FACTORS AFFECTING SATISFACTION LEVEL OF THE INVESTORS IN INDUSTRIAL ZONES OF BINHDINH PROVINCE, VIETNAM

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Abstract

The study surveyed 179 enterprises investing into industrial zones in BinhDinh province (central Vietnam) in order to detect and assess the impact of factors on the satisfaction level of the investors. Applying multiple regression analysis, the researcher has identified and measured the influence of the factors on the satisfaction level of the investors, as follows: (1) Investment Policy; (2) Investment in developing social infrastructure in industrial zones; (3) Investment in developing of technical infrastructure in industrial zones; (4) the investment advantages; (5) Human resources (6) The cost of infrastructure use. From the results of the study, the researcher has proposed some recommendations to help the local authorities with more judicious decisions in promoting the satisfaction level of the investors, as well as boosting the investment attraction into the local industrial zones.

Keywords: Industrial zone, investment attraction into industrial zones, satisfaction, investor, investment, Vietnam

INTRODUCTION

According to the Investment Law 2014: "Industrial Zone is an area with defined geographical boundaries, specializing in manufacturing industrial goods and running other services for production". Thanks to the comprehensive economic reform, the developing process of industrial zones (IZs) in Vietnam has created a new modern infrastructure, which contributes to the rapid expansion of capitals and becomes the important factor affecting GDP growth; offering more jobs and incomes. Studying the issues related to the results and performance of the industrial zones has become the concern of all levels and departments, local authorities and

residents. However, the investors considered as the centre of research have not been paid much attention to, for example, what are the motivations for their investment?, and what do they expect in turns? Through this perspective, the researcher would consider the satisfaction level of the investors - those who directly utilize the IZs; if the consumers are satisfied with the services provided by the industrial zones yet, and what are their reviews and expectations. We can, thereby, identify what has been achieved in terms of attracting investment and giving solutions to better meet the needs of investors. This paper has, therefore, approached the factors affecting the satisfaction level of the investors in industrial zones in BinhDinh province.

LITERATURE REVIEW

Many researchers believe that satisfaction is the difference between customer expectations and actual experience achieved. Kotler (2000) defines satisfaction as the feelings of pleasure or disappointment suffered by a person after comparing the perceptions of performance or results of a product with its expectations.

State government and investors generate the infrastructure systems of industrial zone, which most facilitate the secondary investors so that they can smoothly perform their business activities. Therefore, the investment environment for the industrial zones is also seen as a commodity that secondary investors are customers. Based on the study of the satisfaction level of customers, many researchers have investigated the satisfaction of investors in order to find the best solutions to improve the local investment attraction. This means that the satisfaction level of investors is the appreciation of investors, businesses on an investment location or environment after utilizing it to carry out their production and business activities.

In local marketing perspective, researchers consider the investment environment as a commodity service. The target markets of this particular commodity can be aimed at tourists, export markets, producers, investors, and local and international businesses (Kotler, Haider& Rein, 1993). Among these customers, investors are probably the key objectives, especially in the developed economies. Some studies on investigating the investment environment show that each province should have some key development locations to stimulate capital inflows from foreign direct investment as well as generate a high satisfaction level for investors, especially in developing countries (Nguyen &Haughton, 2002; Mmieh&Owusu-Frimpong, 2004; Fung et. al 2005). This is explained by various benefits from FDI such as new industry sectors, labor, technology transfer, economic development, adjusting the balance of payments, and incomes for local people, as well as for the country. One of the focal points mentioned by the researcher is developing the model of zones, complexes.

Tho et. al (2005) measured the satisfaction level of the investors on investment environment of TienGiang province through 34 observed variables with 3 factors, namely, investment infrastructure, supports from local government, and the habitat quality. After utilizing exploratory factor analyses, factors were divided into 8 groups: the investment infrastructure, land level, labor, school quality, investment policies, investment supports, trade supports, and standards of living. Of those, four factors playing the most important role in affecting the satisfaction level of the investors representatively are investment policies, school quality, investment supports and standards of living.

Nguyen ManhToan (2010) measured the influence of factors on the satisfaction level of investors in the case of Da Nang city. Through analyzing, discovering, statistical and descriptive methods, the study showed that the developed technical infrastructure played the most important role, and then the priorities in investment supports from local or state government; low performance cost; and potential markets. Geographic location and social infrastructure are not the significant factors to the investors' decision.

Nguyen ThanhTrung (2008) proposed eight factors affecting the satisfaction level of the investors in Vietnam – Singapore industrial zone through expert approach, including: geographic location, infrastructure, supporting services, human resources, supporting industries, state management, markets, and investment cost with totally 44 observed variables. The study was, however, aimed at statistical description of the average value of those variables only. The ones with the average value lower than 3 points would need further investigation for better improvements. The study, thereby, proposed some solutions without the analysis of affecting levels of those factors on the satisfaction level of the investors.

Dinh Phi Ho (2010) investigated the satisfaction level of the investors in Vietnamese industrial zones with 8 groups of factors and 38 observed variables including infrastructure, working and living environment, competitive cost, human resources, local trademark, investment advantages, state service quality, investment policies. The research results show that the most significant factors affecting the satisfaction level of the investors representatively are investment policies, infrastructure, competitive cost, and labor sources.

RESEARCH METHODOLOGY

The study was carried out in the industrial zones of Binh Dinh province. Binh Dinh is a province in the South Central Coast of Vietnam. With fairly uniform infrastructure, geographical advantages and natural resources, Binh Dinh has generated a dominant advantage in the regional and international exchanges, the key economic area of the Central Vietnam.

Table 1 : Industrial zones in Binh Dinh province

Names	Area (ha)	Industrial land area for rent (ha)	Industrial land area rented (ha)
Phu Tai	345,8	246	221,8
Long My	117,7	100,4	80,4
Nhon Hoa phase I	154,4	143	143
Binh Nghi	228	148,4	-
Hoa Hoi	265	185,5	-
Cat Trinh	368,1	232,63	-
Nhon Hoi A, B, C	-	-	-

Source: http://kktbinhdinh.vn

The study includes 188 active investors in industrial zones in BinhDinh province. The survey process was done with the help of BinhDinh Economic Zone Management Board. The researcher sent questionnaires to 185 investors (enterprises) and earned 181/185 votes back, in which 179 votes were valid and could be used as research results (95% on the whole). Data collected was analyzed using descriptive statistics and regression analysis.

Table 2: Features of the survey sample by locations

No.	Industrial zones	Total enterprises	Total survey samples sent	Total valid samples obtained	Overall ratio
1	Phu Tai	121	121	115	64.24 %
2	NhonHoa	25	25	25	14%
3	Hoa Hoi	5	5	5	2.75%
4	Long My	27	25	25	14%
5	Cat Trinh	2	2	2	1.11%
6	Nhon Hoi A, B, C	8	7	7	3.9%
	Total	188	185	179	100%

ANALYSIS AND RESULTS

Based on the proposed theory, the researcher conducted synthesis, finalizing the scales for the factors, variables in the model. The scale that the author used was based on SERVQUAL scale (Parasuraman) and other studies by Nguyen DinhTho (2009), Dinh Phi Ho (2011). The criteria of the research model are shown as follows:

Table 3: The criteria of the research model

SCALE	SYMBOL
I. Investing and developing technical infrastructure of industrial zones	**HTKT**
1 Convenient transportation infrastructure	HTKT1
2 Stable power supply system	HTKT2
3 Stable water supply and sewerage system	HTKT3

Table 3...

4	Good investment in green system	HTKT4
5	Facilitate communication system	HTKT5
6	Good investment in waste treatment system	HTKT5
II. Investing and developing social infrastructure of industrial zones		**HTXH**
1	Good investment in cafeteria system for workers	HTXH1
2	Health infrastructure to meet the needs	HTXH2
3	The school system is responsive to the learning needs of the children of workers and investors	HTXH3
4	Recreation service system to meet the needs	HTXH4
5	Housing infrastructure to meet the needs of workers	HTXH5
III. Human resources		**NNL**
1	Labor quality to meet the requirements of the investors	NNL1
2	Available labor resources	NNL2
3	Labor with high discipline	NNL3
4	Labour with good ability to acquire and apply technology	NNL4
5	Easy to recruit good managers in the local area	NNL5
6	The cost of using cheap labor	NNL6
IV. Investment policies		**CSDT**
1	Local authorities are willing to support investors	CSDT1
2	Legal documents are quickly deployed to investors	CSDT2
3	The Local preferential policies are sensible	CSDT3
5	Clear tax system	CSDT4
V. Public service quality		**CLDV**
1	Simple and quick administrative procedures	CLDV1
2	Local authorities have a good support mechanism for investors	CLDV3
3	Swift customs procedures	CLDV4
4	The investment and trade promotion centers have good support for investors	CLDV5
VI. Investment advantages		**LTN**
1	Easy access to inputs	LTN1
2	Development of supporting industries	LTN2
3	Near the business partners (distributors or main supply)	LTN3
4	Favorable consumer market	LTN4
VII. The cost of utilizing infrastructure		**CPCT**
1	Low land renting cost	CPCT1
2	Reasonable charge of electricity, water, transportation	CPCT2
3	Competitive cost of communication services	CPCT3
4	Reasonable cost of waste treatment	CPCT4
VIII. The satisfaction level of the investors		**SAT**
1	Revenues and profits grow as expected	SAT1
2	The industrial zone meet the expectations of investors	SAT2
3	I will introduce this local industrial zone to other investors	SAT3
4	I will continue to invest in the local industrial zone	SAT4
5	Overall, I feel satisfied when investing in the industrial zone	SAT5

Scale quality inspection

Factors affecting the satisfaction level of the investors in the industrial zones are divided into 7 groups with 34 observed variables. According to Nunally&Burnstein (1994) the scales and observed variables can be used if satisfied:

i. Cronbach's Alpha coefficient of the overall scale is greater than or equal to 0.6

ii. The correlation between the total variable and the observed variables in the scale must be greater than or equal to 0.3.

After testing the quality of the scale, the scale of public service quality was eliminated, satisfaction scale with 5 observed variables and 6 groups of influential factors with 24 observed variables are satisfactory to analyze the exploratory factors, as follows:

Table 4: Scale quality inspection

Groups of factors	Cronbach's Alpha coeff.	Suitable variables observed
Satisfaction level	0.818	5
Investing and developing technical infrastructure in industrial zones	0.877	4
Investing and developing social infrastructure in industrial zones	0.777	5
Investment advantages	0.823	3
Human resources	0.767	4
The cost of utilizing infrastructure	0.900	4
Investment policies	0.719	4

Exploratory factor analyses

After the scale quality inspection, the researcher eliminated the bad scales and unsatisfied observed variables, and then continued to analyze the exploratory factors using scales, observed variables retained. According to Hair &ctg (1998) [3], the exploratory factor analyses (EFA) are considered as suitable under the following conditions: Multiply the Loading index and Factor Loading > 0.55; 0.5 ≤ KMO ≤ 1; Bartlett testing in the statistical significance Sig. <0.05; Variance extracted (Cumulative% of variance) > 50%.

Table 5: Bartlett Testing

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.740
Bartlett's Test of Sphericity	Approx. Chi-Square	2536.980
	Df	276
	Sig.	.000

As can be seen from the table, KMO = 0740; Bartlett testing in the statistical significance Sig. = 0.000 <0.05, which means that observations are correlated with each other in the overall

significance level with 99% and 70.747 % of the variance extracted means that 70 747% of the variation of the observed variables is explained by 6 factors withdrawn. It can be concluded that the EFA is suitable. Matrix of rotation factors shows previous EFA analysis with every 4 above standards, one scale 1 and 10 observed variables have been removed, the remaining 24 observed variables with 6 newly-formed elements following the order of the rotation factors matrix. Loading Factor coefficients of the observed variables are all greater than or equal to 0:55.

Regression results

Table 6: Regression Results

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
	(Constant)	.048	.291		.166	.868		
	HTKT	.191	.044	.249	4.338	.000	.957	1.045
	HTXH	.193	.054	.223	3.588	.000	.818	1.223
1	CSDT	.422	.066	.385	6.349	.000	.856	1.168
	LTDT	.140	.056	.156	2.522	.013	.823	1.215
	NNL	.079	.046	.107	1.697	.092	.790	1.266
	CPCT	.070	.042	.101	1.684	.094	.867	1.154

The regression results have shown that variables HTKT, HTXH, CSDT have Sig.<0.01. These variables are, therefore, collaboratively meaningful to the dependent variable SAT at the level of 99%. The variable LTDT has Sig.<0.05, which means that it gets 95% of meaningful level with SAT. Variables NNL, CPCT have Sig.<0.1, getting 90% of meaningful level with SAT. This table also shows the regression equation to estimate the impact of these factors with the value estimated as follows:

SAT = 0.048 + 00.191HTKT + 0.193HTXH + 0.422CSDT + 0.140LTDT + 0.079NNL + 0.070CPCT

Thus, the value of the regression coefficient is expectedly expressed. The factors from the results of regression have positive relationship with satisfaction level.

Table 7: The adjusted coefficient of determination R2

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.680[a]	.462	.443	.38511	.462	24.469	6	171	.000

The adjusted coefficient R^2 of the model is 0.443, which means that the independent variables included in the model have explained 44.3% of changes in the dependent variables. ANOVA variance analysis shows: statistical F value of the model with the Sig. = 0.000 <0.01 can be inferred that the model is consistent with the actual data.

CONCLUSION

On the basis of the theoretical systems involved in the satisfaction level of the investors, the project has developed a theoretical model including 7 factors with 34 observed variables affect the satisfaction level of investors in the industrial zones. By means of testing the quality of scale and exploratory factor analysis, the theoretical model has been modified and developed into a new one with six factors and 24 observed exploratory variables, as follows: Investment and development in technical infrastructure; Investment and development in social infrastructure; Investment policies; Cost of utilizing infrastructure; Investment advantages; Human resources. Through quantitative analysis techniques, the newly-generated model has been proved consistent with factors of statistical significance. The value of regression coefficients has expressed the expected sign. The factors from the regression results prove the positive relation to the satisfaction level. The influence level of factors on the satisfaction of the investors is representatively shown as follows: (1) Investment policies; (2) Investment and development in social infrastructure; (3) Investment and development in technical infrastructure; (4) Investment advantages; (5) Human resources; (6) Cost of utilizing infrastructure.

RECOMMENDATIONS

Satisfaction level will affect the behavior of investors in making investment decisions, increase investment and introduce the investment environment to other investors. Based on the research findings, the researcher has proposed some policy suggestions, as follows:

First, the investment in developing the infrastructure of the industrial zones

It is necessary to invest constantly in developing the infrastructure of the industrial zones in the direction of better improvement in modernization, quality and synchronization between developing technical and social infrastructure. Besides, developing the technical infrastructure should closely go with developing the social infrastructure. In reality, the investment in developing technical infrastructure is paid more attention than that of social infrastructure. Therefore, the satisfaction level of investors toward social infrastructure is low. In the long run, along with developing the local and national industrial zone systems, the competition in attracting investment becomes increasingly fierce. It is, therefore, necessary to pay attention to

investment in infrastructure development in the industrial zones to best meet the needs of the investors. In particular, the environmental infrastructure of the industrial zones must avoid impacts on the environment in the process of development. In addition, the functional areas under production and business sectors should be clearly planned and defined. The functional areas must be facilitated to attract high-quality projects and ensure environmental protection in the future.

Second, the cost of using infrastructure

The cost of using infrastructure strongly influences the satisfaction level of investors. It is factor that directly affects the cost of investors. However, in the long term, it is necessary to balance between the cost and performance effectiveness of the industrial zone. The local authorities should not abuse the low cost of using the infrastructure in lobbying the investors.

Third, the relevance of the observed variables that the investors underestimate

Of the observed variables affecting the low satisfaction level of investors, the followings should be paid attention to the cost of electricity and water, transport and communication services. Investors are not satisfied with the cost of using some sectors in the infrastructure of industrial zones. It is also important to review and compare the cost and performance effectiveness of industrial zones in other local areas. Management agencies shall also control this kind of activity from the infrastructure investors to avoid negative impacts on secondary investors and the investment environment in industrial zones.

FURTHER RESEARCH

In the future, the author will continue to study on a wider scale, including central and nationwide. The purpose of this research expansion is to have a different view on the affecting factors on the investors' satisfaction.

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