



## **Assessment Of The Advantages, Achievements And Limitations And Shortcomings In The Construction Of Industrial Infrastructure In Hanoi - And Recommendations For Building Industrial Cluster Infrastructure In Hanoi**

**Nguyen Dinh Trung, PhD.<sup>1</sup>, Dinh Tran Ngoc Huy, MBA<sup>2</sup>, Ly Lan Yen, PhD. (corresponding)<sup>3</sup>, Nguyen Trong Diep, LL.D. (corresponding)<sup>4</sup>**

<sup>1</sup>National Economics University (NEU), Hanoi Vietnam, ORCID: 0000-0001-6712-3089

<sup>2</sup>Banking University HCMC, Ho Chi Minh city Vietnam - International University of Japan, Niigata, Japan, ORCID: 0000-0002-2358-0699

<sup>3</sup>Academy of Finance, Hanoi, Vietnam.

<sup>4</sup>School of Law, Vietnam National University, Hanoi Vietnam.

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### **Abstract**

The purpose of the paper is to describe, analyze the current situation, evaluate the advantages, achievements and limitations and shortcomings in the construction of industrial infrastructure in Hanoi, the causes of those limitations and shortcomings; Proposing some key measures to build industrial infrastructure in Hanoi.

Experience in industrial development and industrial infrastructure construction in some countries and provinces in the country has helped Hanoi City draw lessons that can be learned in the development of industrial infrastructure in Hanoi.

Therefore, we need to accelerate the completion and soon issue a decision on a number of preferential policies and mechanisms to support industrial development and infrastructure construction, this is the basis for localities to develop support policies. Specifically, Although there have been many meetings, adjustments and supplements, the Government has not yet officially issued this decision. The State needs to continue to amend the Land Law in a comprehensive manner, in the direction of increasing the effectiveness of the law in the implementation of land regulations applicable to industrial estates, separating the rental price of raw land from the State. water at a reasonable price for the infrastructure of infrastructure development enterprises, based on reference to experience in handling stable land policy

**Key words:** infrastructure, industrial cluster in Hanoi, experiences of provinces, policies

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**JEL: M21, M10**

## **1. Introduction**

The research purpose of the study is i) Systematizing the main theoretical issues about industrial revolution and building industrial infrastructure; ii)- Describe, analyze the current situation, evaluate the advantages, achievements and limitations and shortcomings in the construction of industrial infrastructure in Hanoi, the causes of such limitations and shortcomings; iii) Proposing some key measures to build industrial infrastructure in Hanoi;

Socio-economic characteristics:

Hanoi is the major economic center of Vietnam compared to the whole country, the population of Hanoi accounts for 7.4% and the area accounts for 1% of the whole country, but contributes about 12% of GDP, over 12% of the value. industrial production, over 11% of export turnover, nearly 17% of national budget revenue, attracting more than 16% of social investment capital. Although accounting for only 7.52% of the total population of the country, Hanoi has accounted for a higher proportion and ranks first among provinces/cities in most other important indicators. The number of enterprises in Hanoi accounts for over 19.2%, ranking second in the country; the total newly and additionally registered foreign direct investment capital from 1988 to 2010 reached about 22.5 billion USD, accounting for 11% of the whole country, ranking 3rd among provinces/cities, second in 5 cities directly under the Central Government. Industrial production value accounts for about 10% and ranks second.

Hanoi is located in the Northern Key Economic Zone, and also in the Red River Delta region (a region with great potential for industrial development and has maintained a high growth rate compared to the average rate). national army). The city's gross domestic product (GDP) in 2010 increased by 11% compared to 2009; the average growth rate of 5 years (2006 - 2010) is 10.4%/year, 1.5 times higher than the average growth rate of the whole country. GDP per capita in 2010 reached 37 million VND.

In terms of services, this is the field that accounts for a high proportion of GDP structure. On average in the period 2006 - 2010, the added value of the service industry increased by 10.24%/year. High-quality service industries such as credit - banking, transportation, post and telecommunications, healthcare, education, etc. have been focused on development, with high growth rates.

Regarding export turnover, in 5 years (2006-2010) Hanoi achieved a high growth rate, an average increase of 18.3%/year. In 2010, Hanoi's export turnover reached nearly 8 billion USD, up to 26.3% compared to 2009. The structure of exports shifted towards gradually increasing the proportion of industrial and processed goods, gradually reducing exports. exports of raw materials, and low value-added processed goods domestically.

The development of housing, health care, education, post and telecommunications, financial and banking services, and insurance services in Hanoi is better than other provinces. As of 2010, there are 50 universities and 29 colleges in Hanoi, with a student population of 643,500; 45 professional secondary schools, with a student population of 56,000; 279 Technical Worker Schools, with a student population of 117,000. The average number of high school students per ten thousand people is 1,546; 113 scientific research institutions (accounting for 85% of the total number of research institutes in the country). The proportion

of schools, lecturers and students of universities, colleges, professional secondary schools, vocational schools, number of medical examination and treatment establishments, number of hospital beds, number of doctors, number of scientific research institutes, etc. is also high. more than the proportion of the population and ranked first in the provinces and cities.

Hanoi is also a major financial-banking center of the country, home to many leading banks in the country and the world such as Vietcombank, Vietinbank, Techcombank, ANZ, etc., large insurance corporations such as Bao Viet. , Bao Minh, AIA...; multinational investment funds, large financial corporations. As of August 1, 2008, in Hanoi, there are 08 border-gate Customs Branches with the function of organizing quick customs clearance of goods, creating favorable conditions for businesses in import and export activities.

## 2. Literature review

Huy, D.T.N (2015) stated we need risk management for better corporate governance, also confirmed by (Dat, PM et al, 2020; TTT Ha et al, 2019).

We summarize in below table:

Authors	Year	Content, results
Murray	1999	Case studies generally have been limited to high-tech manufacturing clusters, even though mature industrial regions have demonstrated similar traits. A case study of the plastics industry in north central Massachusetts gained a formative perspective on a mature industrial cluster and an appreciable understanding of the correlation between the industry's spatial concentration and organization of production.
Feser and Bergman	2000	At least at the regional level, the approach frequently adopted by policymakers involves little more than the identification of current regional specialisations as targets for traditional development initiatives. In such cases, a cluster strategy serves more often as a means of allocating scarce resources than as a way to build the linkages and future inter-

		<p>industry synergies documented so frequently in successful industrial districts. For example, in Europe, the US and Australia, many ‘planned’ clusters have failed to materialise despite heavy investments by government into ‘the required infrastructure’. The implication is that although setting up the infrastructure may be paramount to the diffusion of industrial clusters, it is not sufficient in of itself to ensure a cluster’s formation and development</p>
Wickham	2005	<p>Porter’s Industrial Cluster Theory (ICT) is a theoretical framework that achieved prominence in Australian economic policy development. Despite its widespread adoption, however, Australia has remained significantly below the OECD average in terms of its industrial clusters’ contributions to real wealth creation.</p>
Huy, D.T.N, Hien, D.T.N	2010	<p>Strong corporate governance can help to increase performance</p>
SMEF	2013	<p>SME Foundation defined SME cluster for the first time in Bangladesh in 2013 as “A Cluster is a concentration of enterprises producing similar products or services and is situated within an adjoining geographical location around 5 km radius and having a common strengths, weaknesses, opportunities and threats”</p>

Lee et al	2107	<p>The development of industrial cluster plays a significant role in the growth of national industries, and the industrial cluster development indeed makes a great impact on the progression of national industries, especially in developing countries. Under the fiercely global trends in competition, industrial cluster has been identified as an important strategy to keep the development of regional industries in a sustainable trajectory, and a good implementation of industrial cluster usually reflects on the cluster region carrying within a large number of Small and Medium-Sized Enterprises (SMEs). Through the clustering of businesses and industries, the corresponding geographical proximity, and the promotion of mutual support and learning, businesses and industries located in the cluster region can further acquire the advantages of Economy of Scale and those of Economy of Scope. Meanwhile, the successful experience of Hsinchu Science and Industrial Park (HSIP) has become a good model for many countries to learn the development of Science Park, and the most contribution of HSIP is transforming the labour-intensive industries to talent-intensive industries. Also, it directly promotes the development of high-</p>
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		technology industries in a sustainable trajectory.
Abdin	2018	<p>Cluster is a concentration of homogeneous interlinked and interdependent manufacturing or service provider organizations in a particular location. In Bangladesh, more than 50 homogeneous enterprises collocated in a particular cluster and shares common strengths, weaknesses, opportunities and threats is known as a cluster.</p> <p>Availability of raw materials, skilled labours, market demands, favourable infrastructure so on and so forth factors have direct or indirect impact to develop a cluster at a specific location. Alfred Marshall, the English economist, is supposed to have propounded the cluster concept in 1910. He examined the industrial districts found in Europe and explained that main reasons of localization of industry are physical conditions such as climate and availability of raw materials. These factors resulted in benefits of externalities for firms within them such as technology availability, access to a skilled labour, access to inputs and marketing advantages. Later on, Michael E. Porter (2003) who is recognized as the founder of industrial cluster concept defined cluster as a “Geographically proximate group of interconnected companies, suppliers, service</p>

		providers and associated institutions in a particular field, linked by externalities of various types” (Porter, 2003).)
HT Hanh, BM Chuyen, DTN Huy, NTT Phuong, HTL Phuong, LN Nuong	2020	FDI investment cause challenges for environment
DTN Huy, TTN Linh, NT Dung, PT Thuy, T Van Thanh, NT Hoang	2021	FDI investment for digital technology sector has positive aspects

(source: author synthesis)

### 3. Methodology

The study uses a combination of the following methods: Synthetic analysis method, statistical analysis method, comparison based on theoretical documents, practical reports, legal documents related to the topic. talent; Methods of sociological investigation and field survey, in which 200 production and business establishments are surveyed in industrial zones and in 10 industrial zones in Hanoi; Interview and discuss directly with experts, managers of some districts and industrial clusters.

- Research scope of the thesis: The thesis deeply researches the issue of infrastructure construction of industrial clusters in Hanoi (expanded Hanoi) from 2000 to 2010, orientation to 2020

### 4. Main results

4.1 Organization and planning has not been coordinated and well coordinated between departments and experts.

Also, Publicizing the planning is slow or not good. There is almost no information on detailed planning of industrial clusters on the internet. Many industrial clusters have changed their use purposes compared to the original, greatly affecting the production and business establishments in the Cluster, especially due to the rapid urbanization of the area and the development of the capital, The current industrial cluster is no longer suitable for industrial development, the City is planning to convert the purpose of some industrial clusters into office service areas, including the following ones:

Table 2- List of industrial clusters that advocate for conversion of purposes

Cluster name	Location	Area planned (ha)	Clearance and infrastructure (ha)	Completed ratio (%)
1. An Khánh	An Khánh, Hoài Đức Commune	35		0

2. Đông La	Đông La - Hoài Đức Commune	35		0
3. Đồng Mai	Đồng Mai, Hà Đông Commune	225	200	89
4. Hoàng Mai	Hoàng Mai dist	21,3	21,3	100
5. Yên Nghĩa	Yên Nghĩa ,Hà Đông Commune	43	43	100
6. Cầu Giấy	Cầu Giấy dist	8,3	8,3	100

Source: Hanoi Department of Planning and Investment

+ Planning management has many shortcomings. Many industrial clusters did not have technical infrastructure planned from the beginning, leading to lack of items when they went into production. For example, Phu Thi industrial cluster; Yen Son-Ngoc Liep industrial cluster does not have land fund to build waste treatment items. The quality of planning of industrial zones has not been well studied, many of them are too fragmented and scattered. There is even an industrial park less than 1 hectare wide located close to residential areas; there are cases where the planning of industrial cluster overlaps with other projects. Some industrial zones such as Van Diem industrial cluster (Thuong Tin), La Phu (Hoai Duc), Chang Son (Thach That)... were "transformed" into residential areas combined with craft production. In some industrial parks, many villas have been seen, and some have become residential areas.

+ The detailed planning of the industrial clusters almost merely prescribes the technical criteria without planning any types of enterprises, what enterprises produce are prioritized to choose to invest in the cluster or if so, not yet. showing the linkage and mutual support of enterprises in the cluster.

+ There is no close and organic relationship between the industrial development planning and the master plan for socio-economic development of the City and the district, and the land planning and industry development planning of the agricultural industry. village, population planning.

## 4.2 Experience in some provinces of Vietnam

### 4.2.1. Policy to support infrastructure construction in Nam Dinh province

The 16th Party Congress of Nam Dinh province has determined the general direction and goals for the 2001-2010 period, in which, the orientation for rural industry - handicraft development has determined:

“Consolidate and plan handicraft production. Develop traditional craft villages and expand many professions and services to create jobs. To build clusters and clusters of industries and handicrafts in townships, districts and communes into a production and consumption network in order to solve idle farm labor and restructure production right in agriculture.

From the above policy and orientation, the Provincial People's Committee has directed



branches and levels to deploy the construction of a number of industrial zones in the districts in order to create a breakthrough in the industrial development of the province, create more jobs and increase income. for employees, contributing to the transformation of economic structure, labor structure and budget revenue structure. Nam Dinh province has identified industrial zones as an important growth pole of the District, contributing to accelerating the economic restructuring towards industrialization and modernization. As of 2008, Nam Dinh has approved and built 19 industrial zones (see table 1.2) with a total area of 277.5 hectares (the area of industrial zones is from 5 hectares to 53 hectares), the total investment capital for infrastructure construction is 162 billion VND. In which, the State budget allocated 52.4 billion VND (32.10%); capital mobilized from enterprises 47.5 billion (29%) other capital 61.9 billion (37.65%).

Nam Dinh is the province with the most open mechanism among the provinces in the Red River Delta. According to the regulations of the province, production investment units in industrial zones are entitled to:

- + Issuing a certificate of land use right;
- + The land lease period is 30 years;
- + Free use of infrastructure for the first 2 years;
- + 30% reduction of land rent for the next 5 years;
- + The provincial budget will support 50% of investment capital for construction of common technical infrastructure works of industrial clusters;
- + Support for labor training 100,000 VND/person.
- + Local agencies organize site clearance before the project is put into operation. Accordingly, the industrial cluster Management Board organizes site clearance compensation and construction of technical infrastructure works of the cluster according to the project approved by the Provincial People's Committee. Investors who are allowed to rent land in the industrial cluster are obliged to pay compensation for site clearance, contribute money for the construction of the industrial cluster's infrastructure, pay fees for using the common technical infrastructure of the industrial cluster (including maintenance costs, maintenance of roads, sidewalks, sewers, water supply systems, electricity supply, ensuring environmental sanitation...) according to the plan of the Management Board of the Industrial Park approved by the People's Committee approved by the city or district. For the areas where the industrial cluster's Management Board has carried out leveling, the investors on that area in the industrial cluster must pay the cost of ground leveling according to the approved plan.

Table 3- List of some industrial estates in Nam Dinh up to 2010.

No.	Cluster name	Area (ha)	Total investment (m VND)
1	Xuân Tiến - Xuân Trường	16,0	15.161

2	Xuân Trường	13,7	16.591
3	Cluster Nam Giang - Nam Trực dist	10,0	11.250
4	Cổ Lễ - Trực Ninh	9,0	12.600
5	Trung Thành - Vụ Bản	7,8	9.300
6	Xuân Bắc - Xuân Trường	7,8	8.700
7	Nam Hồng - Nam Trực	8,5	10.200
8	La Xuyên - Yên Ninh - Ý Yên	7,5	9.800
9	Nghĩa Sơn - Nghĩa Hưng	6,5	5.800
10	An Xá - Nam Định city	5,2	***
11	Xuân Hùng- Xuân Trường	5,2	5.500
12	Thịnh Lâm - Giao Thủy	5,0	12.130
13	Yên Xá - Ý Yên	5,0	7.600
14	Thịnh Long - Hải Hậu	5,0	12.130
15	Lâm - Ý Yên TOwn	3,2	9.324

Source: Nam Dinh Department of Industry and Trade

#### 4.2.2 Policy on construction and development of industrial clusters in Bac Ninh province

Bac Ninh is the first province in the country to introduce the model of an industrial cluster of craft villages, the province has issued many policies to encourage businesses and production facilities to invest in production in industrial zones. The Provincial People's Committee has issued and assigned functional branches to issue guiding documents in the direction of simplicity and speed, creating the most favorable conditions for investors, namely: i) Decision 60/2001/QĐ -UB dated June 26, 2001 of the Provincial People's Committee promulgating regulations on investment incentives in Bac Ninh province; ii) Decision 105/2002/QĐ-UB dated August 30, 2002 on establishment, use and management of industrial promotion funds; iii) Decision 71/2002/QĐ - UB on decentralization to the People's Committees of districts and towns to grant construction permits to production facilities in industrial zones. iv) The Department of Natural Resources and Environment has issued inter-sectoral guidance documents on the consideration and approval of land tenants and the preparation of land lease applications from economic organizations and households in industrial zones. In addition to investing in infrastructure outside the fence of industrial clusters, the province annually balances the budget to support funding for industrial clusters to invest in infrastructure within the industrial cluster fence (about 4-6 billion VND/year). The Bank for Agriculture and Rural Development of the province also implements the policy that all feasible projects of

production households will be loaned by the Bank with 70% of the value of purchasing fixed assets with medium-term loans. and support loans from 30-50% of working capital.

Bac Ninh is a province that has performed quite well in site clearance. Before the site clearance, the Management Board approved the project to select the Party Committee before the Party Committee and suggested that the Standing Party Committee thoroughly grasp the economic development objective of the Party Committee, which is to plan the industrial park and be approved by the Party Committee. out policy. The province publicizes the recovered area, publicizes the compensation amount for the area to be recovered, and publicizes the land use planning in the form of a notice from 5-7 days on the commune's radio media. With specific solutions and policies, production facilities investing in industrial zones have been created with favorable conditions such as: simple procedures and documents (not doing investment projects); low land rent (usually applied at 150 VND/m<sup>2</sup>/year for production land, 210 VND/m<sup>2</sup>/year for service land), in addition to being exempted and reduced in the first 10 years and 50% in the following years remaining of the project; long land lease period (usually 50 years); granted a certificate of land use right. Up to now, Bac Ninh has planned and invested in building a total of 21 industrial zones with a total area of 460.87 ha, 15 industrial zones have invested and put into operation production facilities.

Table 4 - List of industrial clusters in Bac Ninh

	Industrial clusters	Area (ha)	Number of facilities rent land	Total investment (b VND)	Laborers (person)
1	Lỗ Xung	9,7	15	150	354
2	Mả Ông	5,0	24	100	250
3	Tân Hồng	17,8	20	120	650
4	Võ Cường	8,0	12	90	133
5	Khắc Niệm	92,5	8	250	550
6	Thanh Khương	11,4	2	15	50
7	Xuân Lâm	49,5	7	85	255
8	Phố Mới	15,2	2	30	35
9	Táo D Dội	12,9	1	10	130
10	Lâm Bình	50,0	1	300	75
	<b>Total</b>	272,07	92	1.150	2.482

Source: Bac Ninh Department of Industry and Trade

#### 4. Discussion and conclusion

The causes of the above disadvantages and limitations are due to:

After adjusting the administrative boundaries, the planning for development of zones, clusters, industrial sites and other related plannings in Hanoi was affected or broken. Implement Notice No. 144/TB-VPCP dated May 4, 2009 of the Government Office on the conclusions of the Prime Minister at the Government Standing meeting on the general planning project to build the Capital until 2030 and With a vision to 2050, the Hanoi People's Committee has directed departments and agencies to coordinate with districts to review planning projects in the city. Many industrial construction projects had to be suspended from implementation to review the planning, the system of mechanisms and policies has not been completed, etc., greatly affecting the speed of construction and development of industrial zones in the locality. City table. Infrastructure construction activities are only carried out in a number of industrial zones that are under construction, most of the remaining industrial zones under the planning must be temporarily suspended for implementation pending the results of the planning review.

In Vietnam, industrial cluster is a new form of territorial production organization, it is formed and developed mainly according to the guidelines, policies and planning of the State. Therefore, there are unavoidable shortcomings in the development of industrial zones and infrastructural construction. And we need to do more researches on it (N Thi Hang et al, 2021; Tram, P.N., & Huy, D.T.N, 2021; DT Tinh et al, 2021; D Thi Ngu et al, 2021; Do Thu Huong et al, 2021; Thuy Dung Thi Vu et al, 2021; Thi Hang Nguyen et al, 2021; Le, K., & Nguyen, M, 2021).

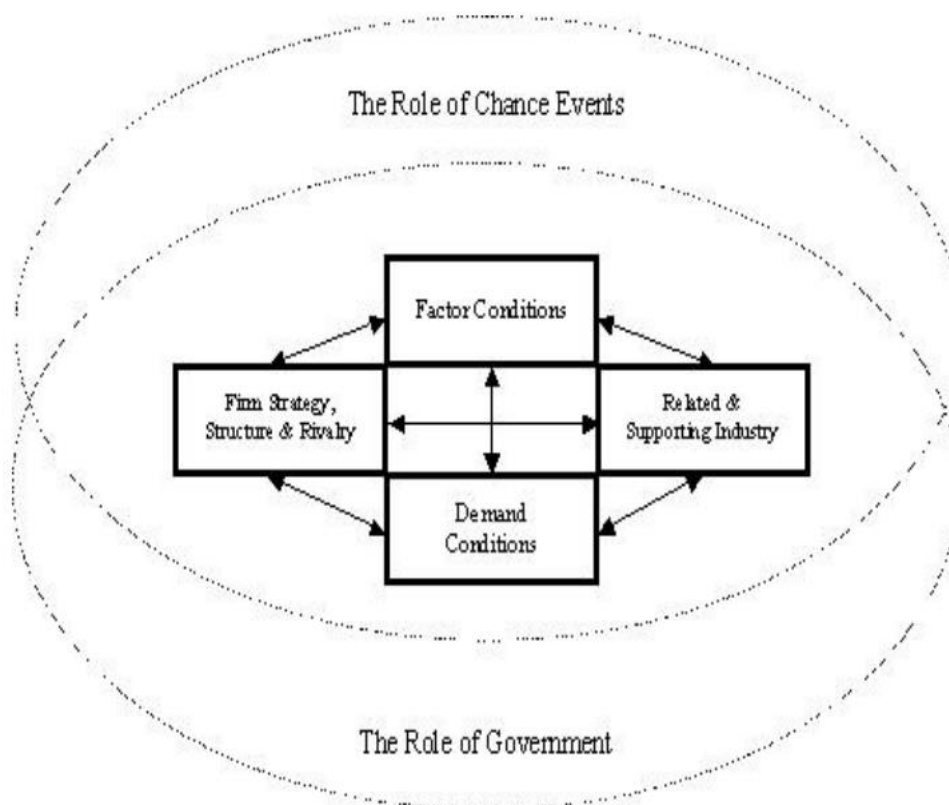
For socio-economic development, new rural development, industrial clusters development in Hanoi city, the need to train human resources for industrial clusters is very large and urgent and this confirmed by (Hoang, N.T & Huy, D.T.N, 2021; Hai, N.T et al, 2021; Hang, N.T et al, 2021; Huong, L.T.T et al, 2021; Le, K., & Nguyen, M, 2020; Huy, D.T.N., & Thuy, N.T, 2021). This demand is not only large, the diversity of the number of trained workers to attract people of working age in Hanoi is huge every year; create jobs for people whose land has been acquired for common purposes; but in terms of quality, the training structure is also highly demanding. According to a forecast of the Hanoi Department of Labour, Invalids and Social Affairs, "In 2011, the number of people of working age was about 4.338 million, an average annual increase of about 90,000 people. According to calculations with such an increase, each year the city has about 180,000-200,000 unemployed workers, not to mention the number of migrants from the provinces". Currently, many farmers are not interested in vocational training, in some places, the initial classes are crowded and then gradually dispersed, even having to be disbanded because there are too few students. Although there is no tuition fee, but despite campaigning forever, the number of learners is still sparse, then "falling off" gradually. The reason for completing the vocational training is not having a job or making a low income. Therefore, it is necessary to attach importance to stimulating training demand and promoting propaganda and counseling on vocational training and employment for rural workers.

Completing policies to support the construction and infrastructure development of industrial clusters. Also risk management activities will be considered (Huy, D.T.N, 2015; Dat, P.M et al, 2020; Huy, D.T.N., & Hien, D.T.N., 2010; HT Hanh et al, 2020; Hanh, N.T et al, 2021).

The industrial infrastructure is a public good, it is shared by the production and business establishments in the industrial zone. Industrial infrastructure is not competitive. Investment in industrial infrastructure requires a large capital investment, but the recovery time is long, exceeding the capital capacity of a business and production establishment, and it is difficult for a business establishment to recover capital. And studies stated investment is necessary (Hoang, N.T., & Huy, D.T.N., 2021; DTN Huy, TTN Linh, NT Dung, PT Thuy, T Van Thanh, NT Hoang, 2021; Dinh Tran Ngoc Huy, Nguyen Thi Phuong Thanh, Trung-Hieu Le, Nguyen Thuy Dung, Hoang Van Thuc, Sylwia Gwoździewicz., 2021; Hong Van Pham, Huynh Xuan Nguyen, Dinh Tran Ngoc Huy., 2020; Hoang Van Thuc et al, 2020; Pham Tuan Anh, Dinh Tran Ngoc Huy, Bui Thi Thu Loan., 2020). On the other hand, industrial infrastructure is a necessary and indispensable condition if it is to develop production and business of production and business establishments in the cluster. Therefore, the State must have appropriate support policies for the construction of industrial infrastructure as showing its direction roles (Nam, O.V., & Huy, D.T.N., 2021).

Last but not least below figure show ideas of Porter factor model:

Figure 1 - Porter (1999) diamond factor model



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