

# Collaboration between the Japanese Manufacturers and the Local Suppliers in Vietnam

Chunwei Lu, George Yungchih Wang, and Enhou Zu

**Abstract**—Various academics began to consider the possibilities of collective and collaborative strategies. Under the growing complexity of the business environment states, firms must consider a new level of planning collective strategy. The collective approach helped enhance the awareness of organizational nuances that were so important in controlling the environment. The simultaneous developments involved the globalization make alliances necessary. To compete in the global arena, firms should find partners that can help amortize the immense fixed costs. And collaborations meant to acquire new technologies, or skills, and collaboration as competition in a different from learning from partners was paramount. This research explored the relations between foreign direct investments by Japanese manufacturers in Vietnam and the local suppliers. Base on collaboration and supply chain theories, a specialist questionnaire was utilized to evaluate the relationships between the Japanese manufactures and the local suppliers in Vietnam. This study found that from the view of vertical integration, Japanese manufacturers in Vietnam collaborated with local suppliers enhanced both of them to prepare future more clearly and faithfully. The finding indicated that Japanese manufacturers in Vietnam thought local suppliers were reliable and they would like to make long term collaborations with their local suppliers. The implication of this study was to enhance on communication between Japanese manufacturers and local suppliers improve the collaboration closely.

**Keywords**—Collaboration, Communications, Strategic Alliance, Supply Chain, Foreign Direct Investment

## I. INTRODUCTION

THE year 2013 was the 40th anniversary for establishing diplomatic relations between Japan and Vietnam. Vietnam was one of the fastest growing Asian Economy with a consistent growth rate of 7.00% during the 2003 to 2006. And, its Gross Local Product (GDP) growth was around 6.78% in 2010, around 5.70% in 2011. During last decade, Vietnamese government had adopted radical economic decisions which had

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helped in eradicating poverty and improving the economic condition of Vietnam. Vietnam had a population of 86 million, and due to its enormous economic and political reforms, the country was moving towards the economic boom. Under the circumstances of the economic globalization, Japanese manufacturers faced with more challenge and competition. They must overcome the core challenges as they attempted to go global. Their immediate challenge was to break out of the mind-set that they could not compete successfully on the global stage. Growth of firms was important, and research and development were crucial lessons for firms.

Michael E. Porter referred World Bank data from 2002 to 2005, data for World Economic Forum, and data from Executive Opinion Survey in 2005; then he compared the data from 116 countries in the world, the results of comparison among America, Germany and Japan were sorted as follows [1].

Table 1 Countries Profile: Competitiveness Ranking (2005) [1]

Items	United States	Ranking	
		Germany	Japan
• <b>Growth Index</b>	2	15	12
<b>Economic Macro Environment</b>	23	28	42
Stability of Macro Environment	47	65	78
Government Waste	20	37	68
Credit Rating of Nations	6	10	19
<b>Infrastructure Index</b>	18	8	14
Agreements and Laws	20	6	21
Corruption	14	20	8
<b>Technology Index</b>	1	16	8
Innovation	1	9	5
Information System	3	20	17
<b>Doing Business</b>	1	3	8

From Table 1, at technology index, Japan was ranked the 5th. According to Kojima [2], in general, technology transferred by Japan to developing countries was not so specific in technical nature. It was given in the form of know-how or in the form of general industrial experience, covering wide spectrum of production activities such as assembly techniques, material

selection, combination, and treatment techniques, machine operation and maintenance techniques, provision of blueprints and technical data, training equipment, quality and cost controls, and inventory management.

Table 2 Research and Development Ranking (score from 1 to 7) [1]

Items	Countries Scores			Average of the world
	United States	Germany	Japan	
Technology Readiness Index	6.5	5.9	6.3	3.7
Technology Development (firms)	6.3	5.6	6.2	4.5
Expenses on R&D (firms)	5.9	5.8	5.8	3.3
Collaboration with Local Universities	5.7	5.1	4.6	3.1
Information System (governments)	5.3	N/A	5.5	4.4
Patent Pending in 2004 (one million/times)	283.7	130.7	276.6	N/A

From Table 2, Japan had gotten more than 260 times/million patent pending in 2004.

Joel and David [3] quoted a study of joint ventures in Japan by McKinsey & Company's Tokyo office indicated that two-third of the venture between Japanese and foreign companies operating in Japan had been sold to the Japanese partner upon termination. In part, that was because Japanese companies tended to focus more closely on absorbing their partner's capabilities.

Most Japanese manufacturers invested in Mainland China, Thailand, and India. Wages in China had risen 300% in the last 15 years, and now Vietnamese factory workers made 55% less than their counterparts in China. As a result, lower cost Vietnam was poised to become the new manufacturing centre of Asia. According to Porter's value chain, primary activities from inbound logistics to services and support activities from infrastructure, human resource to technology were the values that exceed the cost of activities. Nevertheless, despite being rather a new sector in Vietnam, logistics and the infrastructures had proved their importance in the country's socio-economic developments. These developments of their potential services were facing many big challenges.

In Vietnam, logistics developments helped to ensure both time and quality for firms' activities and their services. Nevertheless, the Vietnamese logistics industry was coping with several difficulties, including weak transport infrastructure,

weak electric power, water problems, and a large volume of inventory, complicated administrative procedures and high investment fees for services. In a developed economy, companies often used logistics for transport and distribution; however, Vietnamese businesses had a habit of self-controlling the supply chain system. Therefore, they did not gain strong results from their operations. These were big barriers for the development of the logistics sector in Vietnam. Given the circumstance of a developing economy, how Japanese manufacturers in Vietnam collaborated with local suppliers was emphasized in this study.

## II. LITERATURE REVIEW

In recent years, it had often been said that FDI (foreign direct investment) enabled managers and workers in the recipient country to acquire know-how and technology faster than would otherwise be possible. It might also enable new entrants to learn about export markets, stimulate competition with local firms, and provide training for workers, thus, FDI was supposed to be less volatile, and offer not just capital but also access to modern technology and know-how [2].

As companies moved towards increased global competitiveness, supply chains faced new issues and challenges. These included increasing demands to reduce costs, increase quality, improve customer service and ensure continuity of supply [3, 4]. Firms built capabilities by reflecting on the value of business activities and applying integrative principles that allowed multiple processes to be synchronized [5]. Therefore, firms had to integrate with suppliers and customers [6]. By collaboration, firms can find innovation, teamwork, and the creation of new strategies which became vital for the organizations [7].

With the competitive global environment, firms were faced with the question of where and how to launch their operation in world markets or to expand and to integrate their existing international operations. Some of them determined to collaborate with their partners. Supply chain management (SCM) had been exploded onto the business scene as one of corporate management's major concerns over the past decades. Almost 70% of firms' sales revenues were, on average, spent on supply chain-related activities from material purchases to the distribution and services of finished products to the end customers had become an essential prerequisite to stay in the competitive global environment for more profitable. Firms with the most competitive supply chains were and will continue to be the big winners in contemporary business. Williams et al. [8, 9] conducted the impact of an electronic supply chain on the current and future structure of strategic alliances, partnerships, and logistics leadership. SCM had become a key to competitive advantage. There were six dimensions on SCM practices, including strategic supplier partnership, customer relationship, information (technology) sharing, information quality, internal lean practices and postponement. Moreover, motivation to gain efficiencies from external resources was crucial factor to affect the core competence of firms [10, 11, 12].

Many studies had been conducted on competitiveness, collaboration, FDI, and supply chain. In order to get competitiveness, strategy took into account the long-term interests of a company in determining suitable business and operational policies. Agility in manufacturing could be achieved through supply chain partners [13, 14, 15]. The purposes of FDI were resource-seeking, market-seeking and efficiency-seeking. Kojima [2] conducted that most of Japanese invested to developing countries in Asia was less capital-intensive or to put it more appropriately, was highly labour-intensive, a great deal of manpower being involved on the part of both the investors and transferees.

This research focused on the relations between the foreign investments by Japanese manufacturers in Vietnam and the local suppliers; therefore, the supply chain collaboration was a point in this study. In addition, this research examined relations between Japanese manufacturers (wholly-owned subsidiary and international joint venture) in Vietnam and local suppliers. And how the two different types of FDI effected the relations were analyzed.

#### A. Value Chain

Firms needed to develop a unique set of skills that other organization do not have. This kind of abilities were supposed to be incorporated into the business's activities, but attaining them requires a detailed analysis of these very activities, which M. E. Porter groups under another fundamental notion in his thought-the value chain. Porter introduced a generic value chain in 1985. Value chain focused on cost management efforts and allows alignment of process with customers. It provided for efficient process which improves the timeliness of operations. The following drawing was of the value chain model [16].

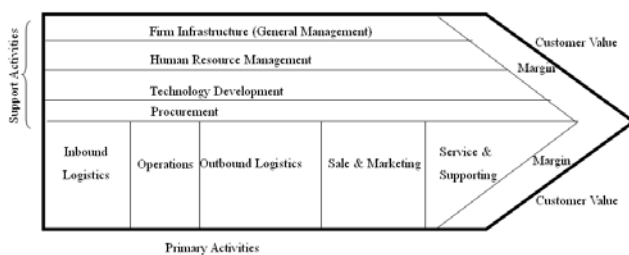


Fig.1 Competitive Advantage Value Chain Model [16]

The primary activities of value chain were inbound logistic, operations, outbound logistics, sales and marketing, service and supporting; and the support activities were general management, human resource management, technology development and procurement. The goal of these activities was to offer customers a level of value that exceeded the cost of the activities, thereby resulting in a profit margin. Multiple infrastructures increased costs at all levels, with respect to operations, maintenance/support, security and services [17]. Because technology was employed to some degree in every value creating activity, changes in technology can impact competitive advantage by incrementally changing the activities themselves or by making possible new configurations of the value chain.

Technology and value chains were explained as follows:

(1) Inbound logistics technologies: it included material handling and storage, transportation, communications, educations, testing and information systems.

(2) Operations technologies: it includes process, educations, material inspections, machine tools, packaging, maintenance, and testing, building design and operation and information systems.

(3) Outbound technologies: it included transportation, educations, material handling, packaging, communications and information systems.

(4) Marketing and sales technologies: it included media, advertisements, communications, educations and information systems.

(5) Service technologies: it included testing, educations, communications, customer/distribution services and information systems.

The business unit was the appropriate level for construction of a value chain, not the divisional level or corporate level. Products passed through all activities of the chain in order, and at each activity the product gains some value. The chain of activities gave the products more added value than the sum of added values of all activities. It was important that not to mix the concept of the value chain with the costs occurring throughout the activities.

According to Porter's value chain, primary activities from inbound logistics to services and support activities from infrastructure, human resource to technology were the values that exceed the cost of activities, thereby resulting in a profit margin.

Rui [29] pointed out the commanding direction for industries and firms which had ambitions on improving their international competitiveness. China realized that the labor force of a country, especially in China, is no longer a competitive advantage; or China needed foreign investments to achieve and emerge the labor force. He found that the current competitiveness of an international industry must prepare three terms:

(1) The quality of labor force was getting important.

(2) Open innovation and technology improvement were the main points in strategic alliances.

(3) The role play of planning in sources distribution was increased for firms.

#### B. Innovation and Supply Chain

Hosein and Thomas [19] pointed out that much of the competitive advantage due to the globalization of the supply chain and value chain functions and "lean manufacturing" slowing disappeared as global companies converge to a similar management models. Today, business with a supply chain strategy required integration, and it based on value chain that firms integrated with customers and suppliers in value chain. Companies were competing more and more on their ability to innovate effectively and efficiently. To compete, FDI had to integrate globally dispersed technological and market know-how to innovate products, services and process for the global market. To achieve cost advantage in operations,

companies continued to the search for cheaper labours and better materials. The fact that many companies were present in clusters around the worlds was not an accident. The precondition for global innovativeness was access to market and technology know-how. Hosein and Thomas conduct the trend in globalizing the different functions of the value chain was depicted in Figure 2.

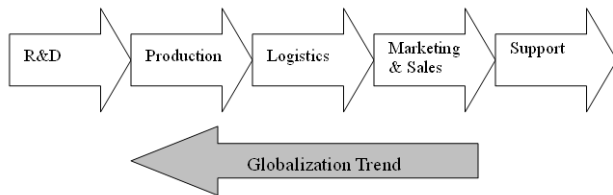


Fig. 2 Tradition Trend in Globalization [19]

According to Hosein and Thomas, many successful global corporations today, as companies grow, they changed their strategies to address the new competitive conditions. The evolutionary process depicted in Figure 3.

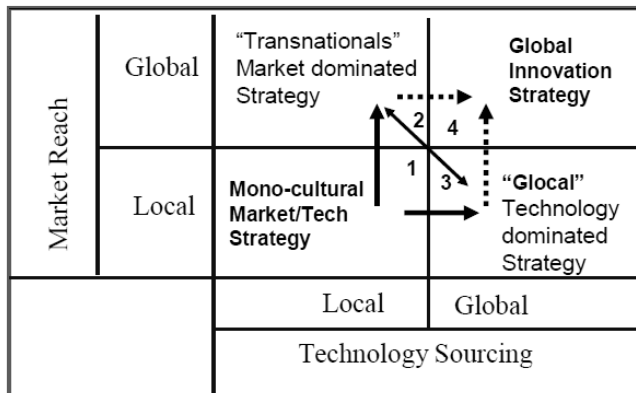


Fig. 3 Typology of Global Innovation Strategies [19]

Figure 3 showed the important between technology sourcing and market research. "1" showed the traditional local started up stage of a company that may evolve later into in international or global corporation. The strategies were around local technology serving local markets. "2" showed a natural process for successful companies to start to export their goods to the other countries. The company may create an international market organization to meet the specific needs of the different markets to offer the needed support services. "3" most of dominant companies and traditional companies had followed this strategy. In cases, where significant customization was required to adopt products to new markets, being close to the customer have proven more effective. "4" was an entirely new approach to management of innovation. This was inevitable as competitive pressure and increased cost of doing business with expanded operations globally, force them to retreat back to their comfort zone, before trying again. Therefore, clearly communicating performance expectations and realizations were important means in improving supplier performance.

Technology alliance was defined as technological

collaboration in some researches and reflects the nature that two or more partners contribute differential resources and technological know-how to jointly agree and develop their innovation that aimed of such a collaboration activity.

A supply chain could be defined as an integrated process consists of a number of various business entities including suppliers, manufacturers, distributors, and retailers. Firms worked together in an effort to acquire raw materials, converted them into specified final products, and finally delivered these final products to retailers then to final customers [20]. According to Beamon, there were 3 supply chain model issues as following:

- (1) Product Postponement: the practice of delaying one or more operations to a later point in a supply chain, thus delaying the point of product differentiation was occurred.
- (2) Global vs. Single-Nation Supply Chain Model: Global supply chains were supply chain that operated in multiple nations.

(3) Demand Distortion and Variance Amplification: it was a phenomenon in which "orders to the supplier had larger variance than sales to the buyer" and variance amplification occurred when the distortion of the demand happened-propagates upstream in amplified form. As a result, a number of strategies had been developed to counteract the effects of demand distortion and variance amplification.

Responsive supply chain (RCS), named collaborative network of partners, was conducted in 2008 [21, 22]. Since a supply chain is primarily developed for lean production with the aim of achieving reductions in cost by eliminating non-value adding activities, it lacked speed and flexibility. By RCS, speed can be improved and it was defined as strategic planning, virtual enterprise, and knowledge and IT management [23]. RCS was illustrated in Figure 4.

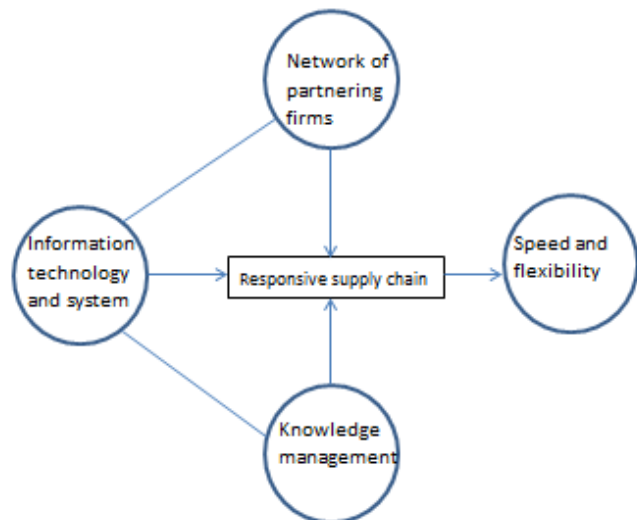


Fig. 4 Responsive Supply Chain (RSC) [23]

RSC organizations should possess the capability of a learning organization. For the purpose, information technology could be used along with a suitable organizational structure that

promotes innovation, training and education. In a global operation environment, the communication should be standardized to improve the cooperative supported work [23].

### C. Defining Collaboration

In order to help firms to keep of some issues related with strategic alliance, James, Benjamin and Michael [24] designed the “arc of alliance strategy”, and it was shown in Figure 5.

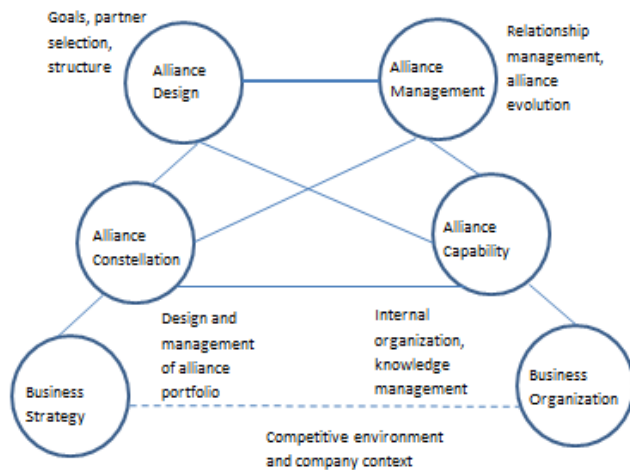


Fig. 5 the Arc of Alliance Strategy [24]

Although mastery of these individual elements of alliance strategy was essential, it was the overall workings of the arc that drive to the success. Within the arc, the strongest links were the cooperation spirit between alliance design and management. The success of one clearly depended on the other. The design must set the stage for management, and management must strive to bring to fruition the goals set at design. These two elements applied to every alliance of the firm, and carry roughly equal weight in the success of any given alliance. On the left side, constellation design always set the stage for the design of individual alliances, because it influenced goals and partner selection criteria. On the right side, the firm’s alliance capability often determined how it would tackle alliance management.

In 21st century, there were characteristics of capitalism that made it entirely different from its predecessors. Historically, collaboration strategists were not particularly concerned with business models, because each industry had a stand model, and strategists assumed the model in that industry. However, collaboration activities can dramatically reduce search, coordination, contracting, and other transaction costs between firms. Through collaboration, customers and suppliers can get greater power because of their increased access to information, enhanced ability to communicate with each other, and greater freedom of choice-collaboration choice.

According to Rosabeth [25], alliances between companies, whether they were from different parts of the world or different ends of the supply chain, were a fact of life in business today. Some alliances were no more than fleeting encounters, lasting only as long as it took on partner to establish a beachhead in a

new market. Others were the prelude to a full merger of two or more companies’ technologies and capabilities. Learning how to learn and how to collaborate was important for partners. Also operational dissimilarities require working out more communication than anyone could have anticipated. It was important to establish many interpersonal relationships between partners helped resolve small conflicts before they escalate.

Collaboration should be stressed that the partners of a strategic alliance need “not” have common goals. They may have different goals. What important was that the goals were known and that it was agreed that the different goals can be fulfilled within one and the same strategic alliance [26].

For firms seeking to innovate within their supply chain, it was important that in entering into relationships, the firms that need to innovate ensure the relationship allowed them to acquire additional knowledge and build capabilities that add to their innovative capacity. Soosay, Hyland and Ferrer [6] distinguished collaboration types to be five parts.

(1) Strategic Alliance: strategic alliances were broadly viewed as a particular mode of inter-firm relationships intended to be long-term, in which two or more partners share resources, knowledge and capabilities with the objective of enhancing the competitive position of each partner [27]. A core for strategic alliance was that the firms possess resources attractive to others and that the partners have access to the resources and capabilities of each other [28]. In other words, firms cooperate to compete. They did not collaborate to circumvent competition.

(2) Joint Ventures: Joint ventures were traditionally used to develop new market opportunities [29] in which the firm, looking for a new market often provides goods or services, marketing strategies and financial capability whilst the local party contributes with market knowledge, labour and access to public and private sector networks [30].

(3) Cooperative Arrangements: Many organizations sought cooperative arrangements with other organizations in response to fast changing technology, a competitive environment, a widening of sourcing capabilities and organizational strategies [31, 32]. It was important to gain an understanding of the significant differences among the cooperative relationships and the conditions, where partners can be formed to ensure effectiveness.

(4) Virtual Collaboration: Virtual integration refers to a temporary tightly coupled collaboration effort between independent entities (suppliers, customers, competitors) that were linked by communication technology. And the technology facilitated the sharing of costs, skills and access to global markets [8, 33].

(5) Vertical, Horizontal and Lateral Integration: They had the results in reduced logistics and administration costs for individual organizations; improved procurement terms through group purchasing power, lowering of the fixed costs of indirect labour; and improved access to markets because continuity of supply can be assured.

This study listed the previous definitions for collaboration as

below:

Table 3 The Definitions for Collaboration

Studies	Definitions
James (1985) [34]	The alliances involve some measure of inter-corporate integration-less integration than a merger but more than a simple buy-sell relationship.
Grant (1991) [35]	Sustainability and appropriate ability are the two main items to examine how long an organization create competitiveness.
Barney (1997) [36]	Strategic alliance meant two firms cooperate on research and development, manufacturing or marketing service. The purpose was to gain a source of competitive advantage.
Kale & Singh (2007) [37]	The knowledge sharing aspect of the alliance learning process helped firms to build their alliances skills and thereby manage alliances more successfully.

These research formed parts of a large study on benefits from collaborate with local suppliers for Japanese manufacturers in Vietnam. According to the most references, FDI depended on respecting local culture to integrate local resources and firms' core value to apply to firms' distant views. Therefore, we defined collaboration between FDI and local supplier brought innovation for both companies in order to get competitiveness.

III. METHODOLOGY

According to Ichikawa [38], most of Japanese manufacturers invested Vietnam as 100% wholly-owned subsidiary, and most of them were export processing type. Most of joint venture firms sought for local market. The percentage of wholly-owned subsidiary and joint venture of Japanese manufacturers in Vietnam from 1990 to 2004 was showed in Figure 5. Light grey was the percentage of wholly-owned subsidiary.

Figure 6 showed that since 1997, the Japanese manufacturers invested Vietnam as wholly-owned subsidiary was greater than 50%, and in 2004, it was greater than 89%.

In order to drive costs down, Japanese manufacturers invested overseas. Some of their products were sold to local markets and some of them were exported to Japan or other countries. Moreover, recent years, Japan firms invest Vietnam much more than China or Thailand, because they know the value of being able to tap into Vietnam's cheap labour force. Regarding literature review, collaboration was a kind of knowledge sharing made innovation for the partners. In a partnership, both customer and supplier commit to continuous improvement and shared benefits. To maximize benefits, complementary activities and behaviours must be exhibited by both partnering organizations. Problems may occurred in the areas of joint buyer-supplier cost reduction, supplier integration

into the new product-development process, logistics management, and core value of business strategies. Furthermore, the cultural changes and government's attitude in both organizations must accompany successful collaborative relationships [12].

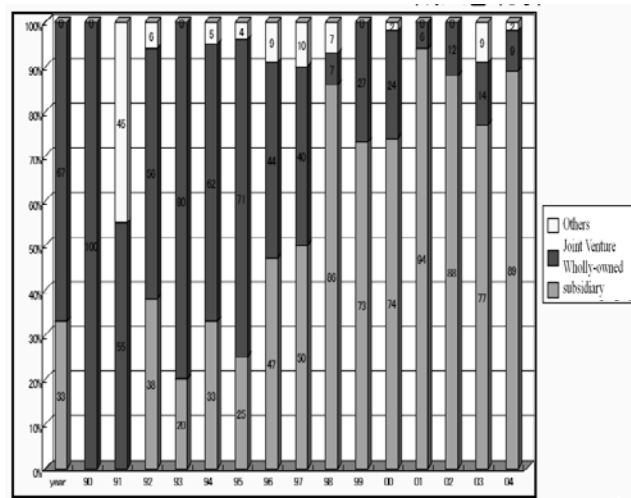


Fig. 6 The Ratio of Wholly-owned Subsidiary and Joint Venture of Japanese Manufacturers in Vietnam [38]

This study focused on how different types-joint venture and wholly-owned subsidiary affected their relations. The framework of this study was exhibited in Figure 7.

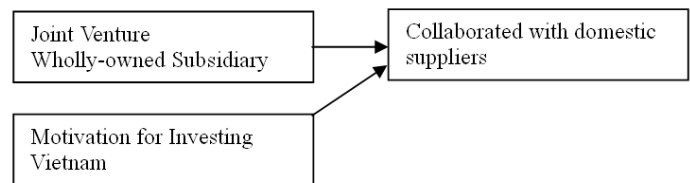


Fig. 7 the Framework of this Study

Moreover, the research questions addressed in this paper were as follows:

- How Japanese manufacturers in Vietnam collaborated with their local suppliers?
- Did their local supplier support them as well?
- Were the relations differently between two types of FDI (joint venture/wholly-owned subsidiary types of Japanese manufacturers) and local suppliers?

A. Hypothesis

According to the framework of this research, the hypotheses were as follows.

H1: The motivation for investing in Vietnam of Japanese manufacturers was lower labour force.

H2: Different types of FDI (joint venture or wholly-owned subsidiary) affected the collaboration with local suppliers.

B. Research Methods

We examined the details of the establishment years of firms, the capitals, and the motivations of investing to Vietnam. Total

of 194 foreign direct investments for Japanese manufacturers in Vietnam were chosen from the data of 2008 Data Bank Series (published by Toyo Keizai Inc.) [39]. And 71 effective returns were received in August 2009. According to reviews of Japanese papers and previous experiences, most of Japanese firms did not want to enclose their information or answer questionnaires to the others except that they know the scholar as well; effective returns less than 50 were common. Lehr's equation showed that while numerator for sample size formula-two sided alternative hypothesis with type one error and  $\alpha=0.05$  and power 0.80, 29 sample size was needed.

Cronbach's  $\alpha$  was a measure of how well each individual item in a scale correlates with the sum of the remaining items. Cuieford [40] pointed out that Cronbach's  $\alpha$  coefficient of 0.7 referred to high intensity of reliability. And the one between 0.7 and 0.35 referred to acceptable standard. Once Cronbach's  $\alpha$  coefficient lower than 0.35, it meant rejected validity. The reliable analysis of 71 effective returns was 0.782. It was reliable to do analysis [41, 42].

The software-SPSS version 12.00 was used for analysing. Likert scale [43] was used in this research, and there were 27 questions on asking how Japanese manufacturers in Vietnam collaborated with local suppliers.

Both descriptive statistics (average scores) and inferential statistics were used in this study. Analysis of Variance (ANOVA), or F test, compared whether the average values or levels of one variable (dependent variable) differ significantly across the categories of another variable or variables (independent variable), the way in which ANOVA calculated this was to see how the values that go into making up the means in each category were dispersed [42]. If the variance in each category was very high, the chance of a person with a high or low value being in any one particular category was not large and therefore there probably was not a significant difference between groups. ANOVA compared the variance between groups with the variance within groups to arrive at a number called the F-ratio. The greater the variance between groups in comparison to the variance within groups, the larger the F-ratio [42]. Hence, F-ratio can be seen as a number whether the difference between groups was significant. Generally, one-way ANOVA was used for assessing one independent variable with three or more independent/related groups. Then post-hoc comparisons could be used for comparing the means and differences [43, 44].

#### IV. RESULTS

The average scores of the 27 questions were sorted in Table 4 as follows:

Table 4 Average Scores of 27 Questions

Questions	Average	Standard Deviation
1. In order to cost down, your local suppliers set warehouse or assembling factory where near your company.	2.57	1.16
2. If your company moves to the other place, it will cause negative effects on your procurement activities.	2.61	1.16
3. If your company departs from the current local suppliers, it will make your local business activities in trouble.	2.39	1.43
4. If your company departs from the current local suppliers, it will make your turnover in trouble.	2.74	1.47
5. It will bring profits to your company when you focus on local marketing.	3.71	1.18
6. If your local suppliers would like to lend the equipment to your company, it will make your company more competitive than the other competitors.	2.80	1.19
7. Your local suppliers are experiential and they can support your business activities more smoothly.	3.71	1.19
8. Collaborating with local suppliers make your company gets new technologies.	2.86	1.13
9. Collaborating with local suppliers make your company earns more acknowledge.	3.39	1.21
10. The acknowledge learning from collaborated suppliers only can be used in specific industry.	2.70	1.08
11. It is important that your local suppliers have famous and high appraisal brands.	2.73	1.10
12. One of the reasons for your company collaborating local suppliers is they have famous brands.	2.42	1.32
13. Your local suppliers always support your company.	3.49	1.22
14. If there is any emergency problem happened, without local suppliers, your company cannot resolve the problem.	3.01	0.81

15. One of the reasons that you collaborate with local suppliers is they can support your company to adapt to rapid changes of local external business environment.	3.27	1.18
16. When your company addresses claims to your local suppliers, they can reply their countermeasures to you immediately.	3.17	1.11
17. The local suppliers cannot be replaced.	3.43	1.11
18. Your local suppliers sometimes postpone their deliveries make you in trouble.	4.55	0.83
19. Your company wants to make long term collaborations with current local suppliers.	4.14	0.86
20. In the processes of collaborations with local suppliers, if there is any problem occurred, your local suppliers always contact to you immediately.	3.82	0.96
21. Information from your local suppliers is reliable.	3.69	0.88
22. In the processes of collaboration with local suppliers, your company and your local suppliers share resources to each other.	3.61	0.81
23. In order to maintain the collaborated relations, your company invests resources in your local suppliers.	2.96	0.97
24. You think that the communication between your employees and your local suppliers must be improved.	4.03	0.96
25. In the processes of collaboration with local suppliers, it brings costs down to your company.	3.93	0.84
26. In the processes of collaboration with local suppliers, claims from your customers are reduced.	3.73	0.95
27. In the processes of collaboration with local suppliers, it shortens operation time effectively.	3.86	0.94

From Table 4, question a. and b. could be answered: collaboration with local supplier perceived by the Japanese manufacturers in Vietnam was high (average score: 4.14). Moreover, Japanese manufacturers in Vietnam thought that in

the processes of collaboration with local suppliers, it brought benefits to costs down, less customers' claims and shorted operation time for them. However, they were worry about the postponing deliveries of their local suppliers.

The summary statistics of the questionnaire were displayed in Table 5:

Background information of objects	Percentage
<b>The Position of Answers</b>	
•CEO/President/General manager/Vice general manager	71.95%
•Manager/Assistant manager/middle-high level manager	14.63%
• The others (assistant)	13.42%
<b>Establishment years:</b>	
Jan. 1991~Dec. 1995	18.29%
Jan. 1996~Dec. 2000	35.37%
Jan. 2001~until now	46.34%
<b>Capital: (Japanese Yen)</b>	
Less than 50 million	42.69%
50 million ~ 100 million	20.73%
100 million ~ 500 million	30.49%
500 million ~ 1 billion	4.87%
1 billion ~ 5 billion	1.22%
More than 5 billion	9.76%
<b>Motivations for investing in Vietnam:</b>	
•Governments (Japan and Vietnam governments' promotion)	3.04%
• Labour (salaries in Vietnam are cheaper than in Japan)	23.78%
• Logistical services	
• Local market	2.44%
• Easy to export goods	17.07%
• Same business promotion	5.49%
• Globalization	1.83%
• The other reasons	33.54%
• Cannot be answered	2.44%
	10.37%
<b>Average employees' age</b>	
Male	27 years
Female	25 years

Most of the manufacturers were established in Vietnam after Jan. 1996. And the motivations for investing in Vietnam were labour, local market and globalization. Globalizations meant under the economic globalization, depended on value chain, firms were not only focus on their local business activities but also expand their business globally. And globalization took 33.54% higher than labour force. H1 was not significant.

In order to understand would different motivation [45] of Japanese manufacturers investing Vietnam affect their relations with local suppliers, the motivations were separated to be labour force (code: 2), local market (code: 4), globalization (code: 7) and the others (code: 1). There were 27 questions and only the



significant results of one-way ANOVA were showed in Table 6.

Table 6 Motivation on Investing Vietnam to Collaborate with Local Suppliers

Item	Average	F-value	p-value	Comparing by average
5. It will bring profits to your company when you focus on local marketing.	3.71	2.220	0.044	4>1>7>2
10. The acknowledged learning from collaborated suppliers only can be used in specific industry.	2.70	3.067	0.034	1>4>2>7
11. It is important that your local suppliers have famous and high appraisal brands.	2.73	7.313	0.000	1>4>7>2
16. When your company addresses claims to your local suppliers, they can reply their countermeasures to you immediately.	3.17	2.409	0.030	1>4>7>2
21. Information from your local suppliers is reliable.	3.69	2.235	0.043	4>7>1>2
22. In the processes of collaboration with local suppliers, your company and your local suppliers share resources to each other.	3.61	2.387	0.032	1>4>2>7

From Table 6, Japanese manufacturers in Vietnam with the motivation on investing Vietnam was “local market” emphasized on collaborate with local suppliers more than the others.

By questionnaires, the average score of Japanese manufacturers in Vietnam respected local management was 3.67 (score from 1 to 5). And the results of percentage on proceeding local management currently were sorted in Table 7.

Table 7 the Percentage of Proceeding on Local Management

Items	Percentage
• Research and development	4.90%
• Producing locally	17.10%
• Selling products locally	14.66%
• Hire local employees	61.00%
• Others	2.40%

Comparing Table 5 and 7, the motivation of Japanese manufacturers investing in Vietnam was globalization (33.54%) and labour force (23.78%). And about proceeding on local management, “hire local employees” got the highest percentage which meant that “labour force of Vietnam” was a crucial factor that attracted Japanese manufacturers to invest in Vietnam.

There were 47 effective respondents of wholly-owned subsidiary and 24 effective respondents of joint venture. The turnoff average scores were in Table 8.

Table 8 Average Scores between Wholly-owned Subsidiary and Joint Venture

Question Number	Wholly-owned subsidiary (1) Joint Venture (2)	Average
1.	(1)	2.41
	(2)	2.87
2.	(1)	2.60
	(2)	2.65
3.	(1)	2.19
	(2)	2.78
4.	(1)	2.62
	(2)	3.00
5.	(1)	3.66
	(2)	3.83
6.	(1)	2.77
	(2)	2.87
7.	(1)	3.72
	(2)	3.70
8.	(1)	2.89
	(2)	2.78
9.	(1)	3.43
	(2)	3.30
10.	(1)	2.65
	(2)	2.78
11.	(1)	2.85
	(2)	2.60
12.	(1)	2.38
	(2)	2.47
13.	(1)	3.38
	(2)	3.70
14.	(1)	2.92
	(2)	3.13
15.	(1)	3.11
	(2)	3.61
16.	(1)	3.02
	(2)	3.43
17.	(1)	3.53
	(2)	3.22

18.	(1)	4.42
	(2)	4.69
19.	(1)	4.00
	(2)	4.44
20.	(1)	3.72
	(2)	3.91
21.	(1)	3.64
	(2)	3.78
22.	(1)	3.64
	(2)	3.57
23.	(1)	2.83
	(2)	3.22
24.	(1)	4.13
	(2)	3.83
25.	(1)	3.92
	(2)	3.96
26.	(1)	3.70
	(2)	3.78
27.	(1)	3.85
	(2)	3.87

From Table 8, we could see the different average scores between wholly-owned subsidiary and joint venture firms; in order to verify the different, t-test was used. When comparing the scores of the two groups, it was important to examine the difference between their mean scores relative to the spread or variability of their scores; the t-test statistic did this (Ciaran Action Robert Miller). The t-test was accessed to examine H2: Different types of FDI (joint venture or wholly-owned subsidiary) affected the collaboration with local suppliers. Only the significant results of t-test were sorted in Table 9 as below:

Table 9 t-test Results

Questions	t-test value	p-value
10. The acknowledge learning from collaborated suppliers only can be used in specific industry.	3.883	0.050*
12. One of the reasons for your company collaborating local suppliers is they have famous brands.	10.712	0.002*
18. Your local suppliers sometimes postpone their deliveries make you in trouble.	4.598	0.036*
20. In the processes of collaborations with local suppliers, if there is any problem occurred, your local suppliers always contact to you immediately.	4.453	0.039*

Note: \* means  $p < 0.05$

Joint venture firms perceived that “local suppliers sometimes postpone their deliveries made trouble” and “in the processes of

collaborations with local suppliers, if there is any problem occurred, your local suppliers always contact to you immediately” more than wholly-owned subsidiary. And although question 10 and 12 were significant, the average scores were low and near 2.50.

## V. CONCLUSION

### A. Conclusions and Implications

This study focused on what motivation of the Japanese manufacturers invested in Vietnam, and how different types-joint venture and wholly-owned subsidiary affected their relations and we assumed two hypotheses and three questions in this study. The examined conclusions were summarized as below:

H1: The motivation for investing in Vietnam of Japanese manufacturers was lower labour force-was not significant. The motivation of Japanese manufacturers invested in Vietnam was globalization (33.54%) and lower labour force was 23.78%.

H2: Different types of FDI (joint venture or wholly-owned subsidiary) affected the collaboration with local suppliers-was significant.

Furthermore, the three questions addressed in this paper and by analysing, the answers were summarized as follows:

a) How Japanese manufacturers in Vietnam collaborated with their local suppliers? Answer: Collaboration with local supplier perceived by the Japanese manufacturers in Vietnam was high (average score: 4.14). Moreover, Japanese manufacturers in Vietnam thought that in the processes of collaboration with local suppliers, it brought benefits to costs down, less customers' claims and shorted operation time for them. However, they were worry about the postponing deliveries of their local suppliers.

b) Did their local supplier support them as well? Answer: Yes. Japanese manufacturers wanted to make long term collaborations with their local suppliers (average score 4.14), and they thought that their local suppliers could not be replaced (average score 3.43). It might because local suppliers were experiential and they could support the business activities of FDI more smoothly (average score 3.71). And also in the processes of collaborations with local suppliers, if there is any problem occurred, they always contacted to FDI immediately (average score 3.82). Moreover, Japanese manufactures in Vietnam thought their local suppliers always support your company (average score 3.49).

c) Were the relations differently between two types of FDI (joint venture/wholly-owned subsidiary types of Japanese manufacturers) and local suppliers? Answer: through t-test analysis, Japanese manufacturers in Vietnam with the type of joint venture perceived that “local suppliers sometimes postpone their deliveries made trouble” and “in the processes of collaborations with local suppliers, if there is any problem occurred, your local suppliers always contact to you immediately” more than the type of wholly-owned subsidiary.

Notably, Japanese manufacturers were worry about their local suppliers sometimes postpone their deliveries that made

them in trouble. And they also thought that the communication between your employees and your local suppliers must be improved (average score 4.03) which conducted that enhancing on communication between Japanese manufactures and local suppliers might improve the collaboration closely. They could apply information system to improve communication between each other. Finally, the results of this study could be used as a guide for Japanese manufacturers to review, improve and enhance their collaboration with local suppliers in the future.

### B. Limitations

This research focused on collaboration between Japanese manufacturers in Vietnam and local suppliers. It was a vertical (upstream) relationship. According to literature review, there were many problems in Vietnam including weak transport infrastructure, weak electric power, water problems, and a large volume of inventory, complicated administrative procedures and high investment fees for services. However, these fields were not concerned in this study. And we will research these fields especially the logistic services in Vietnam in the near future.

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