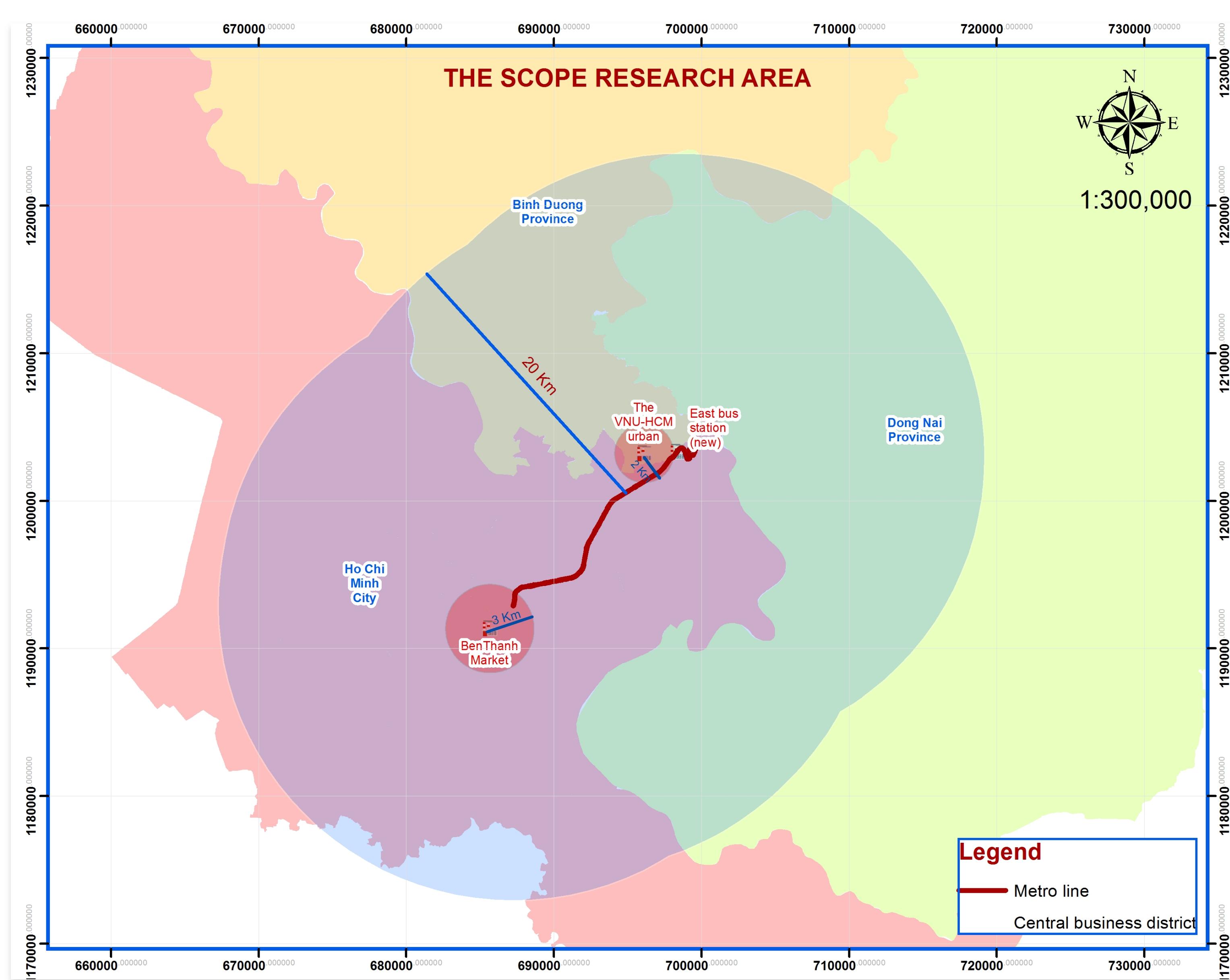




## ABSTRACT

This study will explore the affecting price of the apartment where the research scope covers a 20km radius from Metro line 1. The data collected includes information about 300 units of apartments from Biggee.vn website and the local authority. The six variables are discovered to be affecting the apartment price after screening and standardizing the data with ArcGIS Pro. The price maps generated as a result of this study are used to visualize the unit price distribution of apartments in HCMC and the surrounding area. It will also assist property managers and home buyers in making informed decisions regarding apartment investments.



## INTRODUCTION

1. "Exorbitant" price of houses
  2. Subjectivity in the real estate valuation process
- Factors affecting the apartment price
- Make the informed decision (managers, developers, and home buyers)

In this topic, to visualize the analyzed results in more reality, GIS (Geographic Information System) technology is used. This topic will focus in-depth on the impact of location, properties of apartments, and construction projects on the prices of surrounding apartments by using GIS.

## RESEARCH OBJECTIVES

The research objective is to study the determinants of the apartment price and apply it to the real estate market in the neighborhood of HCMC Metro line 1. In this topic, the linear regression integrated GIS method is used.

- ? How do the location and the population density affect the unit price of an apartment?
- How does the scale of the apartment building project affect the unit price of an apartment?

How does the characteristic of the apartment affect the unit price of an apartment?

Is there an apt model that could help value an apartment in the research scope?

Is there build a reference map of the price zone for apartments in HCMC and the neighborhood to have a market overview?

Considering each term, and the entire model, which is the most dominant contribution to the price of an apartment. Finally, the author quantifies in detail how the modeled proxies affect the regional price market that contributes to consolidating knowledge about the real estate market in this market. In other words, the given findings could be used as preparation for investors, planners, or accommodation developers.

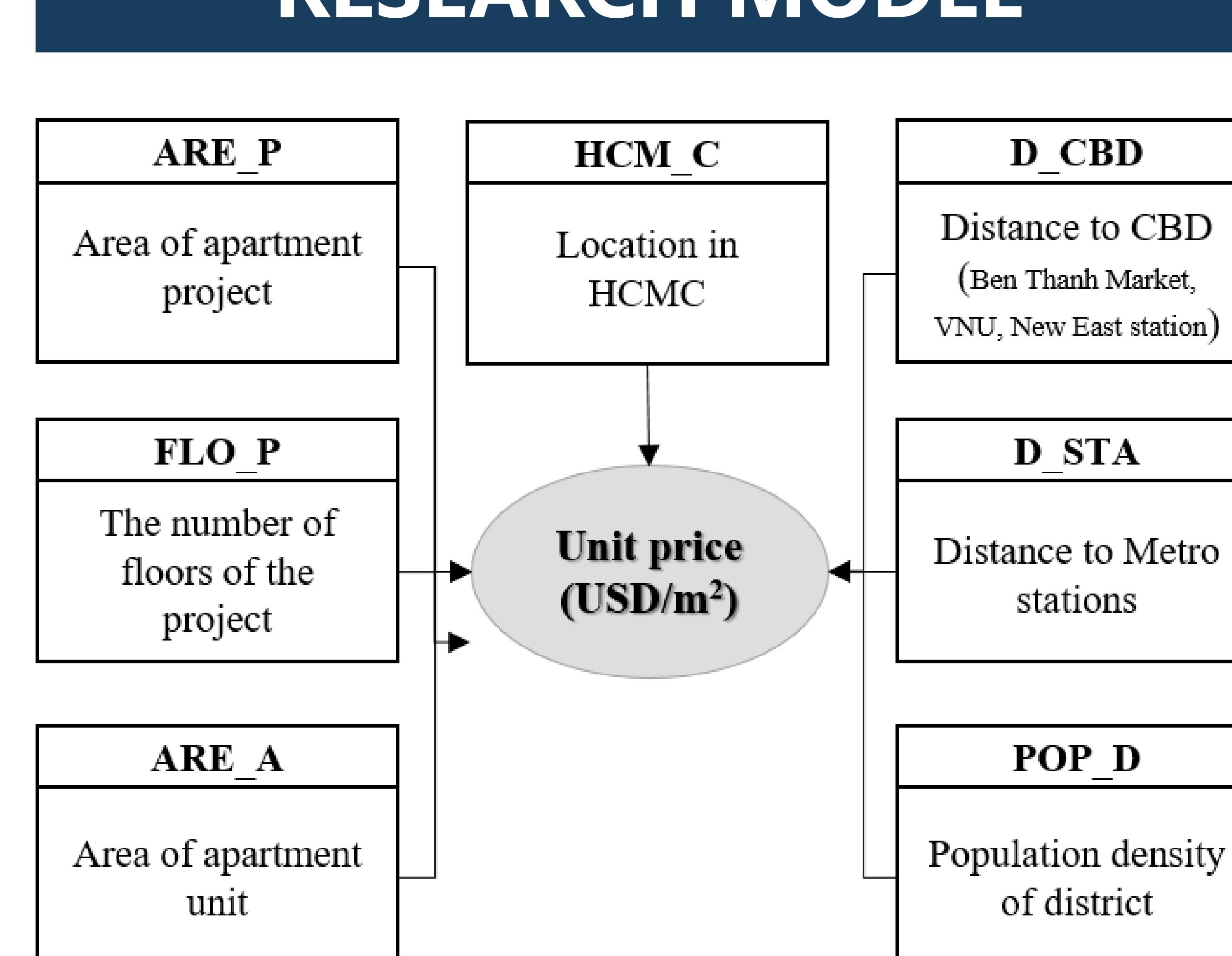
# Using GIS to analyze factors affecting the apartment price.

Case study: neighborhood of Ho Chi Minh Metro (line 1)

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## RESEARCH MODEL



## LITERATURE REVIEW

### 1. Background of commercialized apartments

- Law on housing and Detailing and guiding the implementation of a number of articles of the Housing Law
- National technical regulation on apartments

### 2. Factors affecting the apartment price

- Location
- Project scales (Project area, the number of floors)
- Apartment characteristics

### 3. Research model and methods

- GIS - Hedonic pricing model
  - + Regression method (OLS)
  - + GIS method

Descriptive statistical table				
Variables	Unit	Min	Max	Mean
PRICE	USD/ m <sup>2</sup>	487.57	3,840.61	1,646.93
ARE_P	m <sup>2</sup>	2,400.00	685,000.00	41,064.51
FLO_P	floor	5	50	22.70
ARE_A	m <sup>2</sup>	45	167.85	76.38
HCMC	dummy	0	1	0.85
D_CBD	Km	0.81	17.56	6.11
D_STA	km	0.11	18.27	4.81
POP_D	Per/km <sup>2</sup>	1,928.00	42,041.00	14,259.16

### Summary of Variable Significance and Multicollinearity

Variable	% Significant	% Negative	% Positive	VIF
HCMC	100.00	00.00	100.00	1.54
FLO_P	100.00	00.00	100.00	1.09
ARE_A	100.00	00.00	100.00	1.18
POP_D	92.98	00.00	00.00	1.54
D_CBD	87.72	100.00	00.00	4.50
D_STA	80.70	94.74	05.26	4.49
ARE_P	<b>21.05</b>	84.21	15.79	1.07

