

Wongjinda & Tungbenchasilikul, 2018

Volume 4 Issue 2, pp. 144-159

Date of Publication: 19th July, 2018

DOI-<https://dx.doi.org/10.20319/pijss.2018.42.144159>

This paper can be cited as: Wongjinda, N., & Tungbenchasilikul, S. (2018). Key Success of Property Development in Northeast Thailand: Khon Kaen and Udon Thani. *PEOPLE: International Journal of Social Sciences*, 4(2), 144-159.

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KEY SUCCESS OF PROPERTY DEVELOPMENT IN NORTHEAST THAILAND: KHON KAEN AND UDON THANI

Nipon Wongjinda

Faculty of Business Administration, Naresuan University, Phitsanulok, Thailand

nipon@smc.in.th

Sahanon Tungbenchasilikul

Faculty of Business Administration, Naresuan University, Phitsanulok, Thailand

s_tungbenchasirikul@hotmail.co.uk

Abstract

The research aimed to explore the property market and study the readiness of the property business development in northeast Thailand. The first part was concerned with price determination analysis of the market with the use of multiple regression analysis in Khon Kaen and Udon Thani. Results showed that the factors had the positive impact on property price are the size or usable area, number of bedrooms, size of garden, parking lot, fitness & swimming pool and the security system. While the negatively influenced factors were the promotion, marketing policy and distance of community. The second part examined both producers' and government's decision making in the property development with the adoption of logistic regression analysis. Empirical results indicated that the readiness of the property development in northeastern Thailand was 96%, while, Khon Kaen readiness was 85.03% and Udon Thani readiness was 93.75% respectively. The influential factors included city planning system, the higher per capita income, being near the super store, the credit policy and environmental impact analysis.

Keywords

Property Development, Price Determination, Readiness of Property Development

1. Introduction

Property business development is essential and directly related to population and economy. Especially in a situation where the world is facing the new comings into the emerging property market, the rapid growth of emerging economies such as Asia and densely populated areas, for instance, South America, Central Europe, and Eastern Europe. This forced into the trend of becoming a lot of new big cities, the higher growth of households' income, including, the huge capital flow, the mega investment and changing investment climates which originated from globalization (Devi, 2016, World Bank, 2011)

The studies of many scholars such as Abraham and Hendershott, (1995), Wigren and Wilhelmsson (2007) and Agarwal and Mahajan (2017) supported that property business development has a relationship with the national economy not only in microeconomic but also in macroeconomic especially in the field of macroeconomic, property business development plays an important role in the national economic development. The right property business investment can boost the country's economic growth.

Thailand has the same characteristics as the other developing countries. Thailand's property business is growing with the economic development of the country. It is the fundamental of many industries. It contributes enormous related employments which affect economic growth. The whole values of the property business are very high. For example, in 2000, the value of the property business was 375,920 million baht. The Gross Domestic Product (GDP) was 5,069,824 million baht or 7.42% of GDP. In addition with value of property, business was 882,439 million baht from GDP 13,132,241 million or 6.72% of GDP in 2014, respectively (Annual Report of Real Estate Information Center (2016) and Fiscal Policy Office (2016).

According to the rating agency of international property research The Telegraph (2016).reported Asia's top 10 property investment markets are Kuala Lumpur, Bangkok, Jakarta, Manila, Phnom Penh, Hong Kong, Mumbai, Tokyo, Singapore and Shanghai (respectively). In case of Thailand, the positive factors that led to Bangkok became one of the good places to invest because of the high yields, especially for real estate business owners and still low asset prices. Meanwhile, negative factors include the doing business processes are complex and as well as political uncertainties. The almost of past studies often explored for the big picture of

property business or specifically on the large size of business, but frequently to internal use and hard to disseminate.

Therefore, the study on the readiness of property business development in Thailand in the regional, like other areas excludes out of Bangkok, which has the potential and can be studied in many provinces, such as the major provinces of the northeast as Khon Kaen and Udon Thani. This can promote and maximize the opportunities for better development of the country.

This study deployed Multiple Regression Analysis to examine price determination in the property market, Combined with the application of Logistic Regression Analysis to test the factors that may affect the development of property business in various areas. Therefore, this research will study the development of property market that covers all aspects of macro and micro level. Using 2 replication models, analyze 2 provincial representatives of northeast Thailand. The objectives of the study were as follows;

- To examine the price determination of property market in northeast Thailand.
- To explore the readiness of the northeast property market in case of Khon Kaen and Udon Thani.

2. Scope of the Study

The research studied the price determination and the readiness of property business that focused on single houses and condominiums. The primary data were collected by questionnaires from 3 groups of people including entrepreneurs, consumers and governors in the northeast area in case of Khon Kaen and Udon Thani.

3. Data Analysis and Research Methodology

Researchers have examined the population and samples of two parts. The first one was Multiple Regression Analysis to find the price determination in the property market. The dependent variables and explanatory variables for the single house market and for the condominium market were in table 1 and table 2 respectively. The primary data was collected from entrepreneurs, consumers and the agents of government in 12 provinces of the whole region (720 people), but here presented only the northeast Thailand; Khon Kaen and Udon Thani.

Table 1: Variables for Price Determination of the Regional Single House Market

Variable	Mean	Std. Dev.	Min	Max	Expected Sign
Price (P)	2733333	1132968	1000000	5000000	+
lnPrice (lnP)	14.72602	0.4580426	13.81551	15.42495	+
Size (S)	101.0833	34.72765	25	200	+
lnSize(lnS)	4.543099	0.4199016	3.218876	5.298317	+
Entrepreneur(En) (0,1)	0.457822	0.455441	0	1	+
Design(D) (0,1)	0.654891	0.344211	0	1	+
Sizeofgarden(Sog) (0,1)	0.533333	0.5030977	0	1	+
Carpark(Cp))	0.85	0.444362	0	1	+
Cctvfence(Cctv) (0,1)	0.6166667	0.4903014	0	1	+
Bedroom(B)	0.73	0.4459485	0	1	+
Toilets(T)	0.81	0.45514815	0	1	+
Fitness & Swimming Pool(FS)(0,1)	0.65	0.4809947	0	1	+
Green Park (0,1)	0.4666667	0.5030977	0	1	+
Far from Community (FFC) (0,1)	0.4833333	0.5039393	0	1	-
Lighting(L) (0,1)	0.6	0.4940322	0	1	+
Road & Footpath(Rf) (0,1)	0.5	0.5042195	0	1	+
Gate(Gate) (0,1)	0.15	0.3600847	0	1	+
Expressway(Ew) (0,1)	0.5166667	0.5039393	0	1	+
Down stair Bedroom(Db) (0,1)	0.3166667	0.4691018	0	1	+
Location (Lo) (0,1)	0.366666	0.4859611	0	1	+
Promotion (Pro) (0,1)	0.6	0.4940322	0	1	-

Source: Collected data by the questionnaires

Table 1 represented the variables for price determination of the regional single house market, for instance, price (price of the single house; million baht), size (size of the single house; wa2), Carpark (Cp). Table 2 demonstrated the variables for price determination of the regional condominium market, for instance, price (price of a unit of the condominium; million baht), UA (Usable area of a unit of the condominium; meter2), Carpark (Cp) and Promotion (a policy of promotion).

Table 2: Variables for Price Determination of the Regional Condominium Market

Variable	Mean	Std. Dev.	Min	Max	Expected Sign
Price (P)	2283333	738566.3	1000000	4000000	+
lnPrice (lnP)	14.58975	0.32891	13.81551	15.20181	+
Usable Area (UA)	38.775	10.27603	28	70	+
lnUA(lnUA)	3.631346	0.21787	3.332205	4.248495	+
Entrepreneur(En) (0,1)	0.43211	0.523221	0	1	+
Design(D) (0,1)	0.44251	0.54433	0	1	+
Sizeofgarden(Sog) (0,1)	0.65555	0.480995	0	1	+
Far from Community (FFC) (0,1)	0.54	0.56612	0	1	-
Carpark(Cp) (0,1)	0.68334	0.46911	0	1	+
Cctvfence(Cctv) (0,1)	0.51667	0.50394	0	1	+
Bedroom(B)	0.8000	0.54121	0	1	+
Toilets(T)	0.833	0.59566	0	1	+
Fitness & Swimming Pool(FS) (0,1)	0.7333	0.44560	0	1	+
Lighting(L) (0,1)	0.7666	0.42653	0	1	+
Road & Footpath(Rf) (0,1)	0.51677	0.50340	0	1	+
Gate(Gate) (0,1)	0.31667	0.46911	0	1	+
Expressway(Ew)(0,1)	0.43334	0.47540	0	1	+
Promotion (Pro) (0,1)	0.48333	0.50401	0	1	-
Location (Lo) (0,1)	0.61667	0.49041	0	1	+

Source: Collected data by the questionnaires

At the first part, Multiple Regression Analysis (MRA) manipulated the Ordinary Least Square (OLS) to find the price determinants for northeast single house and northeast condominium market especially in Khon Kaen and Udon Thani. The plausible equation was as follow;

$$\ln Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \dots \varepsilon_i \quad (1)$$

Given by, lnY as dependent variable, here means Single house prices /

Condominium prices modified to be Log (Price)

β_0 as constant term can be calculated

$\beta_1, \beta_2, \beta_3, \beta_4$ and β_5 as the coefficients of the Explanatory Variables

as in the table 1

and ε_i as the error terms

The second part employed logistic regression analysis (LRA) examined the readiness of Thailand’s regional property business development and studied the impact factors of the readiness of northeast’s property business development especially on Khon Kaen and Udon Thani.

By Logistic Regression Analysis, the explanatory variables explained the factor that had affected to the probability of the readiness of northeast’s property business development. These data were the qualitative analysis which could be identified by impacted or not impacted on the readiness of northeast’s property business development, which represented by 0 and 1, like a Table 3.

Table 3: Variables For Regional Property Business Development By Logistic Regression Analysis

Variable	Description
City Planning System; CPS	1 = Impacted 0 = Not impacted
Economic Condition; EC	1 = Impacted 0 = Not impacted
Infrastructure System; IS	1 = Impacted 0 = Not impacted
Financial Loan Policy; FLP	1 = Impacted 0 = Not impacted
Super Store in Near Area; SSNA	1 = Impacted 0 = Not impacted
Nearby University; NU	1 = Impacted 0 = Not impacted
Higher Income per Capita; HIN	1 = Impacted 0 = Not impacted
Large Investor; LI	1 = Impacted 0 = Not impacted
Environment Impact Analysis; EIA	1 = Impacted 0 = Not impacted

Source: Collected data by the questionnaires

This part, Logistic Regression Analysis, studied the readiness of northeast Thailand property business development as follows;

1. Finding the relationship between the explanatory variables and the probability of the readiness of the regional property business development.

2. Predict the probability of the readiness of the northeast Thailand property business development by selecting the optimal equation which represents the best forecast.

(Wanitbancha, 2003)

So the general principle; given knowing the explanatory variable X's

If (p) (event) <0.5, then Y = 0, or event is not ready for property business development.

If (p) (event) ≥ 0.5, then Y = 1, or the event is ready for property business development.

In the analysis of the availability of real estate development in the region indicated that 0.5 is the Cutting Score (Hosmer and Lemeshow, 2000) There is a question. "Do you think your area is ready to develop?" Given by theoretically, there are two options: 1 = Ready, 0 = Not Ready.

Under logistic analysis, the explanatory variables in Table 3 which showed the variables were likely to concern the property development in the region. The mathematical symbols can be written as follows. (Suriya, 2009 and Hosmer & Lemeshow (2000).

Relation Equation is

$$\Pr(y=1) = 1 / 1+e^{-Z} \quad (2)$$

When Pr (y = 1) It means the region is ready for property business development.

Pr (y = 0) It means the region is not ready for property business development.

Z is an explanatory variable that it may affect or not affect for the readiness of property business development.

e is the natural base logarithmic, which is about 2.71828.

The equation of the variable is

$$Z = \beta_0 + \beta_1x_1 + \beta_2x_2 + \dots + \beta_nx_n \quad (3)$$

When β is the coefficient of the explanatory variable

x_i is all nine explanatory variables.

Z is the explanatory variable equations in Logistic Model or $x' \beta = z$

so, it will be.

$$\Pr(y=1) = 1/ (1+ e^{-x'\beta}) \quad (4)$$

$$\Pr(y=0) = 1 - [1/ (1+ e^{-x'\beta})]$$

$$= [1 + e^{-x'\beta} - 1] / 1 + e^{-x'\beta}$$

$$= e^{-x'\beta} / 1 + e^{-x'\beta} \quad (5)$$

In the model analysis, the statistical program is used to calculate the relationship between explanatory variables and the effect on the opportunity to be ready and not ready in the equation. The analysis can explain the probability that the explanatory variables will influence on the readiness of the regional property business development.

4. Empirical Results

There were two parts of empirical results. The first one was the northeast multiple regression analysis of home market and condominium market (Table 4 and Table 5). The last one was logistic regression analysis of the probability of readiness of property business development in case of the northeast, Khon Kaen and Udon Thani (Table 6, Table 7 and Table 8).

4.1 Multiple Regression Analysis

The study indicated factors had positively affected on house pricing in Khon Kaen, Udon Thani, and Northeast Thailand. They were the size of the house, design, the number of bedrooms, the size of the park, the parking lot, the CCTV system and the fitness club, the swimming pool, and location, while marketing policy has negative effects on price. The factors that did not affect pricing are the number of bathrooms, electricity, roads, and walkways in the project, near the expressway and downstairs bedroom. The results of promotion effect on pricing of this study were in line with the study of Wild (2009) and Madsen (2011).

Table 4: Multiple Regression Model for Northeast Thailand Single House Price (Khon Kaen and Udon Thani)

Dependent V: lnPrice; lnP	(1)Khon Kaen	(2)Udon Thani	(3)Northeast
Explanatory V.	Robust		
lnSize(lnS)	0.564149*** (0.015437)	0.587769*** (0.323531)	0.6951796 ** (0.02324)
Bedroom(B)	0.098694*** (0.548832)	0.024348** (0.611234)	0.04543*** (0.21244)
Design(D)	0.023116 (0.454314)	0.515513*** (0.587643)	0.056523 (0.454476)
Sizeofgarden (Sog)	0.058762** (0.100237)	0.087656*** (0.198624)	0.034361*** (0.665444)
Carpark(Cp)	0.289733*** (0.048902)	0.065433*** (0.232299)	0.265433*** (0.115432)
Cctvfence(Cctv) (0,1)	0.097642** (0.066563)	0.433338 (0.112832)	0.062134** (0.27534)
Fitness & Swimming Pool (FS) (0,1)	0.197631** (0.438306)	0.114978** (0.100483)	0.135896*** (0.006145)
Lighting(L) (0,1)	0.363341	0.511010	0.112143

	(0.976511)	(0.297644)	(0.004123)
Road & Footpath(Rf) (0,1)	0.086369 (0.867633)	0.072123 (0.769332)	0.065228 (0.300474)
Gate(Gate) (0,1)	0.043548 (0.834365)	0.079232 (0.222374)	0.011254 (0.187123)
Far from Community(FFC) (0,1)	0.24221 (0.475833)	0.565431 (0.875043)	0.406765 (0.651242)
Expressway(Ew) (0,1)	0.054833 (0.986433)	0.454347 (0.122341)	0.057342 (0.226464)
Promotion (Pro) (0,1)	-0.015656*** (0.053328)	-0.032438 (0.112824)	-0.041767** (0.345001)
Location (Lo) (0,1)	0.078785 (0.895333)	0.634784** (0.087646)	0.285443 (0.337542)
Constant	12.99044*** (0.223304)	12.435621*** (0.521234)	12.210056*** (0.349892)
Root MSE	0.12285	0.10287	0.10785
F- test	87.34	122.56	67.68
Prob > F	0.0000	0.0000	0.0000
R-squared	0.8064	0.7792	0.7389
Number of Observation	30	30	60

Source: Explored and Calculated by Researcher, upper line: coefficient of variables ** with 0.05 level of significant, *** with 0.01 level of significant and lower line: Standard Deviation.

The report that the characteristic of the house and facilities of the project, such as the size of the park, parking, CCTV system and fitness club and swimming pool had affected on decision making and price determination was similar to the study of Papadimitriou, Chilcote & Zezza (2006) and Goodman, Allen & Thomas (2003).

Examining Table 5, the results showed eight factors had positively affected on condominium pricing in Khon Kaen, Udon Thani, and Northeast Thailand. They were the size of the usable area, design, the number of bedrooms, the size of the park, the CCTV system and the fitness club, the swimming pool, and location, while marketing policy had negative effects on price. The factors that did not effect on pricing are the number of bathrooms, toilet, electricity, entrepreneur, roads and walkways in the project, and near the expressway. The result of promotion effected on pricing of this study is in line with the study of Edwin and Lubuele (1995). Furthermore, this study was in line with the discovery of Pansuwan (2009) which explained that the growth and expansion of community had positively affected by increasing house and condominium prices.

4.2 Logistic Regression Analysis

In Part 2, the researcher employed the Logistic Regression model to analyze the readiness of real estate development from entrepreneurs and government agents (the results of this paper

were in line with the works of Hosmer and Lemeshow (2000) and Guy and Henneberry (2002)) had achieved results as shown in Tables 6-8.

Table 5: Multiple Regression Model for Northeast Thailand Condominium Price (Khon Kaen and Udon Thani)

Dependent V: lnPrice; lnP	(4)Khon Kaen	(5)Udon Thani	(6)Northeast
Explanatory V	Robust		
Ln Usable Area (lnUA)	1.168002*** (0.30733)	0.6188465*** 0.1359382	1.001368*** (0.2006751)
Bedroom(B)	0.3167004*** (0.0514453)	0.2671654*** 0.0184423	0.2850409*** (0.0352857)
Toilets(T)	0.102321 (0.600621)	0.023865 (0.523221)	0.0287238 (0.792264)
Entrepreneur(En)	0.114222 (0.33008)	0.091128 (0.232764)	0.7119833 (0.986632)
Design(D)	0.044507 (0.222348)	0.091415** 0.0189797	0.555528 (0.722164)
Carpark(Cp)	0.023925** (0.067634)	0.023228 (0.021763)	0.811292 (0.049006)
Cctvfence(Cctv) (0,1)	0.1494414** (0.064554)	0.1505658*** 0.0140405	0.1222808*** (.0430848)
Fitness & Swimming Pool(FS) (0,1)	0.204877*** (0.192332)	0.1041052*** 0.0182596	0.0997856*** (0.0321743)
Lighting(L) (0,1)	0.223339 (0.022234)	0.012284 (0.49986)	0.0256624 (0.944319)
Road & Footpath(Rf) (0,1)	0.239989 (0.723264)	0.0791636 0.0202512	0.711128 (0.603014)
Far from Community(FFC)(0,1)	0.173192*** (.0882042)	0.11076*** (0.0199093)	-0.0506855 (0.709822)
Expressway(Ew) (0,1)	0.0004546 (0.023145)	0.221992 (0.504504)	0.0745569 .0420216
Location(Lo) (0,1)	-0.400895 (0.019801)	0.1557755*** (0.0233894)	0.0736209 ** (.0353397)
Promotion(Pr) (0,1)	-0.267006 (0.073433)	0.023254 (0.112364)	0.077944 (0.871103)
Constant	10.60485*** (1.07091)	12.43024*** (0.4920301)	11.04183*** (0.323236)
Root MSE	0.15521	0.04305	0.10339
F- test	78.27	245.92	35.56
Prob > F	0.0002	0.0000	0.0000
R-squared	0.7645	0.9405	0.8488
Number of Observation	33	30	63

Source: Explored and Calculated by Researcher, upper line: coefficient of variables ,

Note ** with 0.05 level of significant, *** with 0.01 level of significant and lower line: Standard Deviation.

Table 6: Probability for Readiness of Property Business Development

Province/ Region	Probability for Readiness of Property Business Development
Khon Kaen	0.850329
Udon Thani	0.93750
Northeast	0.959995

Source: Analyzed and Calculated by Researcher

Table 6 showed Khon Kaen had the opportunity of being ready for property development of 85.03 percent. Moreover Udon Thani’s and Northeast’s property business were ready to develop about 93.75 percent and 95.99 percent, respectively.

Table 7: Logistic Regression Analysis of Probability for Readiness of Property Business Development: Khon Kaen and Udon Thani

Logistic Regression	Khon Kaen				Udon Thani			
	Number of obs = 38				Number of obs = 37			
	Log pseudolikeliho -19.2971025				Log pseudolikeliho -13.159149			
	Prob > chi ² = 0.0009				Prob > chi ² = 0.0269			
	Pseudo R ² = 0.5934				Pseudo R ² = 0.4355			
Probability for Readiness of Property Business Development	Robust				Robust			
	Coefficient	Standard Error	z Statistic	p-value	Coefficient	Standard Error	z Statistic	p-value
CPS	2.28654	1.656883	0.535	0.618	1.647051**	.7990563	2.06	0.039
EC	0.094560	1.197894	1.08	0.795	1.025560	1.047124	1.05	0.825
IS	2.679942	1.533940	1.13	0.746	2.122942	1.401211	1.14	0.746
FLP	5.776577**	2.251829	2.57	0.010	2.726443**	1.293016	2.11	0.035
SSNA	1.834428	1.843565	1.35	0.112	1.212428	2.801215	1.14	0.582
NU	1.456632	2.676602	0.32	0.887	1.400632	2.676602	0.32	0.887
HIN	3.870543**	1.627203.	2.38	0.017	3.036436**	1.144589	2.65	0.008
LI	1.176543	1.076148	0.08	0.824	1.176543	1.076148	1..73	0.984
EIA	-2.578761**	1.344641	1.92-	0.05	-2.512177	1.401221	1-.12	0.856
Constant	-5.331187	1.879014	2.84-	0.005	-4.701874	1.690284	-2.78	0.005

Source: Analyzed and Calculated by Researcher

Note ** with 0.05 level of significant, *** with 0.01 level of significant.

Table 7 presented the results of Readiness of Property Business Development by Logistic Regression Analysis. We found that in Khon Kaen there were three main factors had influenced

on the probability of readiness of property business development. Financial and Loans Restructuring Policy (FLP) had positively influenced, while Environment Impact Analysis (EIA) had negatively influenced on the probability of readiness of property business development. In Udon Thani, there were three main factors had positively influenced on the probability of readiness of property business development. They were City Planing System (CPS), Financial and Loans Restructuring Policy (FLP) and Higher National Income per capita (HIN).

Table 8: Logistic Regression Analysis of Probability for Readiness of Property Business Development: Northeast Thailand

Logistic Regression	Northeast			
	Number of obs = 75			
	Log pseudolikeliho = -23.867382			
	Prob > chi ² = 0.0011			
	Pseudo R ² = 0.4837			
Probability for Readiness of Property Business Development	Robust			
	Coefficient	Standard Error	z Statistic	p-value
CPS	2.27698***	0.970377	2.35	0.019
EC	0.067960	1.197764	1.09	0.845
IS	0.679942	1.40	1.03	0.546
FLP	2.247468**	.8843197	2.54	0.011
SSNA	2.263828*	.8878665	2.55	0.012
NU	0.340032	0.545602	0.42	0.747
HIN	3.239413***	.9797154	3.31	0.001
LI	0.178233	0.710148	1.07	0.722
EIA	-1.551364	0.561072	0.43	0.646
Constant	-4.572977	1.551926	-2.95	0.003

Source: Analyzed and Calculated by Researcher

Note ** with 0.05 level of significant, *** with 0.01 level of significant

Table 8 demonstrated the results of logistic regression analysis of probability of readiness of property business development in northeast Thailand. It indicated four main factors had positive impacts on the probability of readiness of property business which were Higher National Income per capita (HIN) City Planning System (CPS) Financial and Loans Restructuring Policy (FLP) and Super Store near the Area (SSNA) respectively.

5. Discussion and Conclusion

Other studies surveyed the price determinants in several places. For instance works of Harrison and Rubinfeld (1978), Blomquist and Worley (1981), Palmquist (1985), Follain and Emmanuel (1985), Clapp and Giaccotto (2002), Wild (2009) and Srivanit, Hokao & Phonekeo (2010) using multiple regression analysis found that many internal and external factors such as a number of floors, a size of space, parking lot, facilities, location, creditability, and legal measurement had influenced on pricing in property business markets. Those findings had corresponded with this study, but this current study focused on the local region of Thailand. This study examined northeast (Khon Kaen and Udon Thani) property business development in two ways. The first one was multiple regression analysis to find out the price determinants of single house and condominium. The results presented the size or usable area, a number of bedrooms, size of garden, the parking lot, fitness & swimming pool and the security system had positively influenced on property pricing. As the negatively influenced factors were the promotion and marketing policy as well as the distance from the community. Finally, we found that there were different determinant factors of Khon Kaen and Udon Thani in both single house and condominium markets.

The works of Bulloch and Sullivan (2012) and Kohlhepp (2012) previously concentrated on the steps of real estate development that affected the development of property business market. While in the second part, logistic regression analysis examined the availability of property business development in a local market in Thailand. This study found the readiness of the property development in northeast Thailand was 96%, while, Udon Thani readiness was 93.75%, Khon Kaen readiness was 85.03%, respectively. The influential factors included city planning system, the higher per capita income (the most important factor of northeast and of Udon Thani property), being near the superstore, the credit policy (the most important factor of Khon Kaen property market) and environmental impact analysis.

6. Recommendation

1. Overviews of the Northeast, the main factors that have the positive effect on the opportunities for development are physical and financial factors. But the factor that should not be ignored in this area is: taking into account the environmental impact.

2. The policy for Khon Kaen is to focus on promoting local people's income-generating measures and conducting environmental impact studies. While Udon Thani focuses on providing housing loans.

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