Chapter 7

Integrating Small and Medium Enterprises into the more Integrated East Asia Region: The Case of Vietnam

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This report presents evidence and analysis of the participation in East Asian production networks by Vietnamese Small and Medium Enterprises (SMEs), operating in the Electrical and Electronics, Automotive Components Manufacturing, and Textile and garment Industries.

In the context of Vietnam's WTO accession and participation in a series of free trade agreements between ASEAN and Japan, ASEAN and China, and ASEAN and South Korea, the Vietnamese SMEs have a great opportunity to join the production networks of East Asia. However, Vietnamese SMEs have not developed full awareness of, and do not pay adequate attention to, the participation in production networks in general and the East Asian production networks in particular. Vietnamese SMEs have not appreciated the benefits of participation in production networks nor considered it as a tool, a means of survival, of adding value and of improving their efficiency of utilizing their resources. The enterprises' investment of capital and human resource in this realm is still limited.

Also, the report indicates that during the process of entering production networks the SMEs are confronted with many obstacles which are both caused by internal factors in the enterprises, and by external factors in the business environment. Product and price are the 2 biggest obstacles for enterprises aiming to expand their production scale to meet the requirements of participation in production networks in general and East Asian production networks in particular. These obstacles result from internal factors of the businesses, such as limitations in capital, technology, and human resource, as well as a lack of market information about. External difficulties and challenges arise from the pressure of meeting the requirements of

foreign manufacturers or importers in the production networks, and limitations of macro-economic policies such as tariffs, technical barriers and the general business environment.

For SMEs to be considered as successful in production networks, the dynamism of SMEs must be not only outstanding characteristics, but also one of the determinants of business success, especially in the context of crisis and the current economic downturn. These activities bring about obvious benefits including introducing and implementing information technology networks, upgrading existing machinery or purchasing new equipment. The investment in information technology and machinery is reasonable because it will offer faster, better and more appropriate exchange of information which then helps enterprises restructure operations, reduce cost and increase profits. The dynamism of enterprises is reflected in the 2 important areas of human resources and capital; many businesses choose to self-train their workers in order to retain good workers, and, at the same time, to build a background for development after the crisis.

Research also shows that the success of SMEs in production networks is influenced by external factors such as the support of government and non-governmental organizations, and policies related to production and the business activities of enterprises. In recent times, many businesses have received both legal and direct support, in which financial assistance in the form of incentives for investment (tax reduction and exemption) and low interest rate loans are the most common forms of support. The support of the state and non-governmental organizations is evaluated as limited; however it has started to assist companies in setting up production networks. Measures to support enterprises in training, and improvement of the investment environment have been given more attention by government and non-governmental organizations than methods to provide information about market trends and potential customers. The survey revealed that the improvement in the investment environment for enterprises is considered to be the most effective support. Businesses also state that the investment environment has a positive impact on their processes for overcoming difficulties. In addition, support in training is appreciated by businesses for its efficiency.

1. Introduction

In the context of Vietnam's deeper integration into the world economy and especially its accession to the WTO, Vietnamese SMEs have a golden opportunity to participate in the world economy, which will involve cooperation with other domestic and foreign large-scale enterprises. However, this cooperation has just begun. Linkages between large enterprises and SMEs have been weak up to now, and are at a low level of efficiency, stemming from both large firms and SMEs. While only a small proportion of SMEs can meet the requirements of partnership with a large corporation, the rest can not satisfy customer demand due to their ineffective marketing capacity, leading to poor cooperation with other domestic and foreign large enterprises. For example, many FDI enterprises do not consider Vietnamese private businesses as potential partners and search for state-owned enterprises (Amanda Carlier and Tran Thanh Son, 2005). Several studies conducted by CIEM have examined the process of establishing networks, and the barriers to becoming a member of an East Asian production network. A study carried out by a CIEM research team within the framework of project ERIA 2007 investigated 13 electrical enterprises and 15 motorcycle enterprises, which are involved in SME production networks. That study showed that the production networks of SMEs are weak and that SMEs could not set up production networks because of the old-fashioned business practices of small-scale producers, and the existing tenuous linkages among firms. Restriction on production capacity is another obstacle to the process of becoming a member of an East Asian production network. Additionally, a research project examined the participation of Vietnamese SMEs as part of the supporting industry for Japanese FDI enterprises.

Production networks are a new issue in Vietnam. There has not been common standard definition of this term. Nevertheless, several studies and seminars have been carried out to examine the linkages between SMEs and large enterprises, the development of supporting industry, and the promotion of cooperation among businesses. Some notable research was carried out in workshops on supporting industry, held in 2008 by the Vietnam Chamber of Commerce and Industry and the Ministry of Industry and Trade's Research Institute on Industrial Strategy and Policy.

This research focused on the link between enterprises in the value chain, then proposed policies for the development of supporting industry in Vietnam. However, these studies were mainly concerned with agriculture and its supporting industry. Additionally, SMEs were the main subjects studied in the value chain, but they had not been carefully investigated in the research previously mentioned.

The study looked at 3 categories of industry, namely the automobile and motorcycle component manufacturing industry; the electrical and electronics, accessories, and electrical and electronics machinery industry; and the textile and garment industry, with the aim of comparing between countries to help researchers determine the current limitations and barriers preventing SMEs taking advantage of available resources and opportunities to survive and develop. For Vietnam, these sectors are considered to be already integrated in the international economy and have certain linkages with the new production networks of East Asia. The following passages outline information about the 3 categories of industry.

Electrical and Electronics Industry, Accessories and Electrical and Electronics Machinery:

Currently, there are nearly 300 electrical and electronics manufacturers consisting of 67 FDI enterprises and 10 large state-owned enterprises, with the rest being SMEs. In this industry, the FDI sector makes up a large proportion of turnover and export revenues (FDI accounts for 90% of the industry's investment capital). Domestic enterprises make up roughly two-thirds of production facilities, using approximately 60% of the workforce but this sector accounts for only 10% of the total investment capital and 10% of total export value. The majority of the supporting industry is handled by FDI enterprises. SMEs own poor production technology and mostly are assemblers. Due to the lack of indigenous research and development, the added value of the industry's outputs is small (about 10-15%) and products are of low competitiveness. Materials and components are mainly supplied by foreign suppliers (mainly imported from China, Taiwan, Japan and ASEAN countries).

Automotive Parts and Components:

The development of automotives parts and components in the last decade comes from the government's policies for attracting foreign investment and promoting domestic industry's development. Currently, there are about 600 enterprises producing and supplying spare parts for automobiles and motorcycles, of which 80 FDI companies hold the majority of market share. The participation of Vietnamese SMEs in the supply of spares, parts and components for foreign car and motorcycle manufacturers is still limited because of weak linkages, "short-sighted" production and lack of long term contracts.

In the production networks supporting the spares, parts and components sector, FDI enterprises, as major suppliers of parts, components and accessories, play a crucial role in providing essential components, and products such as machinery and electrical systems for assembly of automobiles and motorbikes. Vietnamese businesses only supply low value added components and accessories for the FDI assemblers.

Textile and garment industry:

Although Vietnam is a large textile and garment exporter (more than 9 billions USD in 2009), the Vietnamese textile and garment sector heavily depends on sub-contractual agreements. This is because Vietnam has not been able to fully control the main sources of inputs. In addition, the under-developed fashion industry and especially the small scale of supporting industry can not keep pace with the fast development of production capacity and market fluctuations. In Vietnam, the producers of major accessories such as thread, cotton fabric, studs, zips, labels and packages have the capacity to meet only a small proportion of domestic demand. The main objectives of the study are to: (i) Clarify the current situation of Vietnamese SMEs' participating in production networks; (ii) Identify and analyze barriers for SME development in general and for participating in the production networks in particular; (iii) Assess the effectiveness of measures taken by the State and other institutions to support participation in production networks, and (iv) Offer some policy recommendations to promote SMEs' participation in East Asian production networks.

The research team conducted a questionnaire survey among enterprises in different provinces and cities of Vietnam. The questionnaire was designed by ERIA to be used in

all project countries. On the basis of the outline questionnaire, the research team inserted some appropriate details related to Vietnamese enterprises' characteristics, for the purpose of investigation and interviews.

The research team selected 2 samples using simple methods: one sample comprises enterprises in 3 specific areas of Vietnam (the north, the south and the central region) and the other sample focuses on the concentration of manufacturing enterprises operating in the automobile and motorbike components, electricity, electronics, accessories, electrical and electronics machinery, and textile and garment sectors at the provincial level. Ha Noi, Hai Phong, Ho Chi Minh City, Dong Nai, and Da Nang were the localities selected for the survey. Additionally, this research project selected some enterprises operating in other sectors to compare with those in the sectors mentioned above.

The research group selected different forms of enterprises, ranging from private enterprises, limited liability companies, joint-stock companies, and foreign invested (FDI) enterprises. The various types of businesses involved should result in an accurate and impartial reflection of the state of production networks. On the basis of the questionnaire, managers of enterprises were questioned in person. Additionally, the research team simultaneously carried out in-depth interviews with some enterprises, so as to provide typical case studies.

165 enterprises were interviewed and surveyed, including 66 enterprises in textiles and garments; 29 enterprises in automotive parts, and components; 36 enterprises in electrical, and electronic parts and machinery; and 34 enterprises in other sectors. Four firms had more than 300 employees but were classified as SMEs according to the criterion of capital. The majority of interviewed firms, accounting for nearly 90% of the total were categorized as micro and small businesses. Medium-sized enterprises made up 8.5% of the sample. In accordance with the survey result, no enterprise hiring less than 6 employees even in private, limited liability or joint stock companies. Most private enterprises have fewer than 100 workers, while limited liability and 100% foreign invested companies are of larger scale. Textile and garment firms often account for large proportion of enterprises which have less than 50 employees whereas enterprises of other industries (electricity, electronics, automobiles, motorcycles) have about 6 to 200 workers.

Table 1. Overview of Enterprises Interviewed

		Number of interviewed enterprises	Percentage of interviewed enterprises
	Sector		
	Textile and garment	65	39.4
	Parts, Components, and Automotives (including motorbikes)	29	17.6
	Electrical, Electronic, parts and machinery	36	21.8
	Others	34	20.6
	No information	1	0.6
I	***Province/City***		
	Hai Phong	36	21.8
	Hanoi	35	21.2
	HCMC	38	23.0
	Dong Nai	31	18.8
	Da Nang	25	15.2
II	***Form of ownership***		
	Private company	17	10.3
	Limited liability company	70	42.4
	Joint stock company	32	19.4
	100% foreign owned Co.	40	24.2
	Joint-venture	5	3.0
	State-owned enterprises	1	0.6
III	***Number of employee***		
	From 1 to 5	0	0
	From 6 to 49	64	38.8
	From 50 to 99	37	22.4
	From 100 to 199	46	27.9
	From 200 to 299	14	8.5
	From 300 and above	4	2.4
Total		165	100.0

Source: Calculated from surveyed data.

Table 2. Distribution of SMEs by Type and Size

Type	Number of employees						Total
	1 – 5	6-49	50- 99	100-199	200-299	>=300	
1. Textile and garment	0	28	12	18	6	2	66
2. Parts, components, and automotives (including motorbikes)	0	10	8	8	3	0	29
3. Electrical, electronic, parts and machinery	0	15	5	12	3	1	36
4. Others	0	11	12	8	2	1	34
Total	0	64	37	46	14	4	165

Source: Calculated from surveyed data.

Table 3. Number of Interviewed Enterprises by Type and Scale of Labor

	1 – 5	6-49	50- 99	100-199	200-299	300 & above	Total
Private company	0	9	6	2	0	0	17
Limited liability company	0	29	15	18	7	1	70
Joint stock company	0	13	5	13	1	0	32
100% foreign owned Co.	0	13	9	12	4	2	40
Joint-venture	0	0	2	0	2	1	5
State-owned enterprises	0	0	0	1	0	0	1
Total		64	37	46	14	4	165

Source: Calculated from surveyed data.

In order to analyze the collected data, the research team used a number of methods. Once data were entered and cleaned, software such as STATA and SPSS were used for analysis. The qualitative data were distributed to be analyzed together with quantitative data. Description methods, single and cross tabulations and graphs are employed to analyze the survey data. In addition to the qualitative and descriptive analysis, the team utilized quantitative analysis methods, such as binary regression, to evaluate the relationship between factors affecting SMEs' participation in production networks and their actual membership of the networks. Finally, the team matched the survey results with secondary data obtained from other surveys, or calculation results based on

common published data. The result was this review and assessment of the SMEs' process of participation in production networks.

2. Small and Medium Sized Enterprises in the Economy and Production Networks

2.1. Concept of SME

Before 2009, an SME in Vietnam was defined as a business establishment with registered capital of no more than Vietnam dong (VND) 10 billion (equivalent to USD 600,000) or with annual average headcount less than 300. After 8 years of application, this definition showed the following limitations. First, it does not take into consideration different types of enterprise, diverse business sectors and business scale in a wide range of sectors. Second, the use of both criteria or either of them (registered capital or annual average number of employees) reveals some limitations. As a result, some SMEs were unable to benefit from the government's assistance programs, although some still got support despite disqualification.

Recently, the Government issued Decree No.56/2009/ND-CP dated June 30, 2009 on "Supporting SME Development", which replaced Decree 90/2001/ND-CP. The definition of SMEs has been revised to conform with international practice. Accordingly, SMEs are registered business entities in accordance with law, and are categorized as micro enterprises, small enterprises and medium-sized enterprises. The criteria used to determine the categories of enterprise are total invested capital (equivalent to total assets in the balance sheet) and the annual average number of employees, of which the capital criterion is the priority. These 2 criteria can be varied according to business sector such as agriculture, forestry, fisheries, industry and construction, commerce and services. Particularly for micro enterprises, their labor is the only applied criterion, with the number of employees being than 10 persons, regardless of business sector as follows:

Table 4. Classification of Small and Medium Sized Enterprises

Size / Sector	Micro enterprise	Small Enterprise		Medium enterprise	
	Number of employees	Total asset	Number of employees	Total asset	Number of employees
Agriculture, Forestry and Fishery	Less than 10 persons	Less than VND 20 billions	From 10 to 199 persons	From 20 to less than 100 billion VND	From 200 to 299 persons
Industry and Construction	Less than 10 persons	Less than VND 20 billions	From 10 to 199 persons	From 20 to less than 100 billion VND	From 200 to 299 persons
Trading and Services	Less than 10 persons	Less than VND 10 billions	From 10 to 49 persons	From 10 to less than 50 billion VND	From 50 to 99 persons

Source: Decree No. 56/2009/ND-CP.

In short, the concept of SMEs has been broadened so as to cover (i) enterprises registered under Enterprise Law, and (ii) types of enterprises such as cooperatives and individual business households. Also, the 2 criteria of invested capital and labor are adjusted in a way that is suitable for the characteristics of each industry and provisions are added so as to help produce properly oriented policies.

2.2. SME Development and Role in the Economy

In line with the country's economic reform and its integration in the world economy, SMEs in Vietnam have emerged and grown rapidly in terms of quantity as well as quality. According to statistics released by the Enterprise Development Agency (EDA) – Ministry of Planning and Investment, by the end of April 2009, there were 350,940 registered enterprises under the Law on Enterprises with total a registered capital of VND 1,620,787 billion, and the majority of them were SMEs.

According to the enterprise survey carried out in 2007, by 31 December 2006, the number of firms actually involved in production and trading activities in all economic sectors (except for agricultural, forestry and fishing cooperatives and individual business households) was 131,332 and the majority of them were SMEs.

Table 5. Number of Enterprises Classified by Scale of Labor Period 2000-2007

	2000	2001	2002	2003	2004	2005	2006	2007
Less than 5 persons	10,169	11,932	12,079	13,091	17,977	23,188	16,834	34,856
5-9 persons	10,900	13,896	18,139	20,438	26,459	34,632	57,980	51,041
10-49 persons	12,071	15,737	20,718	25,220	32,443	38,957	39,366	50,588
50-199 persons	5,633	6,304	7,541	8,531	9,808	10,933	11,683	13,333
200-299 persons	1,124	1,193	1,354	1,407	1,535	1,626	1,737	1,962
Total number of SMEs	*39,897*	*49,062*	*59,831*	*68,687*	*88,222*	*109,336*	*127,600*	*151,780*
300-499 persons	1,047	1,156	1,354	1,403	1,511	1,555	1,528	1,694
500-999 persons	815	883	1,043	1,181	1,203	1,188	1,259	1,283
1,000-4,999 persons	495	539	638	684	764	801	864	928
From 5,000 and above	34	40	42	57	56	70	81	86
Total number of large enterprises	*2,391*	*2,618*	*3,077*	*3,325*	*3,534*	*3,614*	*3,732*	*3,991*

Source: General Statistic Office.

Table 6. Number of Enterprises Classified by Amount of Capital during the Period 2000 - 2007

	2000	2001	2002	2003	2004	2005	2006	2007
Less than 0.5 bill. VND	16,267	18,326	18,591	18,790	23,187	26,687	15,908	18,646
0.5 – < 1 bill. VND	6,534	8,403	10,994	12,954	16,191	20,434	21,808	23,631
1 – < 5 bill. VND	10,759	14,556	20,141	24,737	32,739	41,856	63,954	72,342
5 – < 10 bill. VND	2,745	3,385	4,490	5,496	7,303	9,255	12,670	17,269
Total number of SMEs	36,305	44,670	54,216	61,977	79,420	98,232	114,340	131,888
10 – < 50 bill. VND	3,957	4,623	5,771	6,648	8,269	10,017	11,502	16,353
50 – < 200 bill. VND	1,515	1,781	2,160	2,491	2,904	3,302	3,837	5,286
200 – < 500 bill. VND	312	383	501	586	760	895	1,013	1,355
From 500 mill. VND	199	223	260	310	403	504	640	889
Total number of large enterprises	5,983	7,010	8,692	10,035	12,336	14,718	16,992	23,883

Source: General Statistic Office.

Of the 131,332 enterprises operating in late 2006, about 97% of operating enterprises employed less than 300 workers; 87.1% had registered capital of less than VND 10 billion. About 90% of registered enterprises were small and medium size, of

which more than 95% were non state-owned enterprises, while slightly less than 5% were state-owned and FDI enterprises.

Recently, SMEs have played an increasingly significant role in the national economy. SMEs have long been regarded as the main driving force behind the country's economic development and high growth rate. In 2008, the contribution of SMEs to the growth rate was 11.88%, or twice the average national growth rate of 6.18%. Also, SMEs made a great contribution to production processes, goods circulation, and provision of services linking, supporting and promoting the development of large enterprises.

In 2007, SMEs contributed more than 40% of gross domestic product (GDP) and employed nearly 4 million laborers, helping to reduce social pressure and the unemployment problem. The total value of fixed assets and long-term financial investment of these enterprises reached about VND 600 trillion, almost double compared to 2006, with a turnover of more than VND 1600 trillion.

Table 7. Value of Fixed Assets and Long-Term Financial Investment of Enterprises

Unit: thousand billion VND

Year	2000	2004	2005	2006	2007
State-owned enterprises	229.9	360.0	486.6	794.2	900.6
Non-state enterprises	33.9	147.2	196.2	298.3	591.2
FDI enterprises	147.9	237.4	269.6	337.3	390.2

Source: Statistic Year Book 2008.

Table 8. Net Turnover of the Manufacturing and Trading Enterprises

Unit: thousand billion VND

	2000	2004	2005	2006	2007
State-owned enterprises	444.7	708.9	838.4	961.5	1089.1
Non-state enterprises	203.1	637.4	851.0	1126.4	1635.3
FDI enterprises	162.0	374.0	468.4	596.5	735.5

Source: Statistic Year Book 2008.

Table 9. Total Number of Employees in Enterprises at the Year End Annually

Unit: thousand persons

	2000	2004	2005	2006	2007
State-owned enterprises	2088.5	2250.4	2037.7	1899.9	1763.1
Non-state enterprises	1040.9	2475.4	2979.1	3369.9	3933.2
FDI enterprises	407.6	1044.9	1220.6	1445.4	1685.9

Source: Statistic Year Book 2008.

2.3. Definition of Production Networks in Vietnam

In this study, an SME is considered to be a member of a production network when using inputs produced by itself, or purchased from other enterprises, it (i) produces products or by-products supplied to final assemblers, and/or (ii) manufactures parts and components supplied to other enterprises at the next tier of the production chain, and/or (iii) exports its products or by products, parts and components, and/or (iv) imports raw materials or intermediate inputs, excluding the case when this SME supplies to wholesalers or retailers.

Production networks are divided into 2 types. These are "strict" production networks (named production network I), and "loose" production networks (named production network II). An SME is considered to be a member of a strict production network (production network I) when it supplies its products or by products to final assemblers (usually large machinery and equipment manufacturers, business groups, multinational companies) and/or manufactures parts and components and supplies them to first tier and second tier buyers in the production chain. The SME is considered to be a member of a loose production network (production network II) when it supplies its products or by products to final assemblers (usually large machinery and equipment manufacturers, business groups, multinational companies) and/or manufactures parts, components and supplies them to first tier, second tier and third tier buyers in the production chain, and/or exports its products or by products, and/or imports raw materials or intermediate inputs.

In 165 surveyed enterprises, about 25% (39 enterprises) can be considered as members of a production network I and the corresponding proportion in a production network II is 56% (93 enterprises). The proportions of SMEs participating in a

production network I in the textile and garment; automotive parts and components; electrical, electronic, parts and machinery; and other sectors are 13.6%, 34.5%, 36.1% and 20.6% correspondingly. The corresponding proportions in these sectors in terms of production network II are 50%, 72.4%, 63.9% and 47%.

Table 10. Distribution of SMEs by Type, Size and Membership of a Type I Production Network

Unit: Number of enterprises

Type	Production network I						
	1 – 5	6-49	50- 99	100-199	200-299	>=300	Total
1. Textile and garment		3	1	3	1	1	9
2. Parts, components, and automotives (including motorbikes)		4	3	2	1	0	10
3. Electrical, electronic, parts and machinery		5	2	4	1	1	13
4. Others		3	1	2	1	0	7
Total		15	7	11	4	2	39

Source: Calculated from surveyed data.

Table 11. Distribution of SMEs by Type, Size and Membership of a Type II Production Network

Unit: Number of enterprises

Type	Production network II						
	1 – 5	6-49	50- 99	100-199	200-299	>=300	Total
1. Textile and garment		17	6	7	2	1	33
2. Parts, components, and automotives (including motorbikes)		8	5	5	3	0	21
3. Electrical, electronic, parts and machinery		7	3	9	3	1	23
4. Others		5	5	5	1	0	16
Total		37	19	26	9	2	93

Source: Calculated from surveyed data.

2.4. Status of SMEs' Participation in the Production Networks

SMEs in the 3 sectors included in the research participated in production networks as supplier of inputs for other firms and consumers of inputs from other producers.

(1) SMEs are consumers of raw materials and by-products of other firms.

Table 12 describes the situation of SME participation in production networks as consumers of raw materials and by-products of other enterprises in the value chain. Survey results indicate that about two-thirds of SMEs bought raw materials from other SMEs in the same region or from other domestic suppliers. The proportion of SMEs chosen large enterprises as major suppliers was also lower than that of SMEs.

Table 12. SMEs Buying Raw Materials or By-products From Other Enterprises

Unit: %

	Supplier	Main supplier	Average distance (kms)	Average transportation time (hours)
Other local SMEs	64.0	60.8	97.5	3.1
Large enterprises	36.6	31.0	306.6	12.1
Other domestic suppliers	61.9	58.7	134.2	5.9

Source: Calculated from surveyed data.

The results show that Vietnam's SMEs participated in supply chains mostly with other SMEs and that the majority of SMEs did not associate with large enterprises. Most SMEs purchased materials from other SMEs in the same region to take advantage of flexibility as well as geographical location (shorter distance and transportation time). Analysis of the percentage of importing enterprises revealed that 91% of Vietnam's enterprises had imported from East Asian nations and only 18% had imported from countries in other regions in the world. Therefore, the advantage of geographical location made East Asian countries the main suppliers of materials for Vietnam's SMEs.

(2) SMEs are the suppliers of finished or by-products to other enterprises:

The results showed that the majority of interviewed enterprises had consumed products through first tier, second tier, third tier or directly provide to final assemblers. 43.9% of interviewed companies just carried out one phase of a production process, i.e. consumed products through first tier or second tier or third tier or directly supplied to final assemblers. When the 22.6% of enterprises selling via intermediaries as well as wholesalers and retailers was counted, the proportion of enterprises participating in production networks reached 66.5%. Enterprises directly delivering to the market or through wholesalers only comprised one-third of the sample.

Table 13. SMEs Supplying Finished Products, By-products of Other Enterprises

Characteristics and layers of supply used by surveyed enterprises	Frequency	Percent
Wholly supplying via intermediates	72	43.9
Whole/Retailers	55	33.5
Supplying via intermediates and whole/Retailers	37	22.6
Total	164	100.0

Source: Calculated from surveyed data.

Analysis of SMEs' participation in production networks indicates that most SMEs are suppliers to final assembling enterprises, accounting for 44.5% of all enterprises, followed by SMEs that provided to firms in the first intermediary tier (35.4%) SMEs supplying to firms in the second tier made up 4.3% and those supplying to the third tier accounted for 3.7%.

There was low proportion of enterprises participating deeply in the production networks. It can be seen that there was no enterprise only supplying the third intermediary tier and the proportion of enterprises supplying the second intermediary tier was less than 1%. Possible causes will be analyzed further in the following sections.

Table 14. Sales Patterns Classified by the Intermediate Layers of the Enterprises

Unit: %

	Final Assemblers	First Tier	Second Tier	Third Tier and More
No	55.5	64.6	95.7	96.3
Sale proportion less than 100%	26.2	25.6	3.7	3.7
The only method	18.3	9.8	0.6	0.0
Total	100.0	100.0	100.0	100.0

Source: Calculated from surveyed data.

Partners and customers of Vietnam's SMEs in the production networks are mainly other small enterprises and medium enterprises, accounting for 43.9% and 33.3% of all business partners, the remaining 22.8% of partners are large-sized enterprises. The high proportion of partners that are SMEs indicated the fairly unstable participation of Vietnam's SMEs in production networks. Developing business ties with large enterprises will enable firms to expand production scale and get support from the partnership on technology and even finance, rather than having to rely on relationships with other SMEs. The relationship amongst SMEs, as a result, reduces the potential development of production networks and may leave the firms trapped in a vicious circle of investment, production growth and consumption.

The research also examines the business partners of SMEs in production networks by analyzing the proportion of export-oriented SMEs in terms of their exporting regions within or outside East Asia. It is found that number of enterprises wholly exporting to East Asian nations made up 45% of the sample, those that export to nations outside East Asia (such as EU, USA and Australia) accounted for 31.3%, and the proportion of firms exporting to both areas comprised 23%. Hence, up to 68.8% surveyed SMEs were selling their products in East Asia. If the number of enterprises in the sample providing products to Vietnamese SMEs which then sell their goods to firms in East Asia is counted, the number of enterprises selling directly and indirectly to East Asia partners would be much higher. Apparently, Vietnam's SMEs had strong linkages with East Asian production networks, or in other words production networks in East Asia played vital role for the success of Vietnam's SMEs.

In terms of their cost structure, the share of raw material or intermediate goods costs is usually a major proportion of total cost in the surveyed enterprises. The average proportion of cost of raw materials or intermediate goods in total cost was 69.78% and 69.41% in 2007 and 2008 respectively. In 2007, this proportion for the SMEs in a production network I was only 66.02%, quite lower than the 70.17% for SMEs in production network II in 2008 the corresponding figures for the SMEs in production networks I and II were 65.31%, and 69.23% respectively.

The cost structure by sector shows that the share of raw materials/intermediate goods in the total costs of interviewed SMEs was higher in automotive parts and components, than in other sectors within surveyed sample. The shares of raw materials/intermediate goods in total costs of firms in the automotive parts and components and other sectors in 2007 were 73.02% and 71.73% respectively, whereas the corresponding shares in 2008 were 69.58% and 74.40%. The average share of raw materials or intermediate goods costs in surveyed SMEs in the textile and garment sector was lowest, at only 60.54% in 2007 and 57.34% in 2008, whereas this proportion in electrical and electronic parts and machinery was 69.98% and 70.54% in 2007 and 2008 respectively.

The average share of cost of labor for the whole surveyed sample is the second highest component of total cost. This share was 9.61% in 2007 and 12.47% in 2008. The share of labor cost is higher in the textile and garment sector because this is a labor-intensive sector, and most of the enterprises in this sector do outwork for other partners in the production chain. These characteristics also explain the relatively lower share of raw materials or intermediate goods costs in the total cost structure of textile and garment enterprises.

Electricity, fuel and water form the third significant element in the total cost of surveyed enterprises. The average proportion of cost of electricity, fuel and water in total cost was 4.78% in 2007 and 5.35% in 2008. Interest payments were lower still, at 3.40% and 3.67% in 2007 and 2008 respectively.

Table 15. Cost Structure by Sector

Unit: %

Sector and cost	2007						2008					
	Production Network I			Production Network II			Production Network I			Production Network II		
	Total	IN	OUT	Total	IN	OUT	Total	IN	OUT	Total	IN	OUT
A-Textile and garment												
1.labour cost	20.85	29.24	19.30	20.85	22.73	19.68	22.47	35.03	20.49	22.47	29.04	17.30
2. Raw materials cost	60.54	53.35	61.87	60.54	56.66	62.95	57.34	50.20	58.47	57.34	50.31	62.87
3.Utility cost	9.59	11.03	9.33	9.59	10.90	8.78	8.02	10.08	7.70	8.02	6.91	8.90
4.Interest cost	3.70	6.07	3.26	3.70	4.99	2.90	6.14	4.42	6.41	6.14	4.71	7.27
5.Other cost	5.31	0.31	6.24	5.31	4.71	5.69	6.03	0.27	6.94	6.03	9.03	3.67
Total	100	100	100	100	100	100	100	100	100	100	100	100
B-Parts, components, and automotives (including motorbikes**)**												
1.labour cost	7.37	10.01	6.24	7.37	7.33	7.56	9.20	13.82	6.63	9.20	9.25	8.96
2. Raw materials cost	73.02	67.61	75.72	73.02	73.30	71.63	69.58	66.43	71.33	69.58	69.34	70.92
3.Utility cost	6.50	7.33	6.08	6.50	6.84	4.82	7.48	3.41	9.74	7.48	7.79	5.72
4.Interest cost	2.27	0.41	3.19	2.27	2.27	2.27	2.59	1.49	3.76	2.95	3.06	2.30
5.Other cost	10.85	14.64	8.96	10.85	10.27	13.72	10.79	14.84	8.54	10.79	10.56	12.10
Total	100	100	100	100	100	100	100	100	100	100	100	100
C-Electrical, Electronic, parts and machinery												
1.labour cost	8.31	8.39	8.24	8.31	7.63	12.48	11.85	16.04	9.58	11.85	10.73	18.54
2. Raw materials cost	69.98	65.29	73.41	69.98	70.03	69.67	70.54	63.73	74.21	70.54	70.06	73.38
3.Utility cost	3.00	1.31	4.23	3.00	2.53	5.90	3.75	1.82	4.80	3.75	3.96	2.50
4.Interest cost	3.84	4.52	3.35	3.84	3.24	7.56	3.69	5.34	2.81	3.69	3.57	4.41
5.Other cost	14.88	20.49	10.77	14.88	16.58	4.38	10.17	13.07	8.61	10.17	11.68	1.17
Total	100	100	100	100	100	100	100	100	100	100	100	100
D-Others												
1.labour cost	11.21	7.24	13.29	11.21	10.32	12.01	11.41	6.72	13.42	11.41	10.07	12.50
2. Raw materials cost	71.73	74.63	70.21	71.73	72.79	70.78	74.40	80.90	71.61	74.40	77.79	71.64
3.Utility cost	8.75	4.90	11.70	8.75	3.09	12.20	8.87	1.81	11.90	8.87	3.96	12.86
4.Interest cost	2.23	2.12	2.65	2.23	1.43	2.34	1.78	1.02	2.11	1.78	1.78	1.78
5.Other cost	6.08	9.87	2.14	6.08	13.61	2.67	3.54	9.55	0.96	3.54	6.39	1.22
Total	100	100	100	100	100	100	100	100	100	100	100	100

3. Barriers to SME Development

3.1. Constraints for SMEs in General

SMEs faced obstacles when participating in production networks, some caused by the SMEs themselves while others resulted from external factors, out of their control. Realizing the importance of obstacles and barriers will help firms to make a precise assessment of each type of obstacle. Therefore, the study involved interviews with SMEs intended to enable researchers to clarify various types of obstacle. The internal obstacles are informational barriers, functional barriers, product and price barriers, and distribution, logistics and promotion barriers. External obstacles are procedural barriers, business environment barriers, tax, tariff and non-tariff barriers, and other barriers.

The 8 barriers mentioned above are divided into 38 detailed barriers and were assessed at 5 levels of significance, from very significant to not significant. Based on the responses given, the 10 most significant barriers ranked by SMEs were defined for the whole sample, and for SMEs inside and outside production networks I and II. For all firms surveyed, offering competitive prices to customers is the most significant "barrier" for SMEs. The remaining significant barriers in descending level of impact were: shortage of working capital to finance new business plans, difficulty in matching competitors' prices, difficulty in getting credit from suppliers and financial institutions; poor or deteriorating economic conditions in the home market, insufficient quantity of and/or untrained personnel for market expansion, unfamiliarity with complexity of procedures or paperwork, lack of home government assistance or incentives, lack of production capacity to expand, and participation in promotional activities to target markets or business partners.

Table 16. Ranked Top-ten Constraints Faced by SMEs

All Sample	Production Network I		Production Network II	
	IN	OUT	IN	OUT
B14. Offering competitive prices to customers	B7. Shortage of working capital to finance new business plan	B14. Offering competitive prices to customers	B7. Shortage of working capital to finance new business plan	B14. Offering competitive prices to customers
B7. Shortage of working capital to finance new business plan	B28. Poor/deteriorating economic conditions (Foreign market)	B15. Difficulty in matching competitors' prices	B15. Difficulty in matching competitors' prices	B15. Difficulty in matching competitors' prices
B15. Difficulty in matching competitors' prices	B23. Unfamiliarity with complexity of procedures/paperwork	B7. Shortage of working capital to finance new business plan	B14. Offering competitive prices to customers	B7. Shortage of working capital to finance new business plan
B8. Difficulty in getting credit from suppliers and financial institutions	B14. Offering competitive prices to customers	B8. Difficulty in getting credit from suppliers and financial institutions	B8. Difficulty in getting credit from suppliers and financial institutions	B8. Difficulty in getting credit from suppliers and financial institutions
B28. Poor/deteriorating economic conditions (Home market)	B15. Difficulty in matching competitors' prices	B28. Poor/deteriorating economic conditions (Home market)	B5. Insufficient quantity of and/or untrained personnel for market expansion	B28. Poor/deteriorating economic conditions (Home market)
B5. Insufficient quantity of and/or untrained personnel for market expansion	B5. Insufficient quantity of and/or untrained personnel for market expansion	B5. Insufficient quantity of and/or untrained personnel for market expansion	B23. Unfamiliarity with complexity of procedures/paperwork	B2. Unreliable market data (costs, prices, market shares)
B23. Unfamiliarity with complexity of procedures/paperwork	B6. Lack of production capacity to expand	B25. Lack of home government assistance/incentives	B28. Poor/deteriorating economic conditions (Home market)	B25. Lack of home government assistance/incentives
B25. Lack of home government assistance/incentives	B28. Poor/deteriorating economic conditions (Home market)	B23. Unfamiliarity with complexity of procedures/paperwork	B25. Lack of home government assistance/incentives	B22. Participation in promotional activities to target markets/business partners
B6. Lack of production capacity to expand	B8. Difficulty in getting credit from suppliers and financial institutions	B6. Lack of production capacity to expand	B6. Lack of production capacity to expand	B9. Developing new products
B22. Participation in promotional activities to target markets/business partners	B22. Participation in promotional activities to target markets/business partners	B2. Unreliable market data (costs, prices)	B28. Poor/deteriorating economic conditions (Foreign market)	B37. Willingness to adopt new business strategy or ideas

(1) The results revealed that product and price are the biggest barriers hindering Vietnam's SMEs from expanding production and meeting requirements when participating in production networks in general and East Asian production networks in particular. Generally, the SMEs' weaknesses relating to financial resource, human resources, and technology are the constraints limiting their ability to meet requirements for product and price. Clearly, the close cohesion of a network requires the businesses in the network to adopt uniform standards of quality of products and price.

In order to develop new products, enterprises typically have 2 options. The first is to buy products from other suppliers - possibly by buying products and marketing under their own brand, or possibly producing under license. The second option is developing

a product by themselves via R & D (research and development). For SMEs with limited financial and human resources, new product development is a real challenge. Survey results show that up to 64.5% of enterprises said that developing new products is a barrier, of which 16.4% said that this barrier is large and significant. Product quality is reflected in 2 main criteria: meeting technical standards and product design. Using these criteria, product quality is also a considerable barrier for Vietnam's SMEs. 66.5% and 64.5% of businesses find it difficult to meet the 2 criteria. However, packaging and labeling products is not seen as a considerable obstacle for Vietnam's SMEs.

The development of new products was seen as more difficult by domestic SMEs than by the FDI SMEs. With better technology and human resources, especially with the continuity and guidance of the parent companies, developing new products in house is not a barrier for FDI SMEs. In contrast, domestic SMEs, whether private enterprises or limited liability and joint-stock companies, find that this is a difficult task, though at slightly different levels.

Electrical and electronic sectors often require a huge investment in capital, technology and particularly in human resources when developing new products. Although in the past the number of electrical and electronic training centers increasing rapidly, focusing primarily on information technology, they generally do not meet the SMEs' requirements in quantity or quality. Therefore, obstacles facing enterprises producing electrical and electronic components and accessories are greater than in other sectors such as textile and garment, and automotive parts and motorcycles.

Many exporting enterprises, especially in the garment sector, have not developed or designed new products because of their focus on producing and processing products. The product development duty is often taken by overseas partners. Therefore, exporting enterprises encounter fewer difficulties than other businesses in developing new products. Vietnam's textile and garment enterprises are usually 100% exporters, so that developing new products is not a big problem. However, the value added in garment products is relatively low.

Table 17. Barriers to Developing New Products by Sector, Ownership and Nature of Export

Unit: %

	Not significant	Little	Moderate	Significant	Very significant
By sector					
Textile and garment	37.5	23.4	26.6	10.9	1.6
Parts, Components, and Automotives (including motorbikes)	41.4	13.8	31.0	10.3	3.4
Electrical, Electronic, parts and machinery	36.1	19.4	13.9	27.8	2.8
Others	26.5	20.6	41.2	11.8	0.0
By ownership					
Private enterprise	11.8	41.2	29.4	17.6	0.0
Limited liability Co.	33.3	24.6	24.6	14.5	2.9
Joint-stock company	37.5	15.6	25.0	21.9	0.0
100% FDI enterprise	50.0	10.0	35.0	2.5	2.5
By market					
Domestic only	32.1	20.2	27.4	17.9	2.4
Export only	40.9	27.3	22.7	9.1	0.0
Both markets	38.6	17.5	29.8	12.3	1.8

Source: Calculated from surveyed data.

Vietnam's SMEs can meet the requirements of quality, packaging, and design, but find that it is very difficult to compete with other enterprises in terms of price. Up to one-third of SME responses show that price is either significant or very significant for them when approaching customers.

Table 18 describes problems of price between different businesses groups. Results show no significant difference between the groups, except for FDI enterprises, which report a lower level of difficulty. Remaining enterprise groups find it difficult to offer a price competitive with other businesses, even with imported goods. A $12.5 billion trade deficit in 2009 proved somewhat the weak price competition ability of Vietnam's SMEs.

Table 18. Barriers to Offering Competitive Prices to Customers by Sector, Ownership and Nature of Export

Unit: %

	Not significant	Little	Moderate	Significant	Very significant
By sector					
Textile and garment	16.9	26.2	23.1	27.7	6.2
Parts, Components, and Automotives (including motorbikes)	27.6	17.2	17.2	20.7	17.2
Electrical, Electronic, parts and machinery	13.9	27.8	27.8	13.9	16.7
Others	17.6	17.6	32.4	14.7	17.6
By ownership					
Private enterprise	17.6	17.6	29.4	17.6	17.6
Limited liability Co.	14.3	21.4	27.1	25.7	11.4
Joint-stock company	18.8	31.3	18.8	25.0	6.3
100% FDI enterprise	27.5	22.5	27.5	7.5	15.0
By market					
Domestic only	15.3	22.4	28.2	22.4	11.8
Export only	18.2	22.7	27.3	18.2	13.6
Both markets	22.8	26.3	17.5	19.3	14.0

Source: Calculated from Surveyed Data.

(2) The second most significant constraint for SMEs when participating in production networks is the shortage of working capital to finance their new business plans. Despite significant recent change, lack of capital and credit access has been serious problems reported in all surveys recently. The proportion of enterprises reporting a shortage of capital in this study was 77.4%, of which 34.8% see this is as a significant or very significant barrier. Especially in 2008, due to the tightening monetary policy of the Government, access to credit for enterprises in general and SMEs in particular was very limited. Although in 2009 policy has been loosened, due to the economic recession and downturn many businesses still have problems in terms of capital. Moreover, because of the domino effect, access to credit from suppliers is virtually impossible.

Table 19. Shortage of Working Capital to Finance New Business Plans by Sector, Ownership and Nature of Export

Unit: %

	Not significant	Little	Moderate	Significant	Very significant
By sector					
Textile and garment	17.2	10.9	28.1	32.8	10.9
Parts, components, and automotives (including motorbikes)	27.6	20.7	13.8	24.1	13.8
Electrical, electronic, parts and machinery	30.6	16.7	33.3	13.9	5.6
Others	20.6	20.6	26.5	17.6	14.7
By ownership					
Private enterprise	23.5	17.6	17.6	29.4	11.8
Limited liability Co.	15.9	15.9	27.5	26.1	14.5
Joint-stock company	18.8	18.8	31.3	25.0	6.3
100% FDI enterprise	32.5	12.5	30.0	17.5	7.5
By market					
Domestic only	19.0	15.5	28.6	23.8	13.1
Export only	27.3	18.2	27.3	22.7	4.5
Both markets	26.3	14.0	24.6	24.6	10.5

Source: Calculated from Surveyed Data.

The entities which had most difficulty in accessing credit sources were domestic SMEs. The proportion of these enterprises facing a credit problem was higher than among FDI SMEs. One possible explanation is that FDI SMEs received support from parent companies overseas, while domestic SMEs had to survive on their own. Moreover, due to the nature of small-scale and old-established business practice, transparency in the financial accounting books is low. Thus, access to capital from financial institutions for these enterprises was rather difficult.

While electrical and electronic SMEs face small difficulty in access to credit financing for new projects (only 19.5%), spares, parts and components SME producers, particularly textile and garment SMEs, face many of difficulties. For automotive and motorcycle SMEs, because of the sector downturn, difficulty in access to credit is understandable, but for the textile and garment SMEs, this is a surprising finding. Although the world economy is generally declining, Vietnam's textile and garment

sector still achieved a good growth rate, with more than $ 9 billion in exports in 2009[1], a similar result to 2008. This issue should be studied further in additional research to develop an adequate explanation.

Exporting SMEs found it easier to find financial resources for new business projects, due to their better capacity and trustworthiness in the implementation of new projects than domestic SMEs.

Table 20. Difficulty in Getting Credit from Suppliers and Financial Institutions by Sector, Ownership and Nature of Export

Unit: %

	Not significant	Little	Moderate	Significant	Very significant
By sector					
Textile and garment	26.6	17.2	23.4	20.3	12.5
Parts, Components, and Automotives (including motorbikes)	20.7	17.2	24.1	27.6	10.3
Electrical, Electronic, parts and machinery	33.3	25.0	19.4	19.4	2.8
Others	23.5	17.6	32.4	20.6	5.9
By ownership					
Private enterprise	23.5	23.5	11.8	35.3	5.9
Limited liability Co.	21.7	20.3	27.5	20.3	10.1
Joint-stock company	25.0	15.6	18.8	31.3	9.4
100% FDI enterprise	35.0	17.5	32.5	10.0	5.0
By market					
Domestic only	26.2	21.4	16.7	25.0	10.7
Export only	27.3	31.8	22.7	13.6	4.5
Both markets	26.3	10.5	36.8	19.3	7.0

Source: Calculated from surveyed data.

(3) The next significant constraint on the participation of SMEs in production networks is the difficulty of matching competitors' prices. Identifying the necessary information for production and business activities is still a barrier for SMEs, especially information about market and potential business partners. 14.5% of SMEs believed that it was moderate or considerable hindrance. Although 14.5% was not a large number,

[1] http://www.vietnamtextile.org/ChiTietTinTuc.aspx?MaTinTuc=1342&Matheloai=5

that figure reflected the currently non-transparent dissemination of information. Market information may seem easy to obtain, but its accuracy and reliability are hard to verify.

Because Vietnamese SMEs face many difficulties in accessing sources of information, especially information relating to markets and competitors, and also because the reliability and accuracy of the information may not be high; SMEs reported difficulty in matching competitors' prices. Most companies only know the prices of competitors within a large range, and this not helps in the process of offering prices and securing customers.

Among the diverse sources of information such as books, the Internet, trade fairs, exhibitions, the trade representatives of Vietnam in foreign countries, and service providers, Vietnam's SMEs usually have access to the available sources of mass media, i.e. to books and the Internet. Some SMEs do participate in trade fairs or exhibitions. Survey results demonstrated that a large proportion of SMEs (about 60%) considered (lack of) information as a hindrance at different levels from low to moderate, considerable, or even tremendous. 70.1% of SMEs had problems with the trustworthiness of information, 57.9% of SMEs had encountered problems with contact information and communication with potential business partners.

Table 21 describes in detail how SMEs access information about potential business partners, analyzed by sector and nature of the market (i.e. domestic or export market). Results showed that the FDI SMEs seem to find more difficulty in accessing this information than do domestic SMEs. This can be explained by the fact that FDI enterprises come from a foreign business environment, therefore they lack a thorough understanding of partners like Vietnamese companies, even though FDI enterprises may have better financial resources for funding this activity.

Table 21. Inability to Identify and Contact Potential Business Partners by Sector, Ownership and Market Characteristics

Unit: %

	Not significant	Little	Moderate	Significant	Very significant
By sector					
Textile and garment	50.0	18.8	17.2	12.5	1.6
Parts, Components, and Automotives (including motorbikes)	34.5	27.6	17.2	20.7	0.0
Electrical, Electronic, parts and machinery	47.2	22.2	16.7	13.9	0.0
Others	29.4	29.4	26.5	14.7	0.0
By ownership					
Private enterprise	35.3	29.4	23.5	11.8	0.0
Limited liability Co.	40.6	24.6	20.3	14.5	0.0
Joint-stock company	50.0	18.8	15.6	12.5	3.1
100% FDI enterprise	42.5	20.0	17.5	20.0	0.0
By market					
Domestic only	45.2	26.2	16.7	10.7	1.2
Export only	13.1	2.4	6.0	4.8	0.0
Both markets	23.8	16.7	13.1	14.3	0.0

Source: Calculated from surveyed data.

FDI SMEs find that access to information on price is not as difficult to obtain as domestic SMEs do. Textile and garment enterprises also encounter fewer difficulties when carrying out diversification. Meanwhile, exporting enterprises face more difficulties due to matching the price.

Table 22. Difficulty in Matching Competitors' Prices by Sector, Ownership and Nature of Export

Unit: %

	Not significant	Little	Moderate	Significant	Very significant
By sector					
Textile and garment	20.0	27.7	24.6	23.1	4.6
Parts, Components, and Automotives (including motorbikes)	25.0	14.3	14.3	25.0	21.4
Electrical, Electronic, parts and machinery	19.4	22.2	19.4	27.8	11.1
Others	20.6	23.5	29.4	17.6	8.8
By ownership					
Private enterprise	17.6	29.4	23.5	29.4	0.0
Limited liability Co.	12.9	27.1	27.1	25.7	7.1
Joint-stock company	29.0	12.9	19.4	29.0	9.7
100% FDI enterprise	32.5	20.0	20.0	10.0	17.5
By market					
Domestic only	17.9	21.4	22.6	29.8	8.3
Export only	27.3	22.7	27.3	13.6	9.1
Both markets	22.8	24.6	22.8	17.5	12.3

Source: Calculated from surveyed data.

(4) Difficulty in getting credit from suppliers and financial institutions is considered as the fourth most important constraint for Vietnamese SMEs. Lack of capital and credit access has been serious problems in all surveys recently. The proportion of enterprises having a shortage of capital in this study is 77.4%, of which 34.8% say that this is a significant or very significant problem. The corresponding proportions of enterprises finding it difficult to access credit are 73.8% and 29.8% respectively. Although in 2009 monetary policy of the Government was loosened, many businesses still had problems in terms of capital due to the economic downturn. Moreover, because of the domino effect, access to credit from suppliers is virtually impossible. The survey result shows that difficulty in getting credit from suppliers and financial institutions is the second most significant barrier to Vietnam's SMEs amongst 5 specified difficulties in functional barriers, ranked right behind the shortage of working capital financing new business plans. (See Appendix II).

Similarly to the problem of getting funds for new projects, the ability to obtain credit in general from financial institutions -banks, credit institutions and suppliers- is different across the enterprises. FDI SMEs report that they experience more difficulty than domestic SMEs. However, when considering different types of business, the proportion of textile and garment SMEs having difficulty was only 32.8%, while the highest proportion is 37.9% in the automotives parts and components, (including motorbikes) sector. Thus, the difficulty in generating capital for business expansion in textile and garment SMEs may result from an intrinsic difficulty of the sector, resulting, perhaps from labor or market aspects of the business. Exporting SMEs also find it easier to access credit than domestic SMEs.

(5) The fifth constraint on SMEs becoming members of production networks is the poor or deteriorating economic condition of the home market.

Poor or deteriorating economic conditions, along with inadequacy of basic and IT infrastructure, and political instability are the 3 main barriers to business environment. However, Annex II shows that 9.7% of enterprises concluded that the basic and information technology infrastructure of the domestic market form significant or very significant barriers, and 10.4% of enterprises thought that those of foreign markets were significant or very significant barriers. On the other hand, Vietnam is seen as politically stable, as only 1.6% of enterprises said that political stability is an obstacle to their performance. Additionally, a small number of surveyed SMEs (about 10%) considered the business environment as a significant and very significant barrier. This once again proves that Vietnam is considered as an attractive investment location for many enterprises from all over the world.

Nonetheless, due to the huge impact of the economic downturn, 20% of enterprises reported that difficult economic conditions in Vietnam were an obstacle for the expansion and development of enterprises. This constraint is also a barrier to the participation of SMEs in production networks and was ranked as the fifth most significant by the SMEs surveyed.

(6) The sixth obstacle to the participation in production networks of Vietnam's SMEs, as reported by the enterprises surveyed, is insufficient quantity of and/or untrained personnel for market expansion.

Although its national population ranks 13th in the world, the proportion of trained workers that meet their requirements is small, so that SMEs have difficulty in recruiting the workers they need for production and market expansion. The table below shows that labor is still a barrier to development of many SMEs in Vietnam. 26.6% of respondents said that the lack in quantity and quality of available labor is an obstacle. This proportion is higher than a recent survey of SMEs (John Rand, 2007), which reported similar views from 18.8% of respondents. In the present survey, 69.1% of SMEs believe that the labor problem can be seen in varying degrees, 52.7% of SMEs consider this problem as moderate , and 26.6% of SMEs say that it is significant or very significant, and heavily influences the business activities and market expansion in general of their enterprises.

Table 23. Functional Barriers

Unit: %

	Not significant	Little	Moderate	Significant	Very significant
Lack of managerial time to identify new business opportunities	37.2	28.7	26.8	6.1	1.2
Insufficient quantity of and/or untrained personnel for market expansion	30.9	16.4	26.1	23.6	3.0
Lack of production capacity to expand	29.7	27.3	21.8	15.8	5.5
Shortage of working capital to finance new business plan	22.6	15.9	26.8	23.8	11.0
Difficulty in getting credit from suppliers and financial institutions	26.2	18.9	25.0	21.3	8.5

Source: Calculated from surveyed data.

Analysis of the labor barrier over various types of SMEs shows that domestic SMEs report more labor difficulties than FDI SMEs. While only 12.5% of FDI SMEs consider the quantity and quality of labor to be a serious or very serious obstacle, non-FDI SMEs had a different experience. Among joint-stock companies and limited liability companies the proportions reporting serious or very serious labor shortages were 30% and 31.3% respectively. For private enterprises, this proportion even reached 41.2%.

Although they do not require such highly qualified workers as electrical, electronics or motorcycle manufacture, SMEs surveyed in the textile and garment sector have the biggest difficulties with labor issues. It is the fact that textile and garment workers are currently not plentiful, especially in cities. About a dozen years ago, the garment export sector attracted many unskilled workers in major cities; but recently the emergence of many new city jobs with more comfortable working conditions or higher incomes have generated a shift of workers from the garment sector to the new sectors. The survey results show that up to 32.3% of enterprises had significant difficulty.

Table 24. Barriers of Insufficient Quantity of and/or Untrained Personnel for Market Expansion by Sector, Ownership and Nature of Export

Unit: %

	Not significant	Little	Moderate	Significant	Very significant
By sector					
Textile and garment	20.0	21.5	26.2	**30.8**	**1.5**
Parts, Components, and Automotives (including motorbikes)	37.9	17.2	27.6	17.2	0.0
Electrical, Electronic, parts and machinery	41.7	11.1	22.2	22.2	2.8
Others	35.3	11.8	29.4	14.7	8.8
By ownership					
Private enterprise	29.4	17.6	11.8	29.4	11.8
Limited liability Co.	22.9	20.0	27.1	27.1	2.9
Joint-stock company	40.6	3.1	25.0	31.3	0.0
100% FDI enterprise	40.0	22.5	25.0	12.5	0.0
By market					
Domestic only	29.4	14.1	34.1	21.2	1.2
Export only	27.3	27.3	13.6	27.3	4.5
Both markets	35.1	14.0	19.3	26.3	5.3

Source: Calculated from surveyed data.

In contrast to informational barriers, exporting SMEs appear to face more difficulties in human resource issues than many other SMEs. These difficulties result from the high requirements in terms of product quality of its partners and customers, as well as the requirement for skilled employees. Domestic SMEs, on the other hand, are in less trouble. The proportions of domestic SMEs and exporting SMEs who reported

human resources as a considerable or tremendous obstacle were 22.4% and 31.8% respectively.

(7) The seventh most significant barrier to SMEs' participation in production networks is lack of familiarity with the complexity of procedures or paperwork required.

Over the past few years Vietnam has carried out considerable administration reform programs at local and national levels. The administrative procedures of ministries and sectors have been revised and published in the mass media. These procedures are supposed to be cut back, especially those relating to the production and trading activities of enterprises in general and SMEs in particular. A typical example is that business registration time is reduced from months to weeks or even 5 to 7 days. In some places, the time taken to issue business registration certificates and other related legal documents even takes only 3 days. Therefore, most enterprises do not consider administrative procedures as a significant or very significant barrier to their business activities. Only 17.2% of enterprises considered that not being familiar with procedural processes was a significant or very significant barrier to their businesses.

Table 25. Difficulties in Accessing Support and Promotion from Local Governments by Sector, Ownership and Nature of Export

Unit: %

	Not significant	Little	Moderate	Significant	Very significant
By sector					
Textile and garment	26.2	26.2	24.6	20.0	3.1
Parts, Components, and Automotives (including motorbikes)	20.7	27.6	27.6	13.8	10.3
Electrical, Electronic, parts and machinery	34.3	34.3	14.3	11.4	5.7
Others	23.5	26.5	29.4	14.7	5.9
By ownership					
Private enterprise	11.8	29.4	41.2	11.8	5.9
Limited liability Co.	33.3	30.4	20.3	13.0	2.9
Joint-stock company	31.3	15.6	25.0	21.9	6.3
100% FDI enterprise	20.0	27.5	27.5	17.5	7.5
By market					
Domestic only	29.8	27.4	25.0	13.1	4.8
Export only	9.1	31.8	31.8	18.2	9.1
Both markets	28.1	28.1	19.3	19.3	5.3

Source: Calculated from surveyed data.

Recently, the Government of Vietnam has required its ministries and provincial people's committees to publicize their administrative procedures, and to revise and remove inappropriate procedures and regulations. The simplification and publicity of administrative procedures should be completed by 2011. This has led to a notable improvement in the procedural aspect in the past few years, and unfamiliarity with complexity of procedures or paperwork only ranked as the seventh constraint for SMEs in this survey when participating in production networks.

(8) The eighth barrier to the participation of SMEs in production networks is the lack of home government assistance or incentives.

The picture here is similar to the assessment of SMEs of procedures and paperwork. SMEs face some difficulties at different levels with settlement of contract disputes, unfavorably local regulations and difficulties in export markets, however these difficulties are not seen as being as severe as difficulties with complicated procedural processes or difficulties in getting support from indigenous authorities at different levels.

Although there has been administrative reform, with policies being announced to make it easier to conduct business activities, 21.4% of responses said that local authorities at different levels had not provided effective assistance and stimulation programs for enterprises. Support for FDI SMEs seems to be less than that given to domestic SMEs. This is an interesting point, as, in order to attract FDI investment, local authorities normally have direct support policies for enterprises, on issues connected with tax and land. However, this stimulation may be less than their expectations, or the development has not been well integrated. Thus the opinion of FDI enterprises is that these difficulties are negative, and these views are stronger than the opinions of domestic enterprises, who also received less support from local authorities than they wanted.

The survey also shows that exporting SMEs received more support and stimulation than domestic enterprises. This probably resulted from the preference for exporting enterprises over domestic enterprises, in the mindset of the authorities.

(9) Lack of production capacity to expand is considered as one of the top ten constraints for SMEs wanting to be members of production networks in the East Asia region, and is ranked ninth in significance. Possible reasons could include the fact that

the Vietnamese textile and garment sector depends heavily on sub-contractual agreements, and therefore is not able to fully control its main sources of inputs. In addition, the under-developed fashion industry, and especially the small scale of supporting industry, can not keep pace with the fast development of production capacity, nor with market fluctuations. In Vietnam, the producers of major accessories such as thread, cotton fabrics, studs, zips, labels and packages have the capacity to meet only a small proportion of domestic demand. Therefore, the large proportion of main inputs as fiber, fabric and accessories including thread and zip are imported.

Even though the automotive market size is quite small in Vietnam, there are 14 companies producing and assembling motor vehicles. Therefore, it is difficult for any of these companies to expand their domestic market share. In addition, due to limitations in production capacity, Vietnamese SMEs have faced many problems (e.g. meeting quality requirements from foreign partners) when participating in production networks in the automotive sector as a supporting partner. Due to the limited capacity of domestic SMEs, joint-venture companies often call for cooperation from foreign partners, which in turn reduce the scope of Vietnamese SMEs wishing to become subcontractors.

The electrical and electronics sectors often require a huge investment in capital, technology and particularly in human resources when developing new products. Although in the past the number of electrical and electronics training centers has increased rapidly, focusing primarily on information technology, they generally do not meet the industry's requirements in quantity or quality. Therefore, obstacles facing enterprises producing electrical and electronic components and accessories are greater than in other sectors, such as textiles and garments, automotive and motorcycles.

(10) The last of the top ten constraints for Vietnam's SMEs participating in production networks is the need for promotional activities, to target markets or business partners.

According to respondents' reports, and due to the complexity of production chains, activities such as seeking new partners, maintaining relationships and ensuring partner's trust in the production chain are still notable hindrances, both for SMEs and for policy makers. Recently, the Government and local authorities have undertaken numerous promotional activities, with the participation of many enterprises. However,

SMEs still think that promotion activities, directed towards seeking new markets and business partners, are obstacles for them. They say that the participation of enterprises in government promotion programs is not effective and that they have to carry out their promotional work. On the other hand, the effectiveness of their search for business partners depends not only on promotion activities but also on the enterprises' own ability and prestige.

According to the survey, FDI SMEs face more difficulties than private domestic SMEs in accessing information, as well as taking part in promotion activities and seeking new markets and business partners. Up to 30% of FDI SMEs considered these difficulties as significant and very significant whereas the equivalent number for private SMEs is 5.9%, for limited companies is 11.5% and for joint-stock companies is 18.8%. It is not surprising to find such a high figure among FDI SMEs because the government's promotion programs are designed to benefit domestic enterprises.

Table 26. Difficulty in Promoting Market and Business Partner by Sector, Ownership and Nature of Export

Unit: %

	Not significant	Little	Moderate	Significant	Very significant
By sector					
Textile and garment	26.2	35.4	23.1	13.8	1.5
Parts, Components, and Automotives (including motorbikes)	31.0	24.1	17.2	27.6	0.0
Electrical, Electronic, parts and machinery	31.4	28.6	25.7	11.4	2.9
Others	23.5	32.4	32.4	8.8	2.9
By ownership					
Private enterprise	17.6	47.1	29.4	0.0	5.9
Limited liability Co.	26.1	42.0	20.3	10.1	1.4
Joint-stock company	37.5	21.9	21.9	18.8	0.0
100% FDI enterprise	25.0	15.0	30.0	27.5	2.5
By market					
Domestic only	27.4	40.5	20.2	10.7	1.2
Export only	31.8	13.6	27.3	22.7	4.5
Both markets	26.3	24.6	28.1	19.3	1.8

Source: Calculated from surveyed data.

Despite receiving support from numerous trade promotion programs in the industry, automotive and motorcycle parts and component manufacturers face a variety of difficulties in expanding their market size and finding new customers. Exporting-oriented enterprises, because of the fierce competition in the international market, require more support than domestic enterprises. The percentage of exporting enterprises in the survey who considered promotion as a significant or great barrier was 27%, higher than that of domestic enterprises, which was 12%.

At the present time, there are not many enterprises producing cars and motorcycles in Vietnam, but the majority of automotive spares, parts and components manufacturers find it difficult to access potential business partners. It can be seen that the obstacles are not only caused by the scale of the market, but also by the ability of SMEs to satisfy the detailed and stringent requirements of the production networks.

Box 1: Access to market information and the client of VIEBA company

VIEBA is an enterprise specialized in manufacturing woolen garments, with 95% of the company's products exported to the EU and USA, and the remaining 5% consumed in the domestic market. To serve the foreign partners' requirements for high-quality products, VIEBA must import raw materials from China and other countries. Their sources of information are mainly through the company's main channels: the office of the parent company located abroad, representatives in other countries, and the Internet.

The company is based in Pho Noi Industrial Zone, Hung Yen province. In that industrial zone, there are many other firms, one of which is funded by Spanish investment capital, and is specialized in producing yarn. Despite their location in the same zone, VIEBA and the Spanish company have no information about each other. Therefore, the 2 companies could not make contact, nor have they provided products to each other.

Although VIEBA intended to find producers of domestic textile materials, they found it very difficult to locate sources of information. Even where they did find information, the information was not guaranteed to be reliable and accurate.

3.2. Distinctions Between SMEs Inside and Outside-Production Networks

Analysis the 38 specified barriers at 5 levels of significance indicates that shortages of working capital to finance new business plans was the most significant barrier to SMEs in production networks I and II. In contrast, the need to offer competitive prices

to customers was ranked as their most important barrier by SMEs outside production networks I and II. The competitive prices barrier is the third most significant in production network II and the fourth most significant in production network I. The barrier ranking levels are different between SMEs inside and outside production networks I and II. (See more detailed in Table 16)

It is quite clear that there is a distinction between SME inside and outside production networks. As members of a production network, SMEs have to invest in new projects accompanied by new business plans set by the companies, with whom they are under contract, as well as to maintain and improve linkage within the production networks. As a result, new investment capital, especially working capital is needed. However, working capital is usually one of the big problems faced by SMEs, therefore the shortage of working capital to finance new business is considered as one of the top ten obstacles for SMEs in production network I and production network II. SMEs outside both production network I and production network II, are not under pressure on new investments and new business plans set by other companies, and only focus on producing and selling their products. Hence these SMEs concern themselves mainly with sales, therefore offering competitive prices to customers is ranked as their most significant constraint. Another possible reason for considering this as a constraint for their business activities is that without participating in production networks, these SMEs face more difficulty in selling their products.

The results obtained show that there are quite big differences in reported significant constraints between SMEs inside and outside the production networks, apart from the quantity and/or quality of personnel for market expansion, (similarly ranked by SMEs inside and outside production network I,) and the difficulties they experienced in matching competitors' prices and in getting credit from suppliers and financial institutions, all of which were similarly ranked by SMEs inside and outside production network II.

The following are the next most significant constraints for SMEs in type I production networks:

(i) For SMEs in a type I production network, external factors such as poor or deteriorating economic conditions in foreign markets, and unfamiliarity with the complexity of procedures or paperwork are more important than those constraints

relating to internal factors. In contrast, internal barriers, such as offering competitive prices to customers, difficulty in matching competitors' prices, insufficient quantity and/or quality of personnel for market expansion, and lack of production capacity for expansion are reported as having less impact on SMEs inside production networks. Possible reasons might be the high proportion of SMEs with import activities (53.9%), export activities (47.9%) and foreign investors (24.2%) in the surveyed sample. Due to the global economic crisis, the import and export activities of Vietnam's SMEs are heavily depressed. In other words, poor or deteriorating economic conditions in foreign markets is considered as a big constraint for SMEs. Similarly, unfamiliarity with complexity of procedures or paperwork is also assessed as one of the major obstacles for SMEs. Although much reform in administrative procedures has been carried out in Vietnam in recent years, nearly 77% of surveyed SMEs claimed that unfamiliarity with complexity of procedures or paperwork was a barrier ranked as a significant or very significant constraint by 17.2% of respondents.

(ii) SMEs outside type I production networks are affected by both internal barriers (such as difficulty in matching competitors' prices, shortage of working capital to finance new business plans, insufficient quantity and/or quality personnel for market expansion, and lack of production capacity to expand) and external barriers (such as difficulty in getting credit from suppliers and financial institutions, poor or deteriorating economic conditions in the home market, lack of home government assistance or incentives, unfamiliarity with complexity of procedures or paperwork, and unreliable market data).

There are differences and similarities between SMEs in- and outside type I production networks. A difference is that SMEs in a type I production network are strongly affected by external barriers while the impact of these barriers on SMEs outside a production network I is not as great. A similarity between SMEs in- and outside a type I production network is that all of them face human resource difficulties, that is the insufficient quantity and/or quality of personnel for market expansion. The level of significance of this factor for both types of SMEs is the same and it is ranked as the sixth most important constraint.

The distinction amongst SMEs in- and outside type II production networks is examined below:

(i) According to the responses of SMEs in type II production networks, internal barriers seem to be more significant constraints than external barriers. Internal barriers, such as difficulty in matching competitors' prices, offering competitive prices to customers, and insufficient quantity and/or quality of personnel for market expansion are considered greater constraints than unfamiliarity with the complexity of procedures or paperwork, poor or deteriorating economic conditions in the home market, and lack of home government assistance/incentives. This situation in type II production networks contrasted with the case of production networks type I. This reflects the nature of SMEs in the two types of production network. SMEs in type I production networks supplied their products or by products to final assemblers and/or manufactured parts and components and supplied them to first tier and second tier buyers in the production chain. SMEs in type I production networks supplied their products or by products to final assemblers and/or manufactured parts and components and supplied them to first tier, second tier and third tier buyers in the production chain, and/or exported their products or by products, and/or imported raw materials or intermediate inputs. Due to the loose characteristics of type II production networks, constraints for SMEs seem to be less related to external factors than those in type I production networks. This seems to imply that the production capacity of Vietnam's SMEs in type II production networks is not sufficient to produce and supply their products, by products, parts or components to different partners in the production chain, including final assemblers, manufacturers of parts or components supplying the first tier, second tier and third tier buyers in the production chain, or export their products.

(ii) For SMEs outside type II production networks, the first five most significant constraints are the same as those of SMEs outside type I production networks. From the most to the least significant, their constraints are; offering competitive prices to customers, difficulty in matching competitors' prices, shortage of working capital to finance new business plans, difficulty in getting credit from suppliers and financial institutions, and poor or deteriorating economic conditions in the home market.

However, when comparing SMEs in- and outside type I production networks, there is a big difference in the ranking level of constraints. The 3 most significant constraints for SMEs outside the production networks are; offering competitive prices to customers, difficulty in matching competitors' prices, and shortage of working capital to finance

new business plans. These are all internal barriers. This demonstrates that, due to the lack of required production capacity when becoming a member of a type II production network these SMEs cannot participate in the production networks. The constraints ranked lower were; difficulty in getting credit from suppliers and financial institutions, poor or deteriorating economic conditions in the home market, unreliable market data (costs, prices, market shares), and lack of home government assistance or incentives. These are all external barriers. The results show that although external barriers have a certain impact on SMEs when participating in production networks, internal barriers are the dominant determinants driving the participation of SMEs in type II production networks.

The significance of insufficient quantity and/or quality of personnel for market expansion is another noticeable difference between SMEs in- and outside type II production networks. Only SMEs in type II networks find insufficient quantity and/or quality of personnel for market expansion to be a big obstacle (ranked the fifth most significant constraint), while SMEs outside a type II production network ranked it eleventh. This finding indicates that the low quality of employees is a significant constraint for SMEs when participating in production networks.

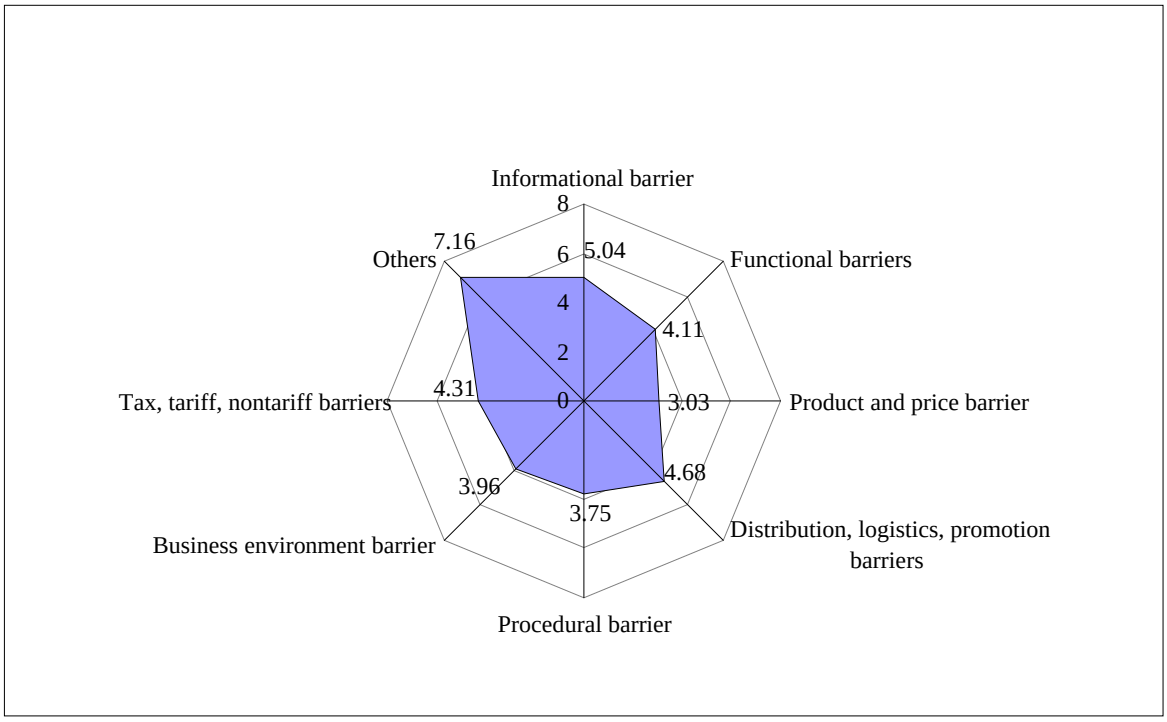
When analyzing the 8 barriers to SME development for the whole sample, product and price barriers were the most difficult obstacles. The next most significant barriers (from high to low) are: procedural barriers; business environment barriers; functional barriers; tax, tariff, non-tariff barriers; distribution, logistics, promotion barriers; informational barriers; and other barriers. Product and price barriers are also ranked as most difficult by SMEs in type I and II production networks, and by SMEs outside type I networks. Functional barriers are the second most significant to SMEs in type I networks but only ranked as the third most significant barrier to SMEs in type II networks. This means that functional barriers have greater impact on SMEs in type I networks than those in type II networks. The second most significant barrier for all firms, and for SMEs in type I and II networks and outside type II networks is the procedural barrier. Despite the considerable recent progress in administrative reform, enterprises considered this factor as a hindrance to their development. Although the business environment has been much improved in recent years, it still seems to be a barrier to SMEs, who rank it as the third most significant barrier, except for SMEs in

type II networks (who ranked it fifth). Tax and tariff policy itself seems not to be a big constraint on development, but customs procedures are still a matter of business concern, whereas distribution, logistics and promotion tend to become potential barriers. (See more detail in Table 27).

Table 27. Ranked Constraints by Category Faced by SMEs

All Sample	Production Network I		Production Network II	
	IN	OUT	IN	OUT
product and price barrier	product and price barrier	product and price barrier	product and price barrier	product and price barrier
procedural barrier	functional barrier	procedural barrier	procedural barrier	procedural barrier
business environment barrier	business environment barrier	business environment barrier	functional barrier	business environment barrier
functional barrier	procedural barrier	functional barrier	tax, tariff, nontariff barrier	functional barrier
tax, tariff, nontariff barrier	tax, tariff, nontariff barrier	tax, tariff, nontariff barrier	business environment barrier	distribution, logistics, promotion barrier
distribution, logistics, promotion barrier	distribution, logistics, promotion barrier	distribution, logistics, promotion barrier	distribution, logistics, promotion barrier	tax, tariff, nontariff barrier
informational barrier	informational barrier	informational barrier	informational barrier	informational barrier
other barrier	other barrier	other barrier	other barrier	other barrier

Figure 1. General Assessment of Enterprises on Barriers



4. Critical Factors for the Success of SMEs in Production Networks

This section will analyze in detail the elements that affect the participation of Vietnam's SMEs in production networks. The determinants of the success of SMEs in production networks are those factors that help the SMEs to increase their production capacity, such as meeting international standards, introducing ICT, establishment of new divisions or new plants, attending or becoming involved in business associations, baying new machines or facilities with new functions, improving existing machines, equipment or facilities, and introducing new know-how in production methods.

Results from the survey show that the proportion of SMEs in production networks using methods for improving business processes or organizations in the past 3 years, or adopting a new production method, is higher than that of the SMEs outside production networks. This is compatible with the finding obtained from the in-depth interview carried out by the research team, that SMEs participating in production networks are

those enterprises that had established new divisions or new plants, introduced new know-how in production methods, met international standards, or introduced ICT.

Table 28. Methods of Improving Business Processes for SMEs in Production Networks

Unit: %

	Frequency (%) by status in production network	
	IN production network	OUT production network
Met international standards	66.7	45.7
Introducing ICT	63.6	54.5
Established new divisions or new plants	75.6	50.0
Attended/involved in business associations, etc.	59.6	52.1
Bought new machines or facilities with new functions	59.8	51.5
Improved existing machines, equipment, or facilities	60.6	50.0
Introduced new know-how on production methods	67.3	52.6

Analyzing the distance from the production sites of SMEs to ports shows the following interesting picture. SMEs in production networks are located mostly within 1 hour to 2 hours of travel, or from 30 Km to 45 Km from a port (39.8%), while SMEs located more than 2 hours from ports accounted for 33.3%, and the rest, nearly 17%, located near ports (less than 0.5 hours) or moderately near (0.5 hours to less than 1 hour). Note that the travel time from enterprises to ports may be quite long due to low quality of infrastructure. The location of SMEs outside production networks varies considerably.

Table 29. Distance from Surveyed SMEs to Ports

Unit: %

	IN production network	OUT production network
By time		
Near port (less than 0.5 hours)	8.6	19.4
Moderately near (from 0.5 to less than 1 hour)	18.3	32.8
Moderately far (from 1 to less than 2 hours)	39.8	23.9
Far (more than 2 hours)	33.3	23.9
Total	100	100
By distance		
Near port (less than 10Km)	8.6	17.6
Moderately near (between 10 and less than 30Km)	28.0	44.1
Moderately far (between 30 and less than 45Km)	26.9	23.5
Far (from 45 and more than 45Km)	36.6	14.7
Total	100	100

This research also examines the sources of working capital and production expansion capital for SMEs in and outside production networks, and makes a comparison between these 2 types of SME. Table 30 shows that most of SMEs in Vietnam, including both SMEs in production networks and SMEs outside production networks, use retained earnings for working capital and production expansion capital. The proportion of SMEs using bank loans for working capital and production expansion capital is quite high, at 38.7% and 40.3% respectively. The relatively high ratio of Vietnam's SMEs using bank loans for working capital and production expansion capital seems to be a result of the implementation of fair business environment policies, as well as the SME promotion policies of the government. In the case of SMEs participating in production networks, the ratio of enterprises using other sources (government concession/subsidized loan, suppliers, money lenders, personal savings, and relatives) is relatively high compared with those used by SMEs outside production networks. This reflects the fact that SMEs' participation in production networks has been being paid more attention by the government, financial institutions, and suppliers, as well as by the SMEs in production networks themselves.

Table 30. Funding Source of SMEs

Unit: %

	IN production network	OUT production network
Working capital		
Retained earnings	98.9	98.6
Banks	38.7	40.3
Other financial institutions	7.5	9.7
Others (government assistance, informal sources)	40.9	25.0
Capital expansion		
Retained earnings	98.2	97.2
Banks	16.1	22.2
Other financial institutions	2.2	2.8
Others (government assistance, informal sources)	21.5	16.7

This section will also analyze the internal and external factors that affect the participation Vietnam's SMEs in production networks. Elements examined include internal one such as dynamic characteristics, trade features, participation or not in industrial zones and even external elements such as the support of the government and non-governmental organizations, and policy mechanisms.

4.1. Internal Factors

The dynamism of SMEs is both their characteristic and one of the elements that determines the success of enterprises, especially in the context of the current economic crisis and decline. Dynamism is shown not only in short term activities but also in strategic and long term activities such as investment in information technology, and satisfaction of international standards.

Table 31 shows that the effectiveness of methods varies among enterprises. Tangible results from these activities are the introduction and development of information technology networks, and buying or upgrading new machines and equipment. This is reasonable, since investment in information technology would help information to be transferred better and faster. As a result, enterprises should be able to

reform their operations, reduce expenses and raise profits. This is demonstrated by the fact that the proportion of enterprises in the survey which invested in information technology, and made profits in 2007 and 2008 amounted to 81.8% and 87.9% respectively. These figures are higher than those relating to enterprises which did not invest in information technology where the corresponding figures are 68.9% in 2007 and 62.9% in 2008. However, the proportion of enterprises investing in information technology through building websites is quite low. Only 45.3% of enterprises have websites, 4.1% intend to have one in the future and the remaining 50.6% do not have one and do not intend to build one[2]. Therefore, it would be better to have stronger and more effective support for enterprises in applying information technology to business activities.

Although buying new machines may be risky, enterprises did so as a means of increasing production efficiency. That statement is proved in reality when the proportion of enterprises which invested in new machines made higher profit than that of enterprises without new investment in machines. The percentage of these two groups is 74.2% and 72.2% in 2007, and 67.6% and 62.8% in 2008 respectively.

[2] http://dddn.com.vn/200912160456821cat67/50-doanh-nghiep-chua-su-dung-website.htm

Table 31. The Effectiveness of Business Operations in 2007 and 2008

Unit: %

		Performance result in 2007			Performance result in 2008	
		Loss	Break even	Profitable	Loss	Profitable
Met international standards	Yes	24.7	2.5	72.8	30.9	69.1
	No	28.6	1.2	70.2	33.3	66.7
Introduced ICT and reorganized business processes	Yes	28.8	2.3	68.9	37.1	62.9
	No	18.2	0.0	81.8	12.1	87.9
Established new divisions or new plants	Yes	27.4	2.4	70.2	32.3	67.7
	No	24.4	0.0	75.6	31.7	68.3
Attended/involved in business associations, cooperation with other firms, R&D networks, trade fairs, etc.	Yes	23.9	2.8	73.2	31.0	69.0
	No	28.7	1.1	70.2	33.0	67.0
Bought new machines or facilities with new functions to operation	Yes	30.9	1.5	67.6	38.2	61.8
	No	23.7	2.1	74.2	27.8	72.2
Improved existing machines, equipment, or facilities	Yes	33.3	1.7	65.0	40.0	60.0
	No	23.1	1.9	75.0	27.9	72.1
Introduced new know-how on production methods	Yes	27.2	0.9	71.9	32.5	67.5
	No	26.5	4.1	69.4	32.7	67.3

Source: Calculated from surveyed data.

The influence of participation in enterprise associations, collaborating with other enterprises, taking part in research and development networks, and trade fairs, on the effectiveness of enterprise operations is not very clear. The proportion of enterprises which did not carry out these activities but still made profit in 2007 and 2008 is even slightly higher than enterprises that did.

Calculations show that the proportion of enterprises carrying out new investment to meet international standards and making profit in 2007 and 2008 is smaller than the proportion of enterprises that did not invest. Establishing a new department or factory seems not to bring much immediate effectiveness. Because they are long-term investments, it is hard to say that these investments are ineffective. It takes time to judge the effectiveness of these activities. The dynamism of enterprises is shown on 2 important aspects: human resource and capital. In the context of the current state of the

economy, many enterprises have chosen to carry out a wide range of labor training. On the one hand, firms know that they can retain their laborers; on the other hand they need to create the basis for development after the recession. The survey results indicate that this is a correct decision. The proportion of enterprises which had labor training expenses, and made a profit in 2008, though slightly down compared to 2007, was higher than the proportion of those who did not have training expenses. There is a similar pattern in the data distinguishing between enterprises which had external capital mobilization and those which did not. In the case of loan capital, the pressure to pay interest and repay the principle force enterprises to become dynamic, resulting in better production and trading, and more effective participation in production networks. Therefore, in this situation, taking out loans is a good choice for enterprises.

Table 32. The Relationship between Training Costs, Capital Mobilization and Efficient Production Network Participation

Unit: %

		Performance result in 2007			Performance result in 2008	
		Loss	Break-even	Profitable	Loss	Profitable
Training cost	No	30.8	2.6	66.7	34.6	65.4
	Yes	23.2	1.2	75.6	30.5	69.5
Outside capital mobilization	No	32.0	1.3	66.7	38.7	61.3
	Yes	22.2	2.2	75.6	26.7	73.3

Source: Calculated from surveyed data.

The research team also used a Binary Logistic Regression model and the Cox & Snell R Square and Nagelkerke R Square tests to assess the relationship between the nature of an SME's business, location inside and outside an industrial zone and the extent of its participation in production networks. The dependent is binary variable with one (1) if products sold to whole/retailers and zero (0) if products sold to other types of buyers (final assemblers, first tier, second tier, and third tier). The 2 tests showed that the model has the confidence level of 95%. The estimated coefficients in the model are shown in Table 33.

Table 33. Testing the Correlation between Type of Business and the Level of Production Network Participation

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Textile and garment			7.422	3	.060	
	Parts, Components, and Automotives (including motorbikes)	-1.792	.659	7.389	1	.007	.167
	Electrical, Electronic, parts and machinery	-.203	.428	.225	1	.635	.816
	Other	-.192	.440	.190	1	.663	.825
	Constant	-.368	.250	2.157	1	.142	.692

a. Variable(s) entered on step 1: Sector.

The testing result of estimated coefficients in the model displays negative estimated coefficients of parts, components and automotives (including motorbikes); electrical, electronic, parts and machinery; and others. This means that enterprises operating in garment and textile sector are likely to sell their products to whole/retailers than those enterprises in other interviewed sectors. However, only estimated coefficient of parts, components and automotives (including motorbikes) shows significant difference at any reasonable confidence interval, the other estimated coefficients are insignificant. The result also shows that the probability of enterprises which sold their entire product to whole/retailers in parts, components and automotives is only about 0.2 times compared to those enterprises in textile and garment sector.

Using a similar model, the research team also investigated the relationship between the location of enterprises (inside or outside an industrial zone) and the probability of their participation in a production network. The testing result of the Cox & Snell R Square and Nagelkerke R Square showed a confidence level of 95%. Estimated coefficients from Binary Logistic Regression model are reported in Table 34.

Table 34. Testing the Correlation between the Location of the Business and the Level of Production Network Participation

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Within the industrial zones	1.375	.430	10.207	1	.001	3.953
	Constant	-1.705	.384	19.673	1	.000	.182

a. Variable(s) entered on step 1: Q12_bzone.

The result shows that at any reasonable level of significance, the probability of enterprises located outside an industrial zone selling their entire output to wholesalers and retailers is 4 (3.953) times higher than for those inside an industrial zone. It can be said that enterprises which locate inside an industrial zone tend to collaborate and participate in production networks, unlike those outside an industrial zone.

4.2. External Factors

Along with the internal elements of enterprises, the research team also analyzed the impact of external elements, such as support of the government and non governmental organizations, policies toward the production and trading activities of enterprises in general, and the effectiveness of production network participation in particular.

In order to help enterprises, including SMEs, in production and trading activities, Vietnam has undertaken many programs as aimed supporting and developing the enterprise community. Research on access to assistance programs recently indicated that many enterprises received support from these programs (Rand, 2007). Common supporting programs are financial assistance in the form of investment incentives (reduced tax and tax exempt) and loans (low interest bearing).

The survey results reveal the views of the SMEs on the support given by the Government and non governmental organizations to the business performance of enterprises. Tables 35, 36, 37 show the current situation of SMEs accessing supporting measures provided by the Government and non-governmental organizations. In general, a large proportion of enterprises accesses supporting measures at different levels. The highest proportion of enterprises used support related to information,

training, and improvement in the investment environment. Results were 50.3%, 42.4% and 42.4% respectively. This demonstrates that supporting measures such as training and improving the investment environment are of more interest to the Government and non governmental organizations than supplying information about markets and potential customers. This result from the fact that collecting and supplying information about markets and potential customers is rather difficult, not only for SMEs but also for governmental agencies and non governmental organizations.

Turning to important support such as consultancy, technology transfer and collaboration to form business networks, only about 20% of enterprises used these, whereas one-third of enterprises took advantage of financial support.

Table 35. Accessing to Supporting Measures from the Government and Non-government Organizations

Unit: %

Types of supports	Yes	No
Training	42.4	57.6
Counseling and advice	19.4	80.6
Technology development and transfer	17.6	82.4
Market information	50.3	49.7
Business linkages and networking	26.7	73.3
Financing	37.0	63.0
Overall improvement in investment climate	42.4	57.6

Source: Calculated from surveyed data.

The comparison of difference types of enterprise showed the proportion of FDI enterprises which had access to financial support was smaller than that of domestic enterprises, at 17.5%, whereas the lowest proportion of domestic private enterprises was 35.3%. A higher proportion of joint-stock companies had accessed supporting measures than other types of enterprises. Private enterprises also had the lowest proportion accessing technology transfer support, at 11.8%. This means that only 1 in 10 enterprises had the benefit of this support, which is half that of limited liability companies and joint-stock companies.

Table 36. Accessing Supporting Measures of the Government and Non-governmental Organizations Classified by Ownership

Unit: %

Types of supports	Private enterprise		Limited liability Co.		Joint-stock company		100% FDI enterprise	
	Yes	No	Yes	No	Yes	No	Yes	No
Training	35.3	64.7	41.4	58.6	50.0	50.0	45.0	55.0
Counseling and advice	17.6	82.4	17.1	82.9	28.1	71.9	17.5	82.5
Technology development and transfer	11.8	88.2	20.0	80.0	21.9	78.1	12.5	87.5
Market information	52.9	47.1	50.0	50.0	53.1	46.9	47.5	52.5
Business linkages and networking	23.5	76.5	24.3	75.7	37.5	62.5	22.5	77.5
Financing	35.3	64.7	42.9	57.1	50.0	50.0	17.5	82.5
Overall improvement in investment climate	52.9	47.1	35.7	64.3	46.9	53.1	45.0	55.0
Others	0.0	100.0	1.4	98.6	3.1	96.9	2.5	97.5

Source: Calculated from surveyed data.

The research team also noted that textile and garment enterprises had the lowest proportion accessing supporting measures, compared to automotive and motorcycle parts and components producers, and electrical and electronic enterprises. The proportion of these enterprises that had access to consultancy support was 12.3%, 13.8% and 30.6% respectively. The proportion of textile and garment enterprises accessing technology transfer support was only 7.7%, much lower than the proportion of automotive and motorcycle parts and components manufacturers, which was 20.7%, or electrical and electronic enterprises, which was 30.6%. Textile and garment enterprises had only a slightly better access to financial support than automotive and motorcycle parts and components producers.

Table 37. Accessing Supporting Measures of the Government and Non-governmental Organizations Classified by Types of Business

Unit: %

Type of supports	Textile and garment		Parts, Components, and Automotives		Electrical, Electronic, parts and machinery		Other	
	Yes	No	Yes	No	Yes	No	Yes	No
Training	35.4	64.6	41.4	58.6	50.0	50.0	50.0	50.0
Counseling and advice	12.3	87.7	13.8	86.2	30.6	69.4	26.5	73.5
Technology development and transfer	7.7	92.3	20.7	79.3	30.6	69.4	20.6	79.4
Market information	41.5	58.5	58.6	41.4	58.3	41.7	52.9	47.1
Business linkages and networking	23.1	76.9	27.6	72.4	33.3	66.7	26.5	73.5
Financing	38.5	61.5	37.9	62.1	38.9	61.1	35.3	64.7
Overall improvement in investment climate	33.8	66.2	44.8	55.2	58.3	41.7	41.2	58.8
Others	1.5	98.5	3.4	96.6	2.8	97.2	0.0	100.0

Source: Calculated from surveyed data.

Although enterprises received support from the government, other organizations and made their own efforts, due to the recent economic recession, the proportion of enterprises making profit in 2008 was lower than in 2007. However, more detailed analysis is needed to assess the impact of support to enterprises in their production and trading processes and the effectiveness of production network participation. The research team did an in-depth analysis of how effective it was. Enterprises were also asked about the usefulness of the support that they had received.

For the whole sample, the most efficient assistance to SMEs was information on markets, including the complexity of production networks and buyers' technology. This was increasingly available through ICT-based facilities, as well through traditional mechanisms such as trade fairs, exhibitions, and visits/tours. The next most significant kinds of assistance were financing, overall improvement in the business climate, training, business linkage and networking, counseling or advice, technology development and transfer, and other assistance.

Information is also ranked as the most efficient assistance to SMEs in both types of production network, whereas training services and financing are the most efficient

assistance to SMEs outside the type I production networks and type II production networks respectively. Information is only ranked as the fourth most efficient assistance to SMEs outside type I production networks. Overall improvement in business climate ranked as the second most efficient assistance to SMEs participating in both types of production network, and to SMEs outside type II production networks, The second most efficient assistance to SMEs outside type I production networks is counseling or advice. Training service is ranked the third most significant assistance to SMEs in both types of production network and SMEs outside type II production networks, whereas the third most significant assistance to SMEs outside type I production networks is technology development and transfer. The financing, business linkage and networking, counseling or advice, technology development and transfer supports are ranked from the fifth to seventh in effectiveness, depending on whether the SMEs is in- or outside a production network.

Table 38. Perception of Assistance

All Sample	Production network I		Production network II	
	IN	OUT	IN	OUT
information	information	training	information	financing
financing	overall improvement in business climate	counseling/advice	overall improvement in business climate	overall improvement in business climate
overall improvement in business climate	training	technology development and transfer	training	training
training	business linkage and networking	information	financing	financing
business linkage and networking	financing	business linkage and networking	business linkage and networking	business linkage and networking
counseling/ advice	counseling/ advice	financing	counseling/ advice	counseling/ advice
technology development and transfer	technology development and transfer	overall improvement in business climate	technology development and transfer	technology development and transfer
other	other	other	other	other

The results also show that the continuous supply of market information (including about production networks and their complexity, customers and technology) through modern means (e.g. Internet) as well as through traditional means (participating in trade fairs, exhibitions, and excursions) received the highest appreciation from the enterprises surveyed. This appreciation corresponded with the difficulties that they met when trying to obtain useful, reliable sources of information.

Although financial support may have limitations, enterprises showed a high level of appreciation for loan and tax support. Especially during the recent economic downturn, support such as interest rate reduction by 4%, business income tax, and value added tax rescheduling or reduction received support from enterprises'. Many enterprises were rescued by the support measures of the government. However, as shown above, financial support measures need more encouragement if they are to bring effectiveness to enterprises' operations. At present, although there is high proportion of enterprises that had access to major financial support, cumbersome procedures limited this measure's effectiveness.

The survey result shows that support relating to the improvement of the investment environment is an effective measure. Enterprises also reported that the investment environment was favorable for them during the period of maximum difficulty. This is consistent with the above- mentioned analysis that the investment environment is not a serious obstacle to enterprise performance.

According to the enterprises surveyed, training was also seen as an effective support measure whereas technology transfer was not. Although technology is a weak point for Vietnamese enterprises, technology transfer was assessed as the least effective support measure. This shows that support from the government and non-governmental organizations on this aspect are limited. Many technologies transferred were not suitable, and were even obsolete for the enterprises' needs.

Table 39. Assessing the Effectiveness of Supporting Measures of the Government and Non-governmental Organizations

Unit: %

Type of supports	Very effective	Effective	Moderate	Less effective	Not at all
Training	7.1	50.0	42.9	0.0	7.1
Counseling and advice	0.0	45.2	51.6	3.2	0.0
Technology development and transfer	0.0	32.1	60.7	7.1	0.0
Market information	9.6	43.4	44.6	2.4	9.6
Business linkages and networking	4.7	30.2	60.5	4.7	4.7
Financing	0.0	16.4	42.6	31.1	0.0
Overall improvement in investment climate	10.0	48.6	38.6	2.9	10.0

Source: Calculated from surveyed data.

The effectiveness of support in relation to linkages and the formation of production networks did not receive high appreciation from the enterprises surveyed. The reason for this may be that too much expectation was put on the support of the Government, while in fact what was received was limited. Enterprises should realize that it is up to them to participate in the production networks.

Figure 2. Evaluation of Supporting Measures for SMEs

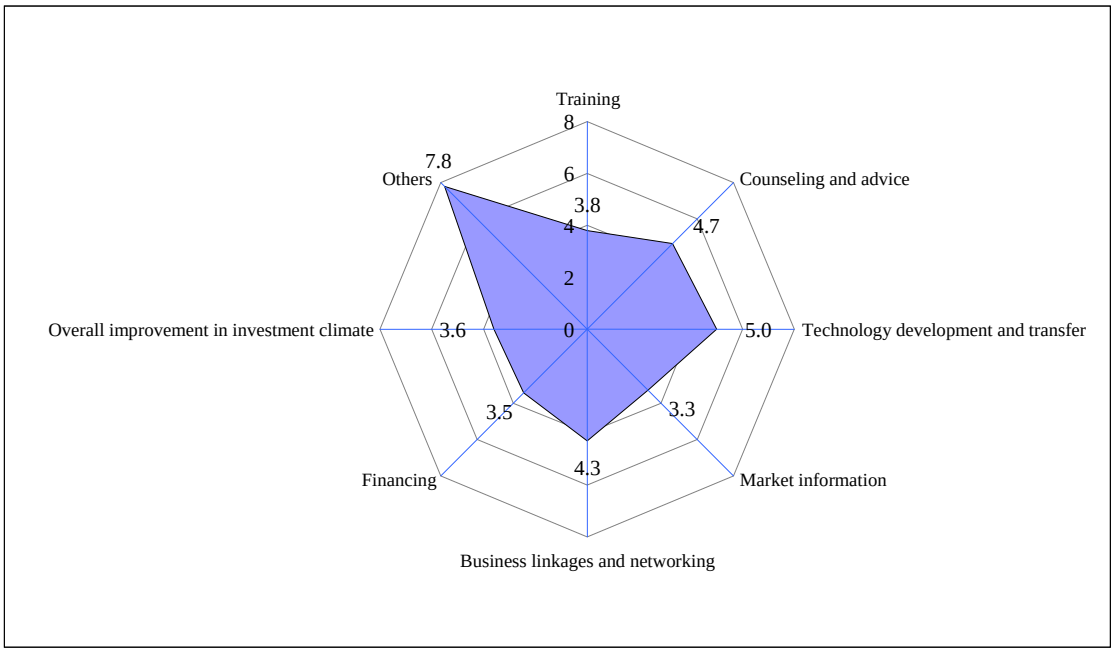


Table 40. Relationship between Access to Support from the Government and Other Organizations and Production Efficiency in 2007 and 2008

Unit: %

	Performance result in 2007			Performance result in 2008	
	Loss	Break-even	Profitable	Loss	Profitable
Training	22.9	2.9	74.3	31.4	68.6
Counseling and advice	22.6	6.5	71.0	29.0	71.0
Technology development and transfer	17.9	7.1	75.0	32.1	67.9
Market information	19.3	3.6	77.1	24.1	75.9
Business linkages and networking	15.9	4.5	79.5	34.1	65.9
Financing	17.7	3.2	79.0	25.8	74.2
Overall improvement in investment climate	22.9	4.3	72.9	27.1	72.9

Source: Calculated from surveyed data.

Enterprises of different ownership types had different views on the level of importance and effectiveness of supporting measures. FDI enterprises were mostly interested in the investment environment, in training and then in business network formation and linkage. These enterprises when deciding to invest in Vietnam really need information on the investment environment, law and government policies. They also need the support of the Government and non governmental organizations on business network formation and linkage, such as participation in industrial clusters and industrial zone investment. Meanwhile, for private enterprises, due to their lack of capital and financial resources, financial assistance was the most effective method of support. Information support for private enterprises was not as useful as for joint-stock and limited liability companies.

Table 41. Assessing the Effectiveness of Supporting Measures for SMEs by Ownership

Unit: point[3]

Type of supports	Private enterprise	Limited liability Co.	Joint-stock company	100% FDI enterprise
Training	3.3	4.0	3.6	3.6
Counseling and advice	4.4	5.0	4.4	4.4
Technology development and transfer	4.9	5.1	5.0	5.1
Market information	4.2	3.1	3.0	3.8
Business linkages and networking	4.8	4.4	4.6	3.6
Financing	2.7	3.0	3.7	4.5
Overall improvement in investment climate	3.8	3.6	4.1	3.3
Others	7.9	7.8	7.6	7.8

Source: Calculated from surveyed data.

Enterprises in different business sectors had different evaluations of the impact of supporting measures and their levels of effectiveness in helping them overcome difficulties. In Table 42, textile and garment enterprises reported that support in finance, information, and training was most effective for them. These were certainly the measures they were most interested in. The automotive and motorcycle parts and components manufacturers cared more about information, the investment environment and financial resources, while electrical and electronic enterprises paid more attention to information, the investment environment, and training. The order of interest may vary among enterprises but information is generally the most issue of most concern, and this is the most effective area of support for the enterprises' production and trading activities. Accurate, timely and trustworthy information is extremely useful for these enterprises.

[3] Rating from 1 to 8, where 1 is the most efficient measure and 8 is the least efficient measures.

Table 42. Assessing the Effectiveness of Supporting Measures for SMEs by Type of Business

Unit: point

Type of supports	Garment	Parts, Components, and Automotives	Electrical, Electronic, parts and machinery	Other
Training	3.6	3.9	3.9	3.8
Counseling and advice	4.8	4.8	4.5	4.4
Technology development and transfer	5.2	5.2	4.5	5.1
Market information	3.2	3.3	3.0	4.0
Business linkages and networking	4.6	3.9	4.5	4.0
Financing	3.0	3.7	4.1	3.4
Overall improvement in investment climate	3.9	3.4	3.7	3.4
Others	7.7	7.8	7.7	7.9

Source: Calculated from surveyed data.

5. Suggestions for Stimulating Enterprises to Participate in Production Networks

5.1. On the Government Agency Side

The survey shows that information is the crucial element for the enterprises' development of their production and trading processes. Currently, access to information is always useful for enterprises though it still has limitations. The effectiveness of supporting programs is low. Therefore, in future, the Government should diversify sources of information, such as enhancing the function and effectiveness of Vietnamese trade missions abroad, establishing an integrated information system, to include basic general information about enterprises, such as name, type of business, address etc. Amongst these measures, the government should establish an updated database of

information on Vietnam's SMEs. It could then provide such information in support of those SMEs competent to become members of production networks, to final assemblers, FDI enterprises, suppliers and importers. This information would enable enterprises to find business partners more easily. The survey also demonstrates the need for improvement in the government's trade promotion programs. The government should do more detailed work, for example by carrying out trade promotion programs in subjects such as textiles and garments, electrical and electronic parts and components, and the automotive sector; promoting business linkages between domestic SMEs and FDI enterprises. At the same time, the number of participating enterprises should not be limited.

Technology transfer is the "hot" issue, and directly impacts on the success of enterprises in production networks. Despite receiving a lot of encouragement from the Government, this issue has not received proper attention. Procedures need to be simplified so that enterprises could access more technology transfer support programs. In addition, technology trade fairs should be expanded in order to help enterprises to access suitable and appropriate sources of information.

Another clear point is the need for stronger programs to raise the quality of human resource. Insufficient quantity and/or quality or training of personnel is one of the big constraints for Vietnam's SMEs wishing to participate in supporting networks and to create linkages with leading enterprises. The Government should take steps to help improve professional training systems and to enhance the training of highly technical and skilled employees for high technology industry.

In the future, supporting industries should pay more attention to enhancing the production capacity of Vietnam's SMEs in their industries, thus encouraging enterprises to participate in the production networks of FDI enterprises and government corporations. That also is a condition for raising the localization rate of FDI enterprises' products, especially cars, motorcycles, and electrical and electronic products.

By developing and implementing favorable borrowing mechanisms for SMEs in supporting industry, and SMEs in production networks, the government could solve the problem of shortages of working capital to finance new business plans. SMEs having effectively joined production networks, as well as SMEs in important sectors, should be

able to access higher amounts of preferential loan capital. The Government also should focus on policy innovation and institutional reform to encourage commercial banks to provide credit to SMEs, especially those that have joined production networks, and should establish and promote a national credit guarantee program for SMEs.

The Government should establish and maintain a transparent and favorable business environment, improve its business forecasting capacity, and enhance administrative and procedural reform to simplify procedural processes, and continue revising and removing unnecessary procedures at ministerial and provincial levels. By doing this, SMEs' production expenditures can be cut down and as a result, the SMEs could be in a better position to offer competitive prices to customers, thus enhancing their capacity to participate in production networks.

5.2. On the Enterprise Side

SMEs should, first, deal with the constraints they feel in offering competitive prices to customers. This requires SMEs to cut unnecessary costs, and improve the quality of products and by-products provided to final assemblers, intermediate enterprises, foreign importers, and suppliers.

Although information is an obstacle for the development of enterprises, many enterprises seem to have been passive, and to have depended on third party sources of information, particularly on the Government. Thus, one solution to this difficulty might be for SMEs to take the initiative in accessing sources of information. One of the actions that enterprises should take is to establish information systems based on their ICT background, such as building websites, and implementing electronic mail systems.

The quality of human resource is always a concerning issue for enterprises. Training people is a difficult task but retaining them is even more difficult. Better treatment and working environments at large enterprises and other SMEs have drained excellent people from many enterprises. Therefore, enterprises need strategic measures to create links between their workforce and the enterprises, not only on compensations but also on other issues related to career development. As a result, the enterprise can ensure that its labor force is able to meet the requirements of production networks participation.

Although investment in activities to satisfy product quality standards, management quality standards, and social and environmental standards is not effective in the short term, this kind of investment is a passport into production networks. These activities may consume a huge amount of money but they bring long-term value. Thus, SMEs need to invest more in these long-term activities.

At the moment, Vietnamese enterprises, big or small, mostly carry out processing for foreign partners. Research and development activities have not received proper attention. Many enterprises believed that these activities require a tremendous investment in human resource and technology. However, collaboration and sharing responsibility in carrying out research and in developing new products might be a long term solution that brings benefit for enterprises, including SMEs participating in production networks.

6. Conclusion

Vietnam is a country with an important geopolitical and geo-economical position in the South East Asian region. This enables enterprises in general and SMEs in particular to take part in East Asian production networks. However, at present Vietnamese SMEs still do not have a firm and clear position on the linkages in the area. The ratio of enterprises that participate in the production networks is relatively small, and their role is still limited. In the meanwhile, the value added and the effectiveness of participation in the network is rather low.

The main reason for this position is that production networks are a new and complicated subject, not only for Vietnamese enterprises but also for government agencies. In consequence, there are limitations on enterprise and government's perception, and there is inadequate investment in this area. Therefore, enterprises in general and SMEs in particular meet numerous difficulties in their participation in, establishment of and development of their roles in the production networks. Restricted information on markets and customers, limited financial resources, technology and human resource, barriers from the business environment and

the Vietnamese economy are challenges that enterprises must overcome if they want to become members of East Asian production networks and operate effectively in these networks.

In recent times, although production networks are new, enterprises, have been able, directly or indirectly, to take advantage of support from the government and other organizations in participating in and establishing production networks. This support has included training, transferring technology, provision of market information and so on. Although the effectiveness of these supporting measures has been limited, its usefulness can not be denied. Therefore, in future, these measures should be re-evaluated and adjusted to improve their usefulness.

Last but not least, production networks are not only an issue for enterprises in Vietnam, but throughout East Asia. Therefore, the development of production networks needs agreement of, and integrated solutions from all countries in the East Asian area. Hopefully, with their dynamism, East Asian SMEs in general and Vietnamese SMEs in particular will join more, and effectively participate in, the area's production networks.

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Appendix I. Perceptions of Barriers to SME Development

Unit: %

	Not significant	Little	Moderate	Significant	Very significant
1. INTERNAL BARRIERS					
a- ***Informational barriers***					
(1) Limited Information to locate/analyze markets/business partners	29.9	31.1	29.9	7.9	1.2
(2) Unreliable market data (costs, prices, market shares)	26.7	32.1	26.7	12.7	1.8
(3) Inability to identify and contact potential business partners	42.1	23.2	18.9	15.2	0.6
b- ***Functional barriers***					
(4) Lack of managerial time to identify new business opportunities	37.2	28.7	26.8	6.1	1.2
(5) Insufficient quantity of and/or untrained personnel for market expansion	30.9	16.4	26.1	23.6	3.0
(6) Lack of production capacity to expand	29.7	27.3	21.8	15.8	5.5
(7) Shortage of working capital to finance new business plan	22.6	15.9	26.8	23.8	11.0
(8) Difficulty in getting credit from suppliers and financial institutions	26.2	18.9	25.0	21.3	8.5
c- ***Product and price barriers***					
(9) Developing new products	35.4	20.1	28.0	14.6	1.8
(10) Adapting to demanded product design/style	35.4	25.6	23.8	12.8	2.4
(11) Meeting product quality/standards/specifications	33.5	29.9	19.5	12.2	4.9
(12) Meeting packaging/labelling requirements	47.9	29.4	18.4	3.1	1.2
(13) Offering technical/after-sales service	42.0	24.1	25.3	6.8	1.9
(14) Offering competitive prices to customers	18.2	23.6	24.8	20.6	12.7
(15) Difficulty in matching competitors' prices	20.7	23.2	23.2	23.2	9.8

(16) Anti-competitive or informal practices		34.4	27.0	24.5	10.4	3.7
d- *Distribution, logistics and promotion barriers*						
(17) Complexity of production value chain		39.6	23.8	21.3	13.4	1.8
(18) Accessing a new production chain		36.8	27.0	22.7	11.7	1.8
(19) Establishing and maintaining trust with business partners		36.6	27.4	19.5	12.2	4.3
(20) Unavailability of inventories/ warehousing facilities		59.5	20.9	14.1	3.1	2.5
(21) Excessive transportation/insurance costs		47.8	23.0	15.5	9.9	3.7
(22) Participation in promotional activities to target markets/business partners		27.4	31.1	24.4	15.2	1.8
2. EXTERNAL BARRIERS						
a- *Procedural barriers*						
(23) Unfamiliarity with complexity of procedures/paperwork		23.3	28.8	30.7	12.3	4.9
(24) Difficulties in enforcing contracts and resolving disputes		39.9	25.8	20.2	11.7	2.5
(25) Lack of home government assistance/incentives		26.2	28.0	24.4	**15.9**	5.5
(26) Unfavourable home rules and regulations		31.9	28.2	24.5	12.3	3.1
(27) Unfavourable host/foreign rules and regulations		49.1	25.2	16.6	6.1	3.1
b- *Business environment barriers*						
(28) Poor/deteriorating economic conditions	Home market	24.2	24.2	30.6	16.1	4.8
	Foreign market	40.8	23.2	15.2	10.4	10.4
(29) Inadequacy of basic and IT infrastructure	Home market	42.7	24.2	23.4	6.5	3.2
	Foreign market	58.4	18.4	12.8	7.2	3.2
(30) Political instability	Home market	80.8	9.6	7.2	0.8	1.6
(31) High tax and tariff barriers	Home market	41.7	22.8	19.7	11.0	4.7
	Foreign market	59.4	16.4	11.7	9.4	3.1

(32) Inadequate property rights protection	Home market	65.4	18.1	11.0	4.7	0.8
	Foreign market	73.0	12.7	9.5	4.8	0.0
(33) Restrictive health, safety and technical standards	Home market	55.1	26.8	13.4	3.9	0.8
	Foreign market	61.1	16.7	11.1	7.9	3.2
(34) High costs of Customs administration, in exporting or importing	Home market	45.3	20.3	21.9	9.4	3.1
	Foreign market	53.5	18.1	18.1	6.3	3.9
d- *Other barriers*						
(35) Perceived risks in your current and new business operations		33.5	31.1	22.4	8.1	5.0
(36) Lack of the perceived benefits from joining production networks		41.0	28.6	23.0	6.8	0.6
(37) Willingness to adopt new business strategy or ideas		32.7	26.5	26.5	9.9	4.3
(38) Other barriers (please specify)						