FACTORS AFFECTING RESIDENTIAL LAND PRICE IN DIEN BIEN PHU CITY, DIEN BIEN PROVINCE

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ABSTRACT

The purpose of this study was to apply multivariate linear regression model to determine the factors that affect residential land price in Dien Bien Phu city, Dien Bien province. The obtained results showed that there were four groups of factors affecting the residential land price in Dien Bien Phu city, including: social factors, economic factors, regional factors and individual factors. Collected data were processed using the statistical software SPSS; the consistency coefficient was measured with Cronbach's Alpha for scaling test and Exploring Factor Analysis (EFA) was used. The analysis of Multivariate Linear Regression Model indicated that 61.1% of the variation of residential land price could be explained by the variation of the 4 groups of independent variables, while the rest (38.9%) was explained by other factors outside the model. The model that showed factors affecting the residential land price of Dien Bien Phu city as follow: $Y = 0.644 + 0.185X_1 + 0.261X_2 + 0.493X_3 + 0.327X_4$. The regional factor had the highest effect on residential land price with 23.9% contribution, followd by individual factor with contribution of 15.78%, economic factor with contribution of 12.6%, and social factor with contribution of 8.93%.

Keywords: Affect, Dien Bien Phu city, factor, residential land prices.

Nghiên cứu các yếu tố ảnh hưởng đến giá đất ở trên địa bàn thành phố Điện Biên Phủ, tỉnh Điện Biên

TÓM TẮT

Mục tiêu của nghiên cứu này là ứng dụng mô hình hồi quy tuyến tính đa biến để phân tích các yếu tố ảnh hưởng đến giá đất ở trên thị trường của thành phố Điện Biên Phủ, tỉnh Điện Biên. Kết quả nghiên cứu cho thấy, có 4 nhóm yếu tố tác động đến giá đất ở tại thành phố Điện Biên Phủ gồm: nhóm yếu tố khu vực, nhóm yếu tố cá biệt, nhóm yếu tố xã hội và nhóm yếu tố kinh tế. Số liệu được xử lý bằng phần mềm SPSS, kiểm định thang đo bằng hệ số Cronbach's Alpha và mô hình phân tích nhân tố khám phá EFA. Kết quả phân tích hồi quy tuyến tính đa biến cho thấy 61,1% sự biến động của giá đất bị ảnh hưởng bởi các nhóm yếu tố đưa vào mô hình nghiên cứu, còn lại 38,9% sự biến động của giá đất là do các yếu tố khác. Phương trình hồi quy tuyến tính về các yếu tố ảnh hưởng đến giá đất có dạng $Y = 0,644 + 0,185X_1 + 0,261X_2 + 0,493X_3 + 0,327X_4$, trong đó, yếu tố khu vực được xác định là yếu tố ảnh hưởng lớn nhất đến sự biến động của giá đất với sự đóng góp là 23,9%, tiếp đến là yếu tố cá biệt (15,78%), yếu tố kinh tế (12,6%) và cuối cùng là yếu tố xã hội (8,93%).

Từ khóa: Ảnh hưởng, giá đất ở, thành phố Điện Biên Phủ, yếu tố.

1. INTRODUCTION

The rapid expansion of cities in the developing countries due to urbanization, population growth and economic development creates numerous problems. Besides the land demand for construction of residential buildings, commercial centers make the land

resource becoming scarce and lead to an increase in residential land price. Consequently, low-income people are very difficult to access this scarce resource.

The land price is determined by the economic principle of highest and best use of land which produces the highest net return in any term, over a period of time. The lack of reliable nationwide databases on land transactions also makes it difficult to estimate land price exactly. Study of factors affecting land price is essential for calculating or estimating land price.

Studying factors affecting residential land price has been done by many researchers. Several studies showed that distance from the Central Business District is the major determinant of land price while the effects of non-location factor like plot size, time of land purchase, age of neighborhood, income, zoning policy, etc. are neglected (Alonso, 1964; Ball, 1973; Asabere, 1982). Another studies showed that age, location, size, neighborhood characteristics, economic activity, population, transport, etc are factors affecting land price (Asabere and Huffman, 1996; Kauko, 2003;, Joslin, 2005). Moreover, land value does not only depend on the physical characteristics of a building but also the environment that surrounds the building (Lancaster, 1966; Topcu and Kubat, 2009).

Dien Bien Phu city is the political, administrative, economic and cultural center of Dien Bien province, with a total area of 6,427.10 hectareas (Department of Natural Resources and Environment of Dien Bien Phu city, 2015). National Highway 12 and Highway 279 running through Son La and Lai Chau are favorable conditions for developing economy and society and expanding exchanges with the neighboring districts and provinces. According to Lo Thi Hong (2016), the residential land prices regulated by the State (benchmark) has been increased significantly in Dien Bien Phu city, especially in the period of 2013 - 2015 (average increase from 8 to 10% per year). There has been a large difference between benchmark price and market price (from 1.05 to 5 times in the urban area; from 1.1 to 2.18 times in the rural area). The purpose of this study was to apply multivariate linear regression model to determine the factors that affect residential land prices in Dien Bien Phu city, Dien Bien province.

2. THE HYPOTHESIS AND METHODOLOGIES

2.1. Hypothesis

Based on the previous studies and characteristics of the study site, a research scheme was developed (Figure 1). All social, economic, regional and individual factors were hypothesized to have a positive influence on residential land price of Dien Bien Phu city.

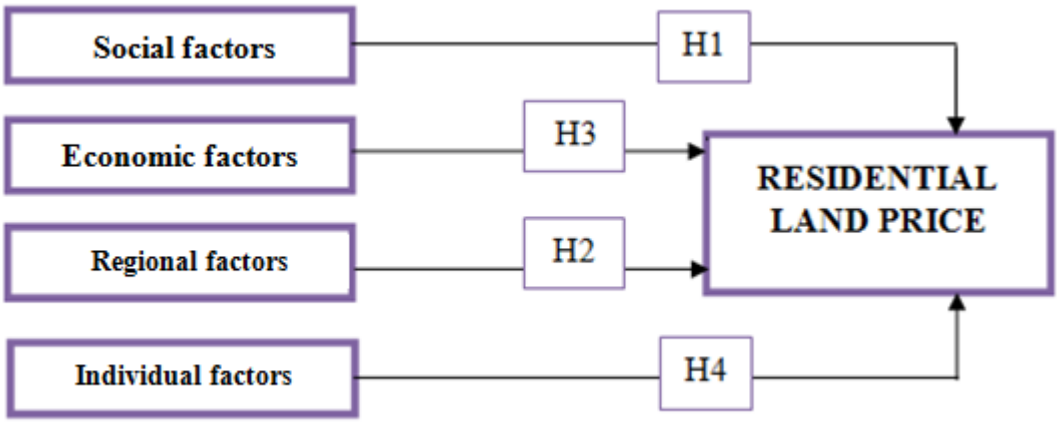

Figure 1. The research scheme

2.2. Methodologies

2.2.1. Data collection

Secondary data on the current of land use and land price of Dien Bien Phu city were collected from Department of Natural Resources and Environment and People's Committee of Dien Bien Phu city.

Primary data were gathered in the form of responses from the respondents. The five-level Likert scale of 1 to 5 was used to design the questionnaire form on measuring the influence of the factors affecting the residential land price, where 5 = strongly influence, 2 = influence, 3 = neutral, 4 = less influential and 5 = not influential) (Likert, 1932). The respondents were required to choose only one option for every question. The average was calculated for each statement. The result was then concluded with an overall average. The sample size was determined based on requirements of Exploratory Factor Analysis and Regression Analysis (Hoang Trong Chu and Nguyen Mong Ngoc, 2005). The minimum number of samples of the study was 150 participants. However, based on the number of land use right transfer in Dien Bien Phu city, the study investigated 185 participants (30 officials who work in land management field and real estate brokers and 155 people involved in buying or selling land).

In order to test the reliability of the measuring data, the Cronbach's Alpha and Exploratory Factor Analysis were applied. The factors affecting the residential land price were analyzed by multivariate regression model. Statistical Package for Social Science (SPSS) version 16.0 was used for analysis and presentation of the result. The descriptive statistics such as frequency tables was applied to analyze data.

2.2.2. Data analysis

- Cronbach's alpha reliability test: Alpha was developed by Lee Cronbach in 1951 to provide a measure of the internal consistency of a test or scale (Cronbach, 1951). There are different reports about the acceptable values of alpha, ranging from 0.70 to 0.95 (Bland, Altman, 1997; Nunnally and Bernstein,1994). A low value of alpha could be due to a low number of questions, poor interrelatedness between items or heterogeneous constructs. If alpha is too high it may suggest that some items are redundant as they are testing the same question but in a different guise. A maximum alpha value of 0.90 has been recommended (Streiner, 2003). Outside Cronbach's alpha, Corrected Item - Total Correlation is also used to test the data reliability. The data will be accepted when Corrected Item - Total Correlation > 0.3 (Nunnally & Bernstein, 1994; Hair *et al.,* 1998). A correlation value less than 0.2 or 0.3 indicates that the corresponding item does not correlate very well with the scale overall and, thus, it may be dropped (Field, 2005).

- Exploratory Factor Analysis (EFA): EFA was used to identify the underlying relationships between measured variables (Norris *et al.,* 2010). Parameters applied were index of Kaiser-Mayer-Olkin (KMO), Bartlett's test, coefficient of eigenvalues, total variance explained and factor loading. The variables were accepted when KMO (Kaiser - Meyer - Olkin) ranges from 0.5 to 1.0 and Factor Loading is less than 0.35 or the distance between two of Factor Loading of one variable in 2 different factors is greater than 0.3 (Igbaria *et al.,* 1995); Total Variance Explained is also larger than 50%; Bartlett's coefficient at sig <0.05; Eigenvalue coefficient value ≥ 1 (Kaiser, 1960).

- Multivariate regression analysis was used to estimate the factors that affecting the residential land price. The following function was developed: $\beta_o + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \ldots + \beta_nX_n + Ei$

Where:

- Y_i: dependent variable represents the land price.

- X_1; X_2; X_3; X_4; X_n: independent variables representing factors affecting the land price.

- β_o: regression intercept

- β_1, β_2, β_3, β_4: regression coefficients

-E_i: standard error.

- n: Number of variables.

Statistical Package for Social Science (SPSS) version 16.0 was used for analysis and presentation of the result. The descriptive statistics such as frequency tables was applied to analyze data.

3. RESULTS AND DISCUSSION

3.1. Identifying the factors affecting residential land price in Dien Bien Phu city

There were many factors that affect residential land prices. The key among these included psychological and social factors (security and crime rate, psychological, spiritual, tastes, urbanization, population density, speculate), economic factors (economic development speed, income and expenditure, price variation, interest rate of bank, reserve, investment), regional factors (location, Infrastructure, environmental quality, plan), individual factors (area, facade width, land plot depth, land shape, slope, urban planning limitation), legal factors (certificate of land use rights, land allocation decision), international factors (world economy, world politics), market related factors (supply, demand, supply and demand relation), state and law factors (financial and credit policy, tax policy, investment policy, land policy) (Ho Thi Lam Tra and Nguyen Van Quan, 2006; Ho Thi Lam Tra *et al.*, 2017), and land accessibility to amenities and services (schools, health, shopping, recreation, and other services). However, only 4 groups (society, economy, region and individuality) with 20 factors were selected for the study. These were factors that significantly affect the current downturn in the residential land price of Dien Bien Phu city (Table 1). These factors have a close relationship with variation of the real estate market in general and the land market in particular. Among the regional factors, the location was the major determinant factor affecting the value of a piece of land. As a rule, the closer a piece of land is to a population center, the greater is its value. Among the social factors, social security, population density and urbanization were determinant factors. The higher population density creates more demand, which increases the competition for a piece of land and the price that buyers are willing to pay for it. For land in sparsely populated areas, even better land, fewer people are willing to pay for it. In addition, more desirable locations within densely populated areas command higher prices. Among the individual factors, the facade width and shape had the greatest impact on the value of land plots. Among the economic factors, the residential land price was affected by economic development speed, income and expenditure. In Dien Bien Phu city, the highest residential land price was recorded for Vo Nguyen Giap street (road near the Center market and Victory Monument). This street is located near center of the city and has high population density.

3.2. Cronbach's alpha reliability test and Exploratory Factor Analysis

3.2.1. Cronbach's alpha reliability test

The result of data analysis by SPSS software determided the Cronbach's Alpha, total correlation and the Cronbach's Alpha if Item Deleted (Table 2). All of the Cronbach's Alpha coefficients of observed items were greater than 7. This implied that all data ensure the reliability. Results of analyzing the Corrected Item - Total Correlation in the column 2 identifed 2 variables including slop (IN6) and urban planning limitations (IN7) had a value less than 0.3. This implied that these 2 variables were not eligible for further analysis.

3.2.2. Exploratory Factor Analysis

The results of Exploratory Factor Analysis for independent variable are as follow:

- Kaiser-Meyer-Olkin (KMO) and Bartlett's Test: KMO and Bartlett's Test of Sphericity is a measure of sampling adequacy that is recommended to check the case to variable ratio for the analysis being conducted. In most academic and business studies, KMO and Bartlett's test play an important role for accepting the sample adequacy.

Table 1. Factors affecting the price of land in Dien Bien Phu city

N^0	Factor	N^0	Factor
I	Group of social factors	10	Location
1	Security	11	Infrastructure
2	Psychological, spiritual, tastes	12	environmental quality
3	Urbanization	13	Plan
4	Population density	IV	Group of individual factors
5	Educational level	14	Shape
II	Group of economic factors	15	Area
6	Economic development speed	16	Land navigation
7	Income and expenditure	17	Facade width
8	Price variation	18	Land plot depth
9	Interest rate of Bank	19	Slope
III	Group of regional factors	20	Urban planning limitation

Table 2. Results of analysis Cronbach's Alpha

N^0	Influencing factos	Symbol	Corrected Item - Total Correlation	Cronbach's Alpha if Item Deleted
I	Group of social factors (Cronbach's Alpha = 0,849)			
1	Security	SO1	0.67	0.81
2	Psychological, spiritual, tastes	SO2	0.67	0.82
3	Urbanization	SO3	0.64	0.82
4	Population density	SO4	0.65	0.85
5	Educational level	SO5	0.66	0.82
II	Group of economic factors (Cronbach's Alpha = 0,793)			
6	Economic development speed	EC1	0.60	0.75
7	Income and expenditure	EC2	0.63	0.73
8	Price variation	EC3	0.60	0.74
9	Interest rate of Bank	EC4	0.60	0.75
III	Group of regional factors (Cronbach's Alpha = 0,820)			
10	Location	RE1	0.68	0.76
11	Infrastructure	RE2	0.62	0.78
12	Environmental quality	RE3	0.65	0.77
13	Plan	RE4	0.62	0.79
IV	Group of individual factors (Cronbach's Alpha = 0,706)			
14	Shape	IN1	0.63	0.62
15	Area	IN2	0.60	0.62
16	Land navigation	IN3	0.62	0.65
17	Facade width	IN4	0.60	0.63
18	Land plot depth	IN5	0.58	0.63
19	Slope	IN6	0.06	0.76
20	Urban planning limitation	IN7	-0.02	0.77

The KMO statistic is a measure of sampling adequacy, both overall and for each variable. The KMO statistic varies between 0 and 1. The value of KMO is more than 0.7 that is the common threshold for confirmatory analysis (Hair *et al.,* 2010). Kaiser (1974) recommends that the value of KMO is greater than 0.5 as acceptable. Furthermore, values between 0.5 and 0.7 are considered mediocre, values between 0.7 and 0.8 are considered good, values between 0.8 and 0.9 are deemed great and values above 0.9 are superb (Hutcheson and Sofroniou, 1999). For these data the value was 0.8, which falls into the range of being deemed great. So, we should be confident that factor analysis was appropriate for these data.

The Bartlett's test of Sphericity relates to the significance of the study and thereby shows the validity and suitability of the responses collected to the problem being addressed through the study. For Factor Analysis to be recommended suitable, the Bartlett's test of Sphericity must have a significance value less than 0.05. Results of the test done by SPSS software showed that the Bartlett's test of Sphericity have significant value at the 0.000. So, for these data, Bartlett's test was highly significant, and therefore factor analysis was appropriate.

- Factor extraction: The purpose of extracting the factor is determining the linear combination of variables that account for the greatest amount of common variance. Data from table 3 lists the eigenvalues associated with each linear factor before extraction, after extraction and after rotation. According to Kaiser (1960), we can retain only factors with Eigenvalues greater than 1 and Total Variance Explained is also larger than 50%. The result in table 3 showed that the first factor accounted for the greatest amount of common variance (23.037%), representing an eigenvalue of 4.147. Each subsequent factor explained a portion of the remaining variance until a point is reached where it can be said that the factors no longer contribute to the model. At this point, those factors with an Eigenvalues above 1 present the number of factor needed to describe the underlying dimensions of the data. In this study, this was factor 4, with an explained variance of 9.654 and Eigenvalues of 1.736. All of the factors with Eigenvalues were smaller than 1 that did not contribute and adequate amount to the model to be included. This implied they were not correlated with each other. Thus, only 4 factors (1-4) contributed to the model.

- Factor Loading: Factor loading is the correlation between a variable and a factor where only a single factor is involved or multiple factors are orthogonal. In general, the data is confident if Factor Loading is greater than 0.3. However, higher Factor Loadings indicate that variable is closely associated with the factor. It also contributes to construct validity (Hair *et al.,* 2010). The results obtained in the matrix of correlation in Table 4 showed that all the variables had high degree of positive relationship with one another. They have in the range from 0,739 to 0,822. Thus, all Standardized Factor Loadings in our model were significant; this was a confirmation of the validity of the theoretical framework. The score on the relationship between accessibility and location showed the highest positive associated with a figure of .822. This means that location was the most determinant factor affecting the residential land price in Dien Bien Phu city.

The results of Exploratory Factor Analysis for dependent factors (SO, EC, RE, IN) were also identified KMO coefficient, the Total Variance Explained of 0.738 and 60.87 respectively; Bartlett test values significantly (sig <0.05), the coefficient of Eigenvalues> 1; Factor Loadings were 0.828; 0.780; 0.764; 0.747. Thus, the dependent variables were also eligible this study.

Table 3. Total varience Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	4.147	23.037	23.037	4.147	23.037	23.037	3.308	18.375	18.375
2	3.274	18.187	41.224	3.274	18.187	41.224	3.171	17.616	35.991
3	2.502	13.901	55.125	2.502	13.901	55.125	2.654	14.746	50.737
4	1.736	9.645	64.770	1.736	9.645	64.770	2.526	14.032	64.770
5	.770	4.279	69.049						
6	.607	3.371	72.419						
7	.551	3.064	75.483						
8	.544	3.021	78.504						
9	.533	2.959	81.462						
10	.516	2.865	84.328						
11	.495	2.749	87.077						
12	.448	2.487	89.563						
13	.385	2.139	91.702						
14	.366	2.032	93.734						
15	.333	1.850	95.584						
16	.294	1.632	97.216						
17	.277	1.540	98.756						
18	.224	1.244	100.000						

Table 4. Rotated Component Matrix

Variable	Component			
	1	2	3	4
IN1	.818			
IN2	.805			
IN3	.797			
IN4	.790			
IN5	.761			
SO1		.809		
SO2		.795		
SO3		.785		
SO4		.772		
SO5		.760		
RE1			.822	
RE2			.813	
RE3			.753	
RE4			.739	
EO1				.789
EO2				.786
EO3				.785
EO4				.775

3.3. Applied multivariate regression analysis to estimate the influence level of factors that affecting the residential land price in Dien Bien Phu city

In this section, stepwise multiple regression analysis was computed at significant level of (p = 0.05) in order to examine which factors could be affected residential land price in Dien Bien Phu city. The result of running regression model determined adjusted R^2 is 62.1% and R^2 = 61,1%, it means that 61.1% of the variation of residential land price could be explained by the variation of the 4 groups of independent variable, while the rest (38.9%) was explained by other factors outside the model. Table 5 showed the value of Durbin-Watson of 1,838. The Durbin - Watson statistic (d) is a test statistic used to detect the presence of autocorrelation in the residuals (prediction errors) from a regression analysis. The value of d always lies between 0 and 4. A value near 2 indicates non-autocorrelation; a value toward 0 indicates positive autocorrelation; a value toward 4 indicates negative autocorrelation. Therefore, we can assume that there was no first order linear auto-correlation in our multiple linear regression data.

Regression Coefficients is presented in table 5 indicated that a relatively high percentage of the variation in the residential land price could be explained by the variables. As it was indicated in the table 5, Sig. = 0,000 that was less than the significant level (0,01) for all variables. This implies that all variables have significant impact on residential land price and there was significant association between independent and dependent variables. Through the Standardized Beta Coefficient, we determined the importance of each variable in the regression model or the impact level of each independent variable on the dependent variable. The Standardized Beta Coefficient of regional variable had the highest value (0.493), this implied that regional factor had the highest effect on the residential land price in Dien Bien Phu city. The study results also showed that 1 unit changes of social factor would led to the residential land price changes 0.185 unit, 1 unit changes of economic factor would led to residential land price changes 0.261 unit, 1 unit changes of regional factor 1 led would to residential land price changes 0.493 unit, 1 unit changes of individual factor would led to residential land price changes 0.327 unit.

The panel model of residential land price could be expresses as following:

$$Y = 0.644 + 0.185X_1 + 0.261X_2 + 0.493X_3 + 0.327X_4$$

From the standardized beta coefficient, we could change to percent ratio, of which social variable contributed 8.93%, economic variable contributed 12.60%, regional variable contributed 23.79.93% and individual variable contributed 15.78% (Table 6).

Analysis of variance (ANOVA) was used to test the reliability of the regression analysis. The result of table 7 showed that F value = 61.382. The F-test is highly significant, thus we could assume that there was a linear relationship between the variables in our model. Beside, the value of Sig (P-value) of the ANOVA tables used to assess the suitability (N) of the model. The value of Sig is small (<5%), the model was suitable. In summary, the result of regression analysis ensured reliability.

Table 5. Regression coefficients

Model	Unstandardized coefficient	Standardized coefficient	Sig.	Collinearity statistics	
	β	Beta (β)		Tolerance	VIF
(Constant)	0.644		0.002		
X_1 - Society	0.105	0.185	0.000	0.946	1.057
X_2 - Economy	0.178	0.261	0.000	0.973	1.028
X_3 - Region	0.312	0.493	0.000	0.852	1.173
X_4 - Individual	0.187	0.327	0.000	0.906	1.104

Table 6. The effect of the factors on residential land prices in Dien Bien Phu city

Factors	Standard.Beta	Ratio (%)	Order
X_1 - Society	0.185	8.93	4
X_2 - Economy	0.261	12.60	3
X_3 - Region	0.493	23.79	1
X_4 - Individual	0.327	15.78	2
Total	1.266	61.10	

Table 7. Analysis of variance ANOVA

Source	Sum of Squares (SS)	Degree of Freedom (D.f)	Mean of Squares	F ratio	Sig.
Between Group	19.861	4	4.965	61.296	.000[a]
Within Group	12.134	150	0.081		
Total	31.994	154			

4. CONCLUSION

It is evident from the study that, there were 4 groups of factor that affecting the residential land price in the market of Dien Bien Phu city. They were including of social factors, economic factors, regional factors and individual. There was significant and positive relationship between these factors and the residential land price. The results of analysis of Multivariate Linear Regression Model indicate that 61.1% of the variation of residential land price could be explained by the variation of the 4 groups of independent variable, while the rest (38.9%) was explained by other factors outside the model. The model that showed factors affecting the residential land price in the market of Dien Bien Phu city as follow: $Y = 0.644 + 0.185X_1 + 0.261X_2 + 0.493X_3 + 0.327X_4$. The regional factor had the highest effect on the residential land price, it contributed 23.9%; the second was individual factor with contribution of 15.78%; the third was economic factor with contribution of 12.6%; the final was social factor with contribution of 8.93%.

REFERENCES

Cronbach L. (1951). Coefficient alpha and the internal structure of tests. Psychomerika,16: 297-334.

Alonso, W. (1964). Location and land use. Cambridge, Mass: Harvard University Press.

Asabere, P. K. (1981). The determinants of land values in an African city: The case of Accra, Ghana. Land Economics, 57(3): 385-397.

Asabere, P. K. and Huffman, F, E., (1996). Negative and positive impacts of golf course proximity on home prices, The Appraisal Journal, pp. 351-355

Ball, M. J (1973). Recent empirical work on the determinants of relative house price. Urban Studies, 10: 213-233.

Baria, M., Iivari, J., and Maragahh, H. (1995). Why do individuals use computer technology: A Finnish case study. Information and Management, 29: 227-238.

Bland J, Altman D (1997). Statistics notes: Cronbach's alpha. BMJ., 314: p. 275.

Department of Natural Resources and Environment of Dien Bien Phu city (2015). Land inventory data of Dien Bien Phu city in 2015.

Field, A., (2005). Discovering Statistics Using SPSS. 2nd ed. London: Sage

Graeme D Hutcheson and Nick Sofroniou (1999). The Multivariate Social Scientist Sage, London.

Hair Jr. J. F., Anderson R. E., Tatham R. L. and Black W. C. (1998). Multivariate Data Analysis (5th ed.). New York: Macmillan Publishing Company.

Hair Jr. J. F, Black,W.C., Babin, B.J and Anderson R. E. (2010). Multivariate Data Analysis (7th ed.). Prentice Hall, Upper Saddle River.

Hoang Trong Chu and Nguyen Mong Ngọc (2008). Analyzing data with SPSS. Statitic Publish, Ha Noi.

Ho Thi Lam Tra, Nguyen Van Quan (2006). Land valuation, Agriculture Publish, Ha Noi, Viet Nam.

Ho Thi Lam Tra, Doan Ngoc Phuong, Phan Van Tho, Phan Thi Thanh Huyen, Bui Nguyen Hanh, Do

Tien Thuan (2017). Land price and finance - Theory and practice, Agriculture Publish, Ha Noi, Viet Nam.

Igbaria, M., Livari, J and Maragahh, H. (1995). Why do individuals use computer technology? A finish case study. Information and Management, 29: 227-238.

Joseph F. Hair, Jr, William C. Black, Barry J. Babin and Rolph E. Anderson (2010). Multivariate Data Analysis, 7th Edition.

Joslin, A (2005). An investigation into the expression of uncertainty in property valuations, Journal of Property Investment & Finance, 23(3): 269 - 285.

Keiser, H.F. (1960). The application of electronic computers to factor analysis. Educational and Psychological Measurement, 20: 141-151.

Kaiser, H. F. (1974). An Index of Factorial Simplicity. Psychometrika, Hutcheson, G., & Sofroniou, N. (1999). The multivariate social scientist. London: Sage, 39(1): 31-36.

Kauko, T. (2003). Residential property value and locational externalities: On the complementarity and substitutability of approaches, Journal of Property Investment & Finance, 21(3): 250 - 270.

Lancaster, K.J. (1966). A new approach to consumer theory, Journal of political Economy, 74: 132-156.

Likert, R. A (1932). A technique for measurements a attitudes, Archives of Psychology, 140(55).

Lo Thi Hong (2016). The study of land prices and factors affecting land prices in Dien Bien city, Dien Bien Province, Master thesis of Land Management, Viet Nam National University of Agriculture.

Mehmet Topcu and Ayse Sema Kubat (2009).The Analysis of Urban Features that Affect Land Values in Residential Areas, Proceedings of the 7th International Space Syntax Symposium, Stockholm.

Nunnally, J. C., and Bernstein, I. H. (1994). Psychometric theory (3rd ed.). New York: McGraw-Hill.

Norris, M., Lecavalier, L. J Autism Dev Disord (2010). Evaluating the Use of Exploratory Factor Analysis in Developmental Disability Psychological Research. Journal of Autism and Developmental Disorders, 40(1): 8-20.

Streiner D. (2003). Starting at the beginning: an introduction to coefficient alpha and internal consistency. Journal of personality assessment, 80: 99-103.