

ASSESSING THE EFFECTS OF YOUNG LABOURS TO ATTRACT INVESTMENT CAPITAL IN INDUSTRIAL PARKS BY ACCESS TO ADAPTIVE CAPACITY: RESEARCH IN BAC NINH PROVINCE, VIETNAM

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ABSTRACT

This study was designed to assess the impact of young workers on attracting investment capital into industrial parks in Bac Ninh province through supply-side approach - directly from workers. The research findings are shown by calculating the adaptive capacity of young labours. Data of the study were collected from 216 young employees working in industrial parks in Bac Ninh province. The results show that the adaptive capacity of young workers is not high. Based on that analysis, the author proposes several solutions to improve the quality of young workers, contributing to attracting investment capital into industrial parks in Bac Ninh province, especially in the context of integration to the international economy getting deeper and broader now.

Keywords: *Young labours, attracting investment capital, industrial parks.*

1. Introduction

The labour force including young labours is an important and integral part of developing enterprises, so training and responding to labour for the operation of the enterprise is necessary of not only enterprises but also localities.

The model of industrial parks has been built and developed in countries as an effective capital mobilization channel to achieve socio-economic objectives such as the economic development of localities where industrial parks are built and put into operation, stimulating the development of service industries, supporting industries, creating jobs and raising incomes for local people and surrounding areas ...The industrial park was built in the place where the focus of the most favourable conditions for investors at home and abroad, thereby contributing to increased attractiveness and competitiveness for national investment environment.

For industrial parks to operate effectively, ensure high occupancy rates of industrial parks which mean that enterprises operating in industrial parks must be large. Want enterprises to invest in industrial parks, the labour supply for enterprises in the industrial parks must meet the quality and quantity requirements of enterprises.

By the end of 2018, Vietnam has built 326 industrial parks out of 463 planned industrial parks, the total natural land area of these industrial parks is approximately 93 thousand hectares, which the land area is 56,000 hectares of industrial land can be leased (accounting for 66% of the total natural land area) industrial zones throughout the country have attracted about 7500 domestic investment projects with a total registered capital of about 970 trillion dongs and about 8000 foreign-invested projects with a total registered capital of about 145 billion USD. The occupancy rate of industrial parkland area is about 73%. (Department of Economic Zone Management, Ministry of Planning and Investment, 2019)

By the end of 2019, Bac Ninh province has 16 industrial parks approved by the Government for planning and construction with a total area of 6,397.68 ha; which 10 industrial parks were put into operation and had activities to attract investment capital of enterprises.

However, besides the achieved results, the issue of attracting investment capital into industrial parks still reveals certain limitations; the scale of attracting investment capital is still limited and uneven in the attraction of investment capital of industrial parks. One of the reasons for the limited investment in industrial parks is that the labour force has not met the requirements of quality and size of enterprises.

Theoretically, previous studies have been conducted focusing on the impact of labour in general on attracting investment capital into industrial parks such as the studies of Morrison & Schwarts (1992), Chia-Li Lin & Gwo-Hshiung Tzeng (2009) ... While a large proportion of the current labour force in industrial parks is young workers, the role of young workers in attracting investment capital into the industrial parks is very clear.

Because of these reasons, this study was done to study the effects of labour on attracting investment capital to industrial parks in Bac Ninh province. However, this study will conduct research evaluating the effects

of labour from the employee perspective to consider the employee's ability to respond. The calculation of the adaptive capacity of the young labour force working in industrial parks is conducted to address the research objectives..

2. Research overview

Regarding researches related to attracting investment capital into industrial parks: From the perspective of Morrison & Schwarts (1992), Chia-Li Lin & Gwo-Hshiung Tzeng (2009) when studying the influencing factors to decide the investment location of investors in industrial parks. The study also compares the different industrial parks. With four groups of aspects analyzed in the study: human resources, technological resources, environmental investment and market development with 28 evaluation criteria to determine cluster properties.

In the cost approach, it was pointed out that the main factors affecting the investor's investment position include transportation costs, labour costs, the nearness of supporting industrial facilities, and benefits about logistics and marketing. Research by Michael Porter (1990), Michael Porter (2000) on competitive advantage, location of investment, industries/industry complexes and company strategy has taken a dynamic approach to the incentives investment decisions, highlighting the role of industries/industry complexes in the enterprise's competitive strategy, at the same time analyze the role of investment locations in the process of forming the competitive advantage of the enterprise.

In Vietnam, several studies were conveyed to assess the factors affecting investment decisions in industrial parks, Mai Van Nam & Nguyen Thanh Vu (2010) in the study, six factors were mentioned: (i) Location of the industrial park; (ii) Infrastructure; (iii) Support services; (iv) Investment policies; (v) Input resources; (vi) Human resources. From the analysis and evaluation of the typical case of industrial parks in Tien Giang province, this study has identified three groups of factors influencing business investment decisions, it is the infrastructure, human resources and location of the industrial park.

With a survey of 139 enterprises on policies to attract investment in industrial parks in Ha Nam using the inheritance model of Nguyen Dinh Tho & Nguyen Thi Mai Trang (2008), Vu Hung Cuong & Tran Xuan Duong (2014) point out that the labour market has a great influence on enterprises' investment decisions in Ha Nam. From this basis, the authors have proposed numerous solutions to attract investment for Ha Nam industrial park.

Some studies were conducted to analyze the adaptive capacity of workers in the context of changes such as international economic integration or adverse changes in external conditions Tran Thanh Dung & Nguyen Ngoc De (2016), Vo Hong Tu, Mitsuyasu Yabe et al (2015), Pham Duc Thuan & Duong Ngoc Thanh (2015) the studies performed adaptive capacity analysis through resources (human resources, physical resources, natural resources, social resources and financial resources).

3. Research Methodology

3.1. Data collection method

Data for the study was collected from the survey of young workers working in industrial parks in Bac Ninh province. The research surveyed 257 young workers working in industrial parks in Bac Ninh province. The survey of employees is aimed at examining their assessment of their ability to adapt to the requirements of the enterprise.

After surveying young workers working in industrial parks in Bac Ninh province, the author made data entry into excel software, when importing data, 41 survey papers did not meet the requirements, the author removed these data, the remaining 216 questionnaires met the requirements. From the perspective of Nguyen Van Thang (2014), this number of observations satisfies the requirement of minimum sample size when performing statistical operations.

3.2. Data analysis method

Because these indices are assessed and measured on different scales, before calculating the adaptive capacity (ACI) index of workers' resources, the criteria will be standardized and then calculated according to the average principle according to the formula of human development index (HDI) of Anand and Sen (1994), specifically, the formula is described as follows:

$$SI_i = (In_i - In_{min}) / (In_{max} - In_{min}) \quad (1)$$

Which:

SI_i : are the standardized indicators according to criterion i

In_i : is the average index of criterion i

In_{max} và In_{min} : are the largest and smallest indexes of criterion i

After standardizing each criterion, all criteria of a resource will be averaged to form the criteria of each resource (human, social, material, financial and natural). The formula for calculating the indicators of resources is as follows

$$IC_j = \sum_1^i SI_i / i \quad (2)$$

Which:

IC_j : is the index of each resource

SI_i : Standardized value of each criterion

i : is the total number of criteria for a resource

After the index of each resource is calculated, the adaptive capacity index (ACI) is calculated as follows. The ACI index will be averaged weighted according to the importance of each criterion contributing to adaptive capacity. These weight values are inherited from the research of Vo Hong Tu, Mitsuyasu Yabe et al. (2015), Le Thi Yen & Pham Van Hung (2015). Adaptive capacity index is calculated by the following formula:

$$ACI = \sum_1^5 W_j \times IC_j / \sum W_j \quad (3)$$

Which:

W_j : is the weight of jth resources

IC_j : he index of each jth resource

Inheriting the previous study, the weighting of specific resources is 10 for financial and human resources, 9 for social and natural resources, and 8 for physical resources.

4. Research findings

4.1. The situation of attracting investment capital to industrial parks in Bac Ninh province

With 10 industrial parks in operation of industrial zones in Bac Ninh province, there have been 1,429 domestic and foreign investment projects with total investment capital up to 19,003.52 million USD as of September 2019.

By the end of September 2019, there were 1,056 projects in operation: industrial production value reached 878,554 billion VND, export value reached 31,937 million USD, contributed to the state budget 9,401 billion VND, created jobs for 292,300 employees; which local workers are 77,204 people (accounting for 26.41%), female workers are 175,473 people (accounting for 60.03%), foreign workers are 4,781 people.

Industrial parks have become an important economic entity, a place that attracts projects with advanced technology, accelerates industrial growth, the process of economic and labour restructuring, the province is oriented towards modern industry; contribute to promoting the sustainable socio-economic development of Bac Ninh province.

4.2. Calculating the adaptive capacity of young workers to meet the requirements of enterprises in industrial parks

From the survey data, the author calculates the adaptive index of each resource, the calculation criteria are inherited from the studies of Tran Thanh Dung, Nguyen Ngoc De (2016), Vo Hong Tu, Mitsuyasu Yabe et al. (2015), Pham Duc Thuan & Duong Ngoc Thanh (2015), Le Thi Yen & Pham Van Hung (2015), Saumik Paul & Sarma Vengadeshvaran J (2013), the specific results are as follows:

Table 2: Adaptive capacity criteria of physical resources

Physical resources	Traffic	Clean water	Percentage of respondents surveyed about access to education	Percentage of respondents surveyed about the medical quality	Percentage of respondents surveyed about environmental quality
Real value	3.35	3.18	62.5	66.8	46.5
Min	1	1	0	0	0
Max	5	5	100	100	100

Adaptation indexes are standardized (SI_i)	0.5875	0.545	0.625	0.668	0.465
IC index of physical resources			0.57816		
Adaptive capacity index (ACI)			0.4625		

Source: Authors' calculations based on survey results

Calculation results from criteria, adaptive capacity index after calculating the weight of physical resources is 0.4625.

Table 3: Adaptive capacity criteria of human resources

Human resources	The level of responsiveness in information technology	The level of responsiveness on foreign language	Meet the requirements of the job	The average Educational attainment of the labours	The level of response on soft skills
Real value	3.28	2.75	3.62	13.08	3.07
Min	1	1	1	1	1
Max	5	5	5	15	5
Adaptation indexes are standardized (SI_i)	0.57	0.4375	0.655	0.863	0.5175
IC index of human resources			0.6086		
Adaptive capacity index (ACI)			0.6086		

Source: Authors' calculations based on survey results

When considering human resources, the specific criteria for this resource are the level of responsiveness in information technology, the level of responding in foreign languages, the level of responsiveness in soft skills, educational level. The adaptive capacity index calculated after taking into account the weight of human resources is 0.6086.

Table 4: Adaptive capacity indicators of natural resources

Natural resources	Quality of agricultural land after constructing IPs	Agricultural land area after Constructing IPs	Non-agricultural land area when constructing IPs	Land area was acquired due to IPs development	Land with a convenient location
Real value	2.86	2132.31	1065.2	1283.6	61.5
Min	1	0	50	0	0
Max	5	4351.2	3200	2160	100

Adaptation indexes are standardized (SI_i)	0.465	0.49	0.32	0.59	0.615
IC index of natural resources	0.496				
Adaptive capacity index (ACI)	0.4464				

Source: Authors' calculations based on survey results

The result of calculating the adaptive capacity index of natural resources is 0.4464.

Table 5: Adaptive capacity criteria of social resources

Social resources	the percentage of resources participating in training courses	the percentage of resources participating in social organizations	the percentage of young labour force receiving support from the central/local governments
Real value	71.2	78.5	58.2
Min	0	0	0
Max	100	100	100
Adaptation indexes are standardized (SI_i)	0.712	0.785	0.582
IC index of social resources	0.693		
Adaptive capacity index (ACI)	0.6237		

Source: Authors' calculations based on survey results

The criteria of the percentage of resources participating in training courses, the percentage of resources participating in social organizations and the percentage of young labour force receiving support from the central/local governments are criteria of definition of social resources, which are measured by answering the Yes/No questions of resources, if the answer is yes are coded for calculation is 1 and vice versa is 0.

Calculated results from the author's survey data, the adaptive capacity index of social resources is 0.6237 after considering the weight of resources.

Table 6: Indicators of adaptive capacity of financial resources

Financial resources	Non-agricultural investment	Cost of living	The amount is compensated	Average annual income	The percentage of members borrow from the bank	The percentage of members have increased income after working in industrial parks
Real value	68.16	86.99	486.42	123.86	65.1	58.2
Min	0	12	0	0	0	0
Max	120	156	750	300	100	100
Adaptation indexes are standardized (SI_i)	0.568	0.5208	0.6486	0.4129	0.651	0.582
IC index of financial resources	0.5638					

Adaptive capacity index (ACI)	0.5638
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Source: Authors' calculations based on survey results

Adaptive capacity index of financial resources after considering the weight of resources is about 0.5638.

From the above analysis and calculation results, the adaptive capacity of workers when the context of change is relatively high ranges from 0.4464 to 0.6237.

5. Some recommendations

The findings show that the adaptive capacity of young workers is relatively good, actual results of activities to attract investment capital into industrial parks in Bac Ninh province, the current land occupancy rate of industrial parks is over 78%, partly because of the good quality of labour force in industrial parks meeting the requirements of enterprises, therefore enterprises have new investment and expand investment in industrial parks in Bac Ninh province. Research results of the author are in line with reality. However, to further improve the ability to attract investment capital into industrial parks in Bac Ninh province, the author offers several recommendations to enhance the quality of labour and meet the adaptability of labour as follows:

- + In the coming time, needing to be attention to improving the education level for young workers, improving foreign language skills, computer skills and basic soft skills for workers.
- + Creating conditions for young workers to participate in training courses organized by the organizations, agencies to keep up with the world's development trends,
- + Providing information about jobs, services,... to human resources, from there plans for future work.

References

- Aggarwal, A. (2007). Impact of economics zone on employment, poverty and Human development. *Working paper 194*. Indian council for research on international economic relations.
- Barro, R J. & Sala-i-Martin X. X. (1997). Technological Diffusion, Convergence, and Growth. *Journal of Economic Growth*, 2(March).1–26.
- Chia-Li Lin & Gwo-Hshiung Tzeng. (2009). A value-created system of science (technology) park by using DEMATEL. *Expert Systems with Applications*. 36 (6). 9683-9697.
- Dunning John H. (1997). Trade, location of economic Activity and the MNE: A search for Approach in the international allocation of economic activity. *Edited by Bertil Ohlin Hesselborn and per Magues Wijiman, New York, Holmes and Meier Publisher*.
- Gilmore, A, O'Donnell, A., Carson, D., & Cummins, D. (2003). Factors influencing foreign direct investment and international joint ventures: A comparative study of Northern Ireland and Bahrain. *International Marketing Review*. 20(2). 195-215.
- Knack.S, Keefer.P. (1995). *Institution and economic performance: cross-country tests using slternstive institutional measures*. Published by J Full publication history.
- Le Hoang Ba Huyen. (2012). *Causes and Effects of Foreign Direct Investment: Basis for Policy Redirection in Thanh Hoa province in Vietnam*.
- Le Thi Yen & Pham Van Hung. (2015). The vulnerability of the residents' livelihood surrounding the industrial park in the North Midland and Mountainous region of Viet Nam. *Proceedings of the international conference on livelihood development and sustainable environmental management in the context of climate change, Agriculture publishing house*. 479-485
- Morrison & Schwartz. (1992). *National Bureau of Economic Research*. w3981. 1992/1/1.
- Mai Van Nam & Nguyen Thanh Vu (2010) The issue of employment and the impact of labour on attracting investment into Tien Giang Industrial Park. *Scientific journals of Can Tho University*. 13. 26 -136.
- Nguyen Minh Ha & Nguyen Duy Khuong. (2015) Studying factors influencing enterprises investing in industrial parks and industrial complexes in Tien Giang province ". *Scientific journals - Ho Chi Minh City Open University*, 1.
- Nguyen Thi Ninh Thuan & Bui Van Trinh. (2012) Analysis of factors affecting the investment attraction of enterprises in industrial zones in Can Tho city, *Scientific Proceedings of Can Tho University*.
- Nguyen Viet Bang and Nguyen Quoc Nghi (2012) Study the impact of the Industrial Park on the income development of the community whose land is recovered: In the case of Hoa Phu industrial park in Vinh Long province, *Scientific Journal of Can Tho University*, 14.
- Nguyen Dinh Tho & Nguyen Thi Mai Trang (2008) *The local nature and the satisfaction of enterprises*. Statistical Publishing House.
- Nguyen Van Thang (2014) *Curriculum of Practical research in economics and business administration*,

- Hanoi National Economics University Publishing House.
- Tran Thanh Dung & Nguyen Ngoc De (2016) Assessment of the adaptive capacity of young people in new rural construction of Kien Giang province. *Scientific journals*. 44. 137-145
- Pham Duc Thuan & Duong Ngoc Thanh (2015) *Assessment of factors affecting the ability to find jobs of rural workers in Can Tho city*, *Scientific Journal*. 36. 97-104.
- Porter, M. E. (2000). *Locations, clusters, and company strategy*, in G.L. Clark, M.P. Feldman and M.S. Gertler (Eds.), *The Oxford Handbook of Economic Geography*. (Oxford University Press, Oxford). 253-274.
- Porter, M.E. (1990). *The Comparative Advantage of Nations* (Free Press, New York).
- Philip Kotler, M.A Hamlin, I.Rein, & D.H. Haider. (2002). *Marketing Asian places, Attracting investment, industry, and tourism to cities, states, and nations*, Published by John Wiley & Sons (Asian) Pte Ltd.
- Sachs, J.D., & A. Warner. (1995). Economic convergence and economic policies. *National Bureau of Economic Research Cambridge, Mass., USA*, September. <http://www.nber.org/papers/w5039>.
- Saumik Paul & Sarma Vengadeshvaran J. (2013). The livelihood effects of industrialization on displaced households: Evidence from Falta special economic zone, West Bengal. *Centre for European Economic Research Discussion*, 13(83), 1-32.
- Vo Hong Tu, Mitsuyasu Yabe, Nguyen Thuy Trang & Huynh Viet Khai. (2015), Adaptive capacity assessment of rural out migrants: A case study of An Giang province, Viet Nam. *Journal of the faculty of agriculture Kuyshu University*, 60, 265-271.
- Vu Hung Cuong & Tran Xuan Duong (2014) Applying local marketing theory to attract investment in industrial parks in Ha Nam province. *Journal of Economic Research*. 431.
- Economic Zones Management Department, Ministry of Planning and Investment (2019) *Report on the result of attracting investment capital into industrial parks of Vietnam..*

