of unsold apartments underscores the gap between supply and consumer demand (Al-Haddad et al., 2020). Consequently, it becomes imperative to study the variables that influence apartment purchase intentions. Selling residential apartments in Dhaka necessitates thoughtful consideration of behavioral aspects of buyers. Different socio-economic factors influence apartment buying intentions in Dhaka city. Jamil et al. (2018) found that level of income and the amount of deposit a buyer can afford play a crucial role in apartment purchasing behavior, as the higher income level increases the likelihood of purchasing. Location and communication facilities to essential services can influence the purchase decision of potential buyers in Dhaka (Labib et al., 2013; Kamal & Pramanik, 2015). Potential consumers consider security an influencing factor before purchasing (Khaled et al. 2012). Physical quality such as design, construction quality, and amenities also influences buyers purchasing intention (Kamal & Pramanik, 2015). Exploring factors determining the behavioral intention of buyers to buy apartments is essential in designing appropriate strategies.

Literature shows that attitude, subjective norms, and perceived control influence human behavioral intention (Ajzen, 1988, 1991). Previous studies (AL-Nahdi, Habib, & Albdour, 2015; Judge et al., 2019; Kamal & Pramanik, 2015b) have centered on consumer purchasing behavior in real estate using the Theory of Planned Behavior (TPB). For instance, Kamal and Pramanik (2015b) explored apartment buyers' intentions in Dhaka city, Bangladesh, employing TPB. Similarly, Judge et al. (2019) utilized a similar approach to predict Australian homebuyers' intentions concerning sustainable housing. AL-Nahdi et al. (2015) also applied TPB to forecast apartment purchasing intentions in Saudi Arabia. While Ajzen (1988, 1991) has recommended TPB for studying purchasing intentions, critics like Yazdanpanah and Forouzani (2015) argue that it overlooks crucial factors influencing purchase decisions. Consequently, expanding TPB by incorporating additional contextual factors becomes essential for a comprehensive study. These identified factors can aid in estimating housing demand by predicting human behavior. For example, property costs in urban areas act as deterrents for potential homebuyers (Yoke et al., 2018). Thus, access to money can increase their ability to buy apartments. There is a need to investigate access to money as predictor of intention in the given context. The absence of a well-defined income threshold in Bangladesh further complicates the identification of specific target clients (Sadeque, 2013).

This could address the challenges posed by the unsold apartment crisis. The proposed model could assist practitioners in formulating effective policies and strategies to bolster the struggling real estate market.

1.4 Objective of the research

The study will examine Dhaka city dwellers' behavioral intentions for purchasing apartments. It focuses on factors influencing buyers' willingness to purchase apartments from the private real estate housing market. The study aims to contribute to ensuring sufficient product availability in Dhaka city's real estate market, making customers more interested in owning a house. To achieve the goal, the following distinct objectives are set forth:

1. To determine the relationship between attitudes and intention to purchase apartments.
2. To determine the relationship between subjective norm and intention to purchase apartments.
3. To determine the relationship between perceived behavioral control and intention to purchase apartments.
4. To determine the relationship between perceived physical quality and intention to purchase apartments.
5. To determine the relationship between access to money and the intention to purchase apartments.
- 5a. To examine the moderating effect of access to money on the relationship between attitudes and intention to purchase apartments.
- 5b. To examine the moderating effect of access to money on the relationship between subjective norm and intention to purchase apartments.

5c. To examine the moderating effect of access to money on the relationship between perceived behavioral control and intention to purchase apartments.

5d. To examine the moderating effect of access to money on the relationship between perceived physical quality and intention to purchase apartments.

1.5 Research questions

To fulfil the goals set forth in Section 1.4, the following questions are explored to obtain answers:

1. Is there any relationship between attitudes and the intention to purchase apartments?
2. Is there any relationship between subjective norm and the intention to purchase apartments?
3. Is there any relationship between perceived behavioral control and the intention to purchase apartments?
4. Is there any relationship between perceived physical quality and the intention to purchase apartments?
5. Is there any relationship between access to money and the intention to purchase apartments?
- 5a. Does access to money moderates the relationship between attitudes and the intention to purchase apartments?
- 5b. Does access to money moderates the relationship between subjective norm and the intention to purchase apartments?

5c. Does access to money moderates the relationship between perceived behavioral control and the intention to purchase apartments?

5d. Does access to money moderates the relationship between perceived physical quality and the intention to purchase apartments?

1.6 Significance of the study

The integration of diverse perspectives on consumer behavioral intention makes this study theoretically, methodologically, and practically significant to the field. Based on the preceding discussion, the importance of this research can be succinctly elucidated from three perspectives:

1.6.1 Significance from theoretical perspective

This study uses the TPB to identify factors such as subjective norm, attitude, and perceived behavioral control. It extends the TPB model by adding 'perceived physical quality' and 'access to money.' The research applies this extended TPB model to understand the behavioral intentions of apartment buyers in Dhaka city, Bangladesh. According to the service quality model (Priporas et al., 2017; Zeithaml et al., 1988), satisfaction and intention are influenced by the physical quality of a service. High apartment prices in Dhaka City, Bangladesh, hinder purchases (Barua et al., 2010). Access to financial resources can positively impact the inclination to buy apartments, especially in Dhaka City. This study contributes insights into the effects of perceived physical quality and access to financial resources, thereby expanding the existing knowledge. The extended TPB model might be more suitable for this context than the original model. Developing a model to comprehend behavioral intentions adds significantly to the current literature.

This study offers additional support to the Theory of Planned Behavior (TPB) in the Dhaka City, Bangladesh real estate context, providing a unique perspective. Prior studies extensively used the TPB to explore behavioral intentions in real estate, but they overlooked perceived physical quality, a critical aspect of apartment-related factors. Additionally, this study includes access to money, an underrepresented factor in earlier research. Addressing this gap, the research contributes to the literature on apartment purchasing intentions in Dhaka City, Bangladesh, modeling the extended theory of planned behavior.

1.6.2 Significance from methodological perspective

The recent study used Smart-PLS path modeling to investigate trends and the nature of all variables. Previous research covered the theoretical and empirical relationships between variables, but not thoroughly. This study examines purchase intention in relation to the following independent variables: attitude, subjective norm, perceived behavioral control, perceived physical quality, and access to money. Additionally, it considers the moderating effect of access to money to analyze overall trends through path modeling, given its significant impact. The use of the SEM approach in this investigation fills a gap in the literature and holds methodological significance from a broad perspective.

1.6.3 Significance from practical perspective

In this research, a multi-method approach is employed to develop the research model, and the structural model is subsequently evaluated using PLS-SEM. The research has practical significance for real estate developers, buyers, researchers, and government policy makers.

Real Estate developers: The empirical findings of this study will provide valuable insights for real estate practitioners, helping them make informed decisions regarding product and service design. Property companies must study and understand topics valued by customers (Singh & Gupta, 2020). By focusing on customers' demands, real estate companies can tailor their projects to meet market needs. Understanding customer preferences enables companies to keep up with market trends. The growing demand for real estate highlights the need for higher-quality residential apartments (Al-Haddad et al., 2020). Consumer behavioral intention significantly influences the real estate marketplace.

Developers and dealers need to understand their target industry's dynamics to create assets that meet their audiences' needs. Kamal and Pramanik (2015) found that property developers who address consumer needs experience higher revenue growth. Additionally, buyer behavior affects product market valuations. Labib et al. (2013) discovered that buyers' habits influence the selling price of real estate. Therefore, developers must consider consumers' behavioral intentions when marketing their properties.

Individual buyers: Buyers, at times, show limited discernment when comparing real estate firms and may be influenced by specific ones (Radlović, 2021). This study aids buyers with limited finances who have a demand for sustainable homes. Findings on influencing factors help estimate housing demand, enhance supply, and formulate real estate policies and plans (Shahriar & Sajib, 2021). In line with this, city inhabitants can acquire apartments based on their needs and abilities. Tracking consumer behavior and purchasing intent is increasingly crucial in the present era (Singh, Gupta, & Dash, 2018).

Real estate firms operate in a competitive market, striving to meet consumer demand and achieve success (Al-Haddad et al., 2020; Singh, Gupta, & Singh, 2018). When selecting and purchasing apartments, the focus should be on the purchasing habits of real estate customers (Rahadi et al., 2020). Given the numerous factors influencing purchase decisions, real estate companies need to assess these issues (Singh, Gupta, & Singh, 2018). Buyer demand and attitude may vary, contributing to the diversity of the real estate market. It's crucial to examine the connection between suppliers' strategy and purchasers' intention (Li et al., 2020). The current study helps real estate companies fill their knowledge gap regarding behavioral intention and initiate market-oriented projects. Similarly, city dwellers can acquire apartments based on their expectations and capacities.

Researchers: Researchers emphasize that understanding client needs and business perspectives helps meet current market demands. Growing interest in buying real estate supports the need for higher-quality residences (Al-Haddad et al., 2020). In Bangladesh, particularly in Dhaka City, the real estate industry is expanding. Increased research and development are essential for a better urban lifestyle and housing availability. It's crucial to note that the real estate housing market in Bangladesh has seen limited scientific investigations (Seraj, 2015). The objective of this study is to fill the knowledge gap in the real estate housing market, providing insightful empirical research on determinants of residential property purchases. Testing in the specific context of the real estate industry can also broaden the use of the Theory of Planned Behavior by incorporating additional variables such as location, living space, and financial factors (Yoke et al., 2018).

This research will make three distinct contributions to the existing literature. It introduces a paradigm for examining behavioral intentions in apartment purchasing.

Firstly, there is limited research in the existing literature on consumer behavior in the context of a real estate market within an emerging economy. Secondly, this study extends the TPB theory by incorporating two additional variables: perceived physical quality and access to money. Thirdly, it explores the moderating effect between the independent variables and the dependent variables.

Government policy makers: The objective of this study is to investigate the relevance of attitudes, subjective norms, perceived behavioral control, perceived physical quality, and access to money in the decision-making process of purchasing a house within one's financial capabilities. The results may guide government policymakers as they implement policies to help homebuyers in Dhaka City, Bangladesh, find affordable houses. This research also serves as a guide for future studies aiming to meet the needs of urban homebuyers seeking affordable homes. Beyond its necessity and applicability, the study provides insights into the practical importance of identifying influencing factors. These factors collectively contribute to offering the appropriate product and fostering the growth of both the national economy and the real estate market.

1.7 Definitions of the key terms

The following key terms, frequently utilized in the research, are explicitly defined below to ensure clear comprehension within the context of the current study.

1.7.1 Theory of planned behavior (TPB):

Ajzen (1988, 1991) introduced the Theory of Planned Behavior (TPB) as an extension of the Theory of Reasoned Action. According to the TPB framework by Ajzen (1991) and supported by Sheeran et al. (2003), consumer behavior prediction involves considering attitudes, subjective norms, and perceived behavioral control.

The TPB provides a clear and accurate description and prediction of consumer behavior (Yoke et al., 2018). Yoke et al. (2018) discovered that factors such as attitude, subjective norms, perceived behavior control, and financial aspects positively impact the decision to purchase a house. This theory serves as a framework for studying inclinations or tendencies of apartment buyers (Rosner et al., 2021). The concept of planned conduct elucidates how attitudes, subjective norms, and perceived behavioral control influence decisions by consumers and investors (Carmona, 2022; Rosner et al., 2021).

1.7.2 Attitude

An attitude is a psychological inclination indicating approval or disapproval toward something (Ajzen, 1988). Yoke et al. (2018) outlined three elements to define attitude in TPB: cognitive, affective, and behavioral. A person's attitude reflects their perception of a specific issue (Carmona, 2022). Given its subjective nature, attitude can be indifferent or significant (Ajzen, 1991; Carmona, 2022). According to Ajzen (1991) and Zhang et al. (2020), attitude determines whether a person views an action as admirable or unpleasant.

1.7.3 Subjective norm

Subjective norms are the result of pressure applied to an individual to execute or abstain from engaging in a behavior (Ajzen, 1991; Han & Kim, 2010). Subjective norms are associated with the perspectives of the people most important to one and one's peer groups (Carmona, 2022; Septiani & Persada, 2020). It refers to the external influence on someone's decision-making (Septiani & Persada, 2020). The subjective norm refers to the perceived social pressure that influences an individual's decision to engage in or abstain from a specific action (Zhang et al., 2020). Subjective norms are a person's opinions about what society, friends, and family think about a conduct, and

they can have an impact on whether or not they choose to engage in the behavior (Carmona, 2022).

1.7.4 Perceived behavioral control

When participants think they can act or make a decision with certain behavior, they are said to have perceived behavioral control, which assesses an individual's opportunity and capacity to conduct a behavior (Mamun et al., 2018). Perceived behavioral control, as defined by Carmona (2022), pertains to an individual's belief in their own capability, competence, or capacity to effectively perform a specific behavior. Behavioral control is the ability to predict one's level of power over a specific behavior (Septiani & Persada, 2020).

1.7.5 Perceived physical quality

Perceived physical quality refers to the physical characteristics that are appealing to customers when buying a particular product or services. When buying apartments, the physical qualities of the apartment are crucial and influence the buying decision (Parasuraman et al., 1988). Contrary to objective quality, perceived quality can be characterized as a subjective customer evaluation of a product's overall superiority (Stylidis et al., 2020). The ability to differentiate based on perceived product quality is crucial for both manufacturers and marketers (Konuk, 2018). This construct was taken from Pham et al. (2023), and an example question of it is "I prefer to buy an apartment that has a convenient parking space."

1.7.6 Access to money

Due to the lengthy investment period and substantial financial requirements, purchasing an apartment is seen as a complex buying behavior (Radlović, 2021). Soaring apartment prices need to be under control, and purchasers' attitudes can be

examined to maintain economic growth based on the real estate market (Li et al., 2020). It is difficult for middle-class apartment owners to purchase a home due to the rising cost of living in urban locations (Yoke et al., 2018). Real estate buyers are required to take out sizable loans and pay borrowing costs.

1.7.7 Purchase intention

Customer preferences in purchasing a product or service involve assessing their motivations for choosing a specific brand (Hoe et al., 2018). Purchase intention, representing a buyer's mental state or willingness to buy, is a dependent variable (Yoke et al., 2018). The buyer's attitude, subjective norms, perceived behavioral control, and other factors, as highlighted by Ajzen (1991) and Yoke et al. (2018), notably impact purchase intention. As stated by Septiani and Persada (2020), purchase intention relates to consumers' potential willingness to acquire a product.

1.7.8 PLS-SEM

PLS-SEM is a complex statistical analysis technique that can evaluate all of the correlations between variables in a conceptual model, including measurement and structural components, simultaneously. For this study, PLS-SEM was employed since nonparametric SEM approaches are ideal for multi-group analysis (MGA) (Hair et al., 2016; Henseler et al., 2016; Sarstedt et al., 2011).

1.8 Organization of chapters

This study comprises five chapters.

Chapter 1 provides an overview, including background, research problem, and rationale in the context of Dhaka city. It identifies research questions, establishes corresponding objectives, and defines key terms.

Chapter 2 reviews existing literature, exploring the conceptualization of attributes and theoretical underpinnings. It incorporates various theories, justifying the selection of the underlying theory for the framework. This chapter presents the conceptual framework and hypotheses for empirical investigation.

Chapter 3 focuses on research methodology, covering the design, sample selection, measurement instruments, and statistical analysis.

Chapter 4 presents the analysis and findings, concluding with hypotheses.

Chapter 5 reviews earlier chapters, discussing findings with contextual justification. It identifies theoretical contributions, provides advice for management, policymakers, and the government. This chapter acknowledges study limitations, recommends future research, and concludes with final remarks.

1.9 Summary of this chapter

This chapter provides contextual and background information, supported by relevant references. It explores the real estate industry and housing in Dhaka city, referencing prior studies and national policies. A discussion on population growth and increasing housing needs, especially in Dhaka, is included. The housing market's status, its contribution to the sector, and the structure of the real estate market are highlighted. The problem statement is derived from an analysis of current circumstances. Specific objectives and research topics are outlined. The study's significance is thoroughly explained. Key terminologies are defined with examples. The order of the remaining chapters is then specified.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter offers an overview of the reviewed literature supporting the research. Various sources, including books, research papers, journal articles, conference publications, and public regulations, were consulted. It begins by describing the theoretical model's foundation, examining relevant theories. The focus then shifts to pertinent literature reviews for testing the conceptual framework. The section discusses the theoretical background and the operationalization of relevant variables. Reviews of previous literature on attitudes, subjective norms, perceived behavioral control, perceived physical quality, and access to money are presented, considering the Theory of Planned Behavior. The research gap is identified with supporting rationale. Finally, interconnected hypotheses involving all variables in the theoretical framework are justified and summarized.

2.2 Review of real estate studies

Real estate or landed property is a constitutional word that comprises land as well as anything permanently attached to the land, such as residences. However, in technical jargon, real estate refers to the plot and buildings themselves, whereas real property is generally used synonymously with real estate (Bony & Rahman, 2014).

This section is examined the study work on real estate, with a particular emphasis on research findings carried out in the United States, Europe, Asia, and lastly Bangladesh regarding the various variables governing customer behavioral intention toward housing unit purchases. In particular, the variables that impact the customers'

intention to buy primary residences from the privately owned housing market are discussed.

Numerous studies in the United States have explored real estate's impact on the economy and behavior. Miller et al. (2011) examined how real estate prices affect socioeconomic growth, finding a strong link, especially in regions with robust employment growth. Similarly, Nguyen et al. (2019) studied real estate development's impact on economic expansion in Vietnam, revealing varying associations between metropolitan areas. The U.S. market significantly shapes consumer habits in the real estate sector. Economic conditions, such as interest rates, unemployment, and GDP growth, influence consumer behavioral intention. During economic expansion, consumers may be more inclined to invest in real estate, while during a recession, hesitancy may prevail (Lim et al., 2013). In the U.S. real estate market, demographic factors notably influence consumer behavioral intention.

Age, income, and education level can influence consumers' property preferences, location choices, and budgets. Teenagers might prefer urban properties, while elders may lean towards suburban ones (Shen et al., 2017). The influence of societal and cultural factors on consumer behavior in the U.S. real estate market is crucial. Lifestyle, values, and beliefs shape perceptions of real estate and available properties. For example, consumers may prioritize environmentally friendly properties or those in low-crime areas (Thanaraju et al., 2019).

In Europe, numerous research studies have delved into the impact of real estate. Aye et al. (2019) examined how real estate prices affect Eurozone macroeconomic conditions. The authors found a link between higher home prices and increased economic growth, although this relationship weakens in nations with higher public

debt. Rodríguez & Bustillo (2008) explored the impact of European Union real estate prices on occupation, revealing a correlation between higher real estate prices and increased employment, especially in economically integrated nations.

The European real estate industry is witnessing a significant consumer behavior trend towards eco-friendly properties. Increasingly, European buyers are conscious of the environmental impact of real estate, seeking residences that are energy-efficient, constructed with eco-friendly materials, and located in low-carbon-footprint regions (Hecher et al., 2017).

Several studies in Asia have analyzed the real estate market's impact on the financial system. Lin and Lin (2011) studied the correlation between Japanese property values and economic growth. Li et al. (2018) explored how real estate prices affect China's economic growth. High real estate prices are linked to increased economic growth, however this connection weakens in areas with significant income inequality. Sociocultural factors significantly influence customer behavior in the Asian real estate industry. Tradition, religion, and ideologies affect the type of property, preferred location, and budget. For example, buyers in Muslim-majority countries may prefer assets aligned with Islamic finance principles (Sorour, 2018).

Real estate has been integral to Dhaka's socio-economic development. The sector has expanded significantly due to substantial government investments in residential, industrial, and commercial properties. Sholihuddin et al. (2020) discovered that location and price significantly influence consumers' decisions. Buyers prefer locations with convenient transportation, proximity to educational institutions, and retail malls. Kircova & Esen (2018) highlighted that consumer behavior is influenced by the company's image and credibility. Well-established developers with