Title of Paper

Human Resources Development in Promotion of Technical Skills and Technological level in Vietnam: Transfer of Technology from Japan

By Nguyen Huong Quynh [1]

A. Introduction

Human resources development is key for long- term national economic development, because the humans are the ones who produce, maintain and innovate production and the technology it needs.

In Vietnam, high technology has entered the country through FDI projects. When foreign firms invest in Vietnam, they built plants, as well as bring in capital, and technology. However it is low-technology due to several reasons. Firstly, the cost of labor in Vietnam is lower than the major ASEAN countries. Secondly, labor capability of Vietnam is also low, 80%[2] of the manufacturing labor is unskilled, and the foreign firms often choose Vietnam for the process of assembling final products, which does not require high technical skill from the labor. In order to improve the technical skills of Vietnam's human capital, the government needs appropriate FDI policies to utilize overseas technologies and technical education to grow a high skilled labor market.

The utilization of FDI as a means to improve domestic technology and local labor is a challenge for Vietnam. Among foreign investment to Vietnam, currently, Samsung has been the largest investor since 2009. Though an interview with Mr. Nguyen Van Dao, Vice – General Director of Samsung Vina, [3] it became known there several reasons that Samsung choose Vietnam for investment destination are Tax incentives for Samsung granted by the Vietnamese government (0% tax for 4 years), low-cost labor (10 times cheaper compared to South Korean labor), and the geographical location of Vietnam as it is close to China and South Korea, and products are thus easy to transport from suppliers. However, Samsung does not pay deliberate attention to enhancing the technical skills of the local human capital.

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[2] Employment Report 2014, Ministry of Planning and Investment, General Office of Statictis of Vietnam

[3] http://www.vietchuan.vn/chien-luoc-dau-tu-dai-hoi-cua-samsung-tai-thi-truong-viet-nam

Different from other countries, the tradition and philosophy of Japanese company are well-known for their willingness to enhance human resources wherever the company is located. This tradition of Japanese company has become motivation for the research. Moreover, Japanese technology which has been transferred in Southeast Asia as a factor to contribute to human resources development. Japan have a long historical interaction and support to Southeast Asian through Japanese organization and manufacturing firms. Thailand and Malaysia is a successful case in terms of utilizing technology transfer from Japan.

In Vietnam, technology transfer from Japan has been facing many challenges which is related to the skill level of Vietnam labor. The lack of skilled labor in manufacturing industry is a problem for transfer technology from Japan to Vietnamese local labor. The labor capability is low have made a gap between Japanese technical standard and labor capability, prevented Japanese firms to upgrade higher technology.

The objestives of the paper are the industry policy and education policy of Vietnam which enhance the technical skills for human capital. Moreover, this research purpose is the policy recommendation in order to respond to the technology transfer of Japanese machinery and skills to train the local labor force. Furthermore, the technology transfer from Japanese manufacturing firm to Vietnam labor and the relations between public-private partnerships Vietnam's quality of human resources can be raised.

This research is bearing these questions

1. How to facilitate in promoting technological from Japanese manufacturing firms?
2. What measures are to be introduced in promotion of technological transfer through human resources development by the development in Vietnam?

In order to analyse the factors which influence on the technical skill and technological level of one country's human capital, the paper based on endogenous growth model. The endogenous growth model explains that the economy has two sectors, namely manufacturing firms and universities. Firms produce goods and services and universities produces knowledge. Both of these contribute to the economy and technological progress.

$$Y = AK$$

Y is output, K is the capital stock and A is a constant measuring the amount of output produced for each unit of capital (Mankiw, 2016)

The endogenous growth theory found that investment in human resources, innovation and knowledge are contributors to economic growth, so the government will play an important role in terms of enhancing these factors for the long run growth rate of the country. The role of government will be based on the national policies which are related to education or research and development in order to promote human resources development. (Mankiw, 2016)

B. Discussion

1. The current status of the manufacturing industry and investment in Vietnam

1.1 Foreign direct investment (FDI) in terms of manufacturing industry development of Vietnam

FDI is one of the most important channels through which technology is transferred across countries and by encouraging foreign enterprise to establish local facilities, governments hope to generate the transfer of technology (OECD, 2013). In order to promoting technology transfer to Vietnam, the government need to focus on how to attract the FDI.

Vietnam have become the target of foreign direct investment with several reasons. Firstly, the stable political situation remained long-term investment to Vietnam. Secondly, Vietnam is located in the connection line between Southeast Asia and Northeast Asia, advantage for maritime, land and air transportation. Thirdly, Vietnam has a huge potential for labor forces and also for market with 94, 2 million[4] continued ranking the 3rd most populous country in ASEAN. Moreover, the cost for labor of Vietnam is relatively lower than the major ASEAN countries. [5]

Foreign direct investment have been investing to Vietnam with many sector, manufacturing regarded as the strongest sector with 1.012 projects in 2015.

Table 1: Foreign direct investment projects licensed in 2015 by kinds of economic activity by Kinds of economic activity and Items

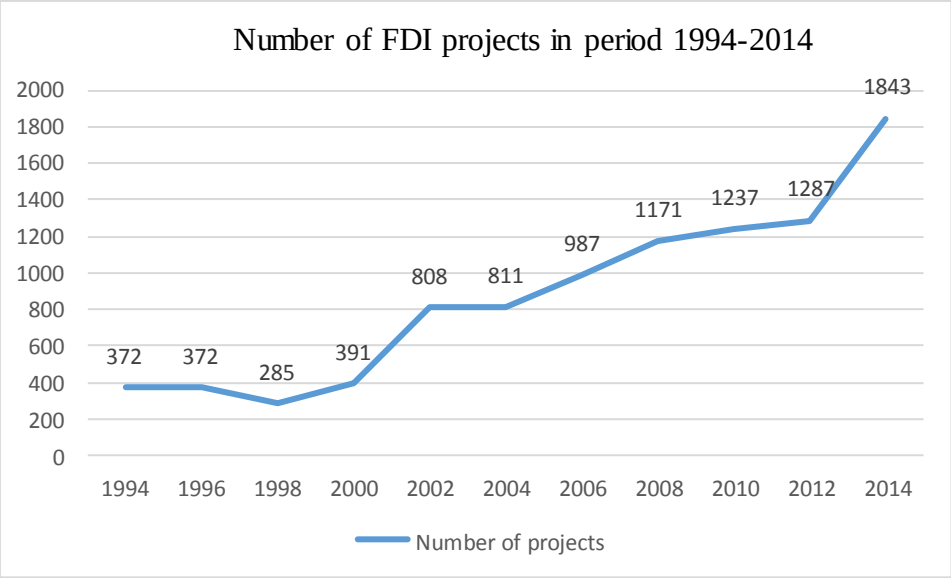
	Number of projects	**Total registered capital (Mill. USD)**

[4]http://www.worldometers.info/world-population/vietnam-population/
[5] http://fia.mpi.gov.vn/tinbai/5366/Diem-manh-trong-thu-hut-FDI-cua-Viet-Nam

Agriculture, forestry and fishing	17.0	258.0
Manufacturing	1,012.0	16,428.8
Electricity, gas, stream and air conditioning supply	10.0	2,799.4
Education and training	40.0	29.2

Sources: Source: General Statistic Office of Vietnam

Figure 1: Number of FDI projects in period 1994-2014



Source: General Statistic of Vietnam

The FDI project of Vietnam has been increasing from 1994 to 2014 but at present, many foreign manufacturing firms mainly focus on labor intensive assembly-type processing of final products which does not require sophisticated skills labor. Furthermore, assembly of the final product require simple skill from local labor and the host country couldn't get high technology from foreign investment.

The technology which can be transferred will rely on the foreign firms not the host country so that the host country government can only encourage and influence the process of technology transfer through supportive policy for FDI. There are several issues related to this problem, such as technology transfer requirements and FDI policy.

The technology transfer law for FDI to Vietnam

- 10% Corporate Income Tax rate shall be applied for foreign investors who invest new project within 15 years in the sector of high technology, scientific research and technological development
- Additional tax reductions can be offered for enterprises which are engaging in manufacturing, construction and transportation.
- According to Ministry of Finance regulations, annual depreciation rate will be provided for machinery and equipment from 5-50%
- Income tax exemption is granted to organizations and individuals that contribute new technology.
- Exemption of import tax on imported goods for direct use in research and development, including machinery, equipment, scientific documents and books.
- Enterprises which are investing in technology on the list of the technological innovation can apply for income tax exemption for four years provided that the total tax exemption value does not exceed 50% of the total investment cost[6]

In general, requirements in the law for technology transfer for FDI of Vietnam is not clear and detailed. In the industrial development strategy of Vietnam through 2025 mentioned that "from now through 2025, to prioritize the following groups of industries and products: machinery and equipment serving agriculture, automobiles and mechanical spare parts, and steel for production".[7] Vietnam government has not yet announced any industrialization strategy and technological innovation policy for these priority industrial sectors.

1.2 Technological skills development of Vietnamese human capital

1.2.1 Skilled labor in the manufacturing industry

In 2015, there were 1.467 vocational schools in Vietnam, consisting of 190 vocational colleges (3 years), 280 vocational colleges (2 years), 997 vocational secondary schools and 1000 training centres. Furthermore, there are 285 vocational schools belong to private firms which provide labor for industrial zones.[8] In Vietnam, skilled labor in the manufacturing industry usually graduate from vocational school which have provide the long-term course

[6] Article 44 of the Law on Technology Transfer

[7] http://www.chinhphu.vn/portal/page/portal/English/strategies/strategiesdetails?categoryId=30&articleId=10054959

[8] General Directorate of Vocational Training

from one to three year and short-term course for1 years. The vocational schools have contributed skilled labor and technical universities have provide engineers for manufacturing firms which are located in industrial zone. In 2015, there are 304 industrial zones in Vietnam. In 2015, these industrial zones attracted to 2,6 million labor but 80% of the workers are unskilled labor. [9]

Table 2: Technical level of employment of manufacturing industry from 2009 to 2015

	2009 (%)	***2010 (%)***	***2011 (%)***	***2012 (%)***	***2013 (%)***	***2014 (%)***	***2015 (%)***
Unskilled labor	..	85,4	84,5	83,4	82,1	81,8	80,1
Graduates vocational school (3 months)	4,8	3,8	4,0	4,7	5,3	4,9	5,0
Graduates vocational school (2 years)	2,7	3,4	3,7	3,6	3,7	3,7	2,5
Graduates technical college (3 years)	1,5	1,7	1,7	1,9	2,0	2,1	2,5
Graduates engineering students	5,5	5,7	6,1	6,4	6,9	7,6	8,5

In 2015, there are 1.467 vocational schools in Vietnam, consisted of 190 vocational colleges (3 years), 280 vocational colleges (2 years), 997 vocational secondary schools and 1000 training centres. Furthermore, there are 285 vocational schools belong to private firms which provide labor for industrial zones. [10] In Vietnam, skilled labor in terms of manufacturing industry usually graduate from vocational school which have provide the long-term course from one to three year and short-term course for1 years. The vocational schools have contributed skilled labor and technical universities have provide engineers for manufacturing firms which are located in industrial zone. In 2015, there are 304 industrial zones in Vietnam. In 2015, these industrial zones attracted to 2,6 million labor but 80% of the workers are unskilled labor. [11] From 2009 to 2015, the percent of unskilled employees are more than 80%, which showed that the manufacturing human capital is restricted. Almost all

[9] http://tcdn.gov.vn/AIAdmin/News/View/tabid/66/newsid/6316/seo/Thuc-trang-dinh-huong-va-giai-phap-phat-trien-day-nghe-dap-ung-nhu-cau-nhan-luc-khu-cong-nghiep/Default.aspx
[10] General Directorate of Vocational Training
[11] http://tcdn.gov.vn/AIAdmin/News/View/tabid/66/newsid/6316/seo/Thuc-trang-dinh-huong-va-giai-phap-phat-trien-day-nghe-dap-ung-nhu-cau-nhan-luc-khu-cong-nghiep/Default.aspx

worker who so not yet have experience in any technical training before so that the firm will train worker from the beginning.

Mr. Kuroda Kazuteru, expert about labor productivity from Japan Productivity Centre evaluated that labor productivity in Southeast Asia only more than Lao and Cambodia, still lack behind Thailand and Indonesia. According to World Bank's evaluation report, the quality of Vietnam's human resources get 3, 7 maximum level 10) while Malaysia reached 5, 59 and India is 5, 79. The labor's quality of Vietnam still lack behind with other countries in region. [12]

According to Mr. Yusuke Deguchi, Deputy Representative, AMEICC Secretariat, AEM-METI Economic and Industrial Cooperation Committee mentioned that the Japanese manufacturing firms which want to build up technical skills for local labor but there is a gap between Japanese technical standard which keep challenging for transferring the technical skill to local employees.[13] Vietnam has a huge potential in human resources when Vietnam's population reaches 94.2 million[14] but majority unskilled labor. Vietnam government should upgrade the technological skills of human capital in order to adapt more technology from overseas through foreign investment.

1.2.2 Current situation of Research and Development in Vietnam

In Vietnam, Research and Development activities belong to national policies and public institutions.

Table 2 : Qualification of researcher of Vietnam in 2014

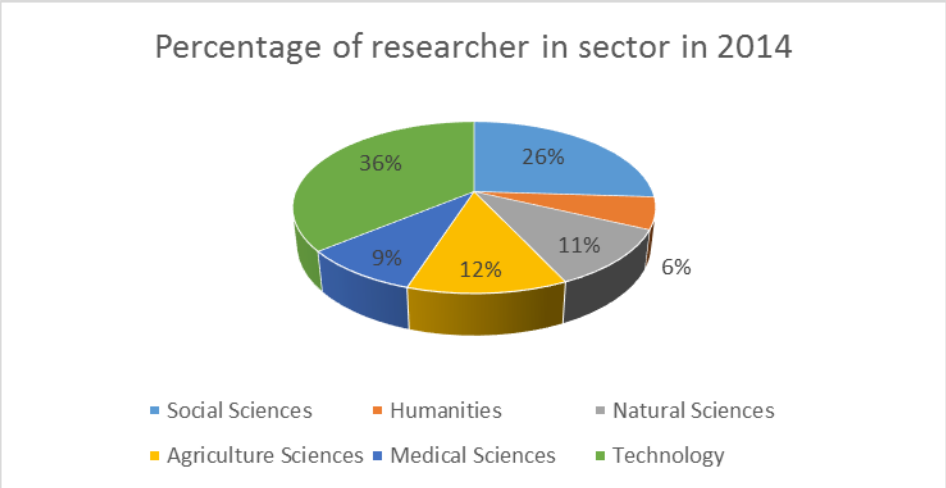
	Total (people)	**Qualification**			
		Ph.D.	**Master**	**Bachelor**	**Junior college**
Researcher	112.430	10.450	38.612	58.958	4.410
Public institution	96.291	9.712	36.828	47.114	2.637
Private sector	14.409	717	1.685	10.546	1.461
Foreign investment sector	1.730	21	99	1.298	312

[12] http://www.vietnamplus.vn/5-yeu-to-quyet-dinh-den-tang-nang-suat-lao-dong-cua-viet-nam/386937.vnp
[13] Indepth-interview with Mr. Yusuke Deguchi, Deputy Representatiove, AMEICC Scretariat, AEM-METI Economic and Inudstrial Cooperation Committee, HIDA The Overseas Human Resources and Industry Development Association, Bangkok, Thailand in 22nd, January 2016
[14]http://www.worldometers.info/world-population/vietnam-population/

Sources: Ministry of Sciences and Technology

In 2014, the 86% of researcher who have contributed to public institutions with 96.291 people while 13% for private sector and only 1% for foreign investment sector. The number of researcher who have been working for foreign investment sector is too small as compared with public institution. In order to promote foreign investment and foreign technology, R&D policies need to be strengthened in manufacturing sector, number of researcher who work for foreign firms have to be increased. Besides, the private sector are to be considered as an important channel to adapt the new technology from oversea through suppliers for foreign manufacturing firms.

Figure 2: Percentage of researcher in sector in 2014



Sources: Ministry of Sciences and Technology

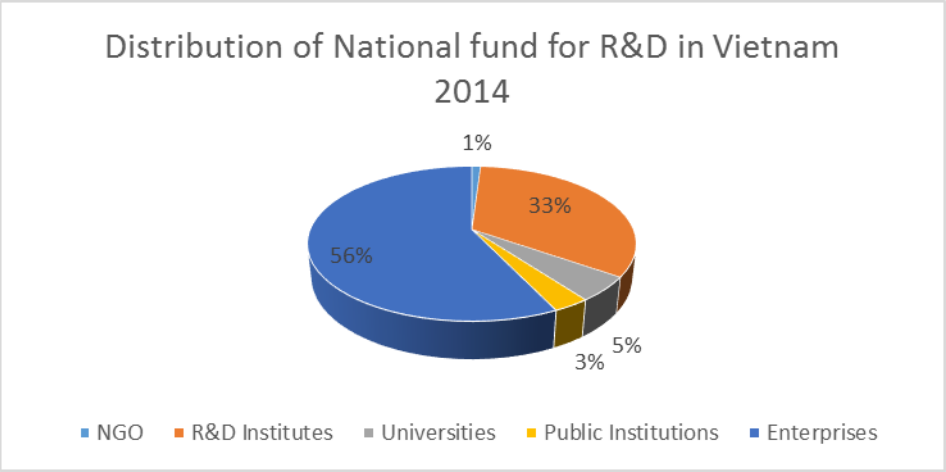
Technology is the main sector which included in 36% of total researcher because there are many researcher of this field belong to private manufacturing sector and foreign investment sector.

Table 3: The budget for Research and Development for sector and institutions in Vietnam, 2014 (billion VND)

Research field	**Total (billion VND)**	**Institutions**				
		Research Center	**Universities**	**Public institutes**	**Firms**	**NGO**
Natural Sciences	933,6	709,1	151,4	37,9	0,0	6,5
Sciences and Technology	8.784,7	1.564,1	229,4	187,3	6.674,8	23,6
Medical Sciences	234,1	130,4	36,3	19,6	0,0	8,6

Research field	Total (billion VND)	Institutions				
		Research Center	Universities	Public institutes	Firms	NGO
Agriculture Sciences	1.424,6	1.115,0	35,1	132,3	67,3	10,6
Social Sciences	890,2	489,2	121,8	57,1	185,1	21,5
Humanities	153,9	90,0	31,3	16,8	0,0	9,4

Figure 4: Distribution of National fund for R&D in Vietnam 2014



Sources: Ministry of Sciences and Technology

The national fund for R&D in the universities is very limited, only 5% that is not enough for R&D development for universities and research centre. Universities is the places where supply advanced engineer and contribute to the innovation for the country. The budget for research and development for university will be used for laboratory's facilities, new equipment, new scientific books, training program for students, etc. In Vietnam, one way teaching is popular, the student one-way receive the information from Professor or text-book. So that, the practical technical training is very important for engineering students which belong to the research and development centre of the university. For long-term technological innovation, the fund for R&D in universities in Vietnam need to be increase.

2. General policy of Vietnamese government in human resources development

Vietnamese government approved the strategy on development of human resources during 2011-2020, Decision of the Prime Minister No. 579/QD-TTg. Firstly, improving the Action Plan for Vocational Education and Training 2011-2020. Secondly, educating human

resources for remoted area. Thirdly, developing cultural value of Vietnamese. Fourthly, encouraging all the supporters for human resources strategy 2020. Fifty, expanding the international cooperation.

The strategy on development of human resources during 2011-2020 of Vietnam do not provide the detailed action plan for human resources development.

Others ASEAN member countries such as Thailand government promoted to human resources development with five action plan: The Vocational Education Act 2008, The Skills Development Promotion Act 2002, The National STI Policy and Plan 2012-2021, The National Education Act of 1999, The 11th National Economic and Social Development Plan (2012-2016) (UNCTAD, 2015). These Action Plans are being implemented at all levels of education and financed to support STI (Science, technology and innovation) teaching and training, provide research scholarships and promoting cooperative education. (UNCTAD, 2015)

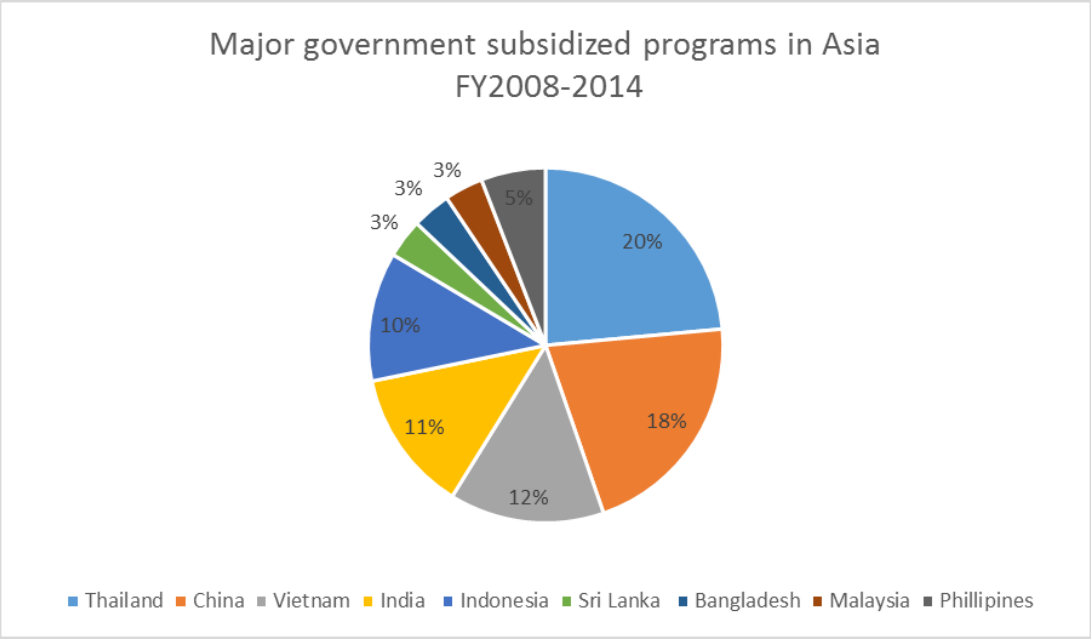
3. The current activities of Japanese firms in skills and technological development in the manufacturing industries in Vietnam

Japanese firms which are operating in Vietnam play an important in improving technical skills for local employees. The technical training from Japanese firms to local employees through Japanese organization and on-the-job training at the workshop.

3.1 HIDA activities for Japanese technical trainings

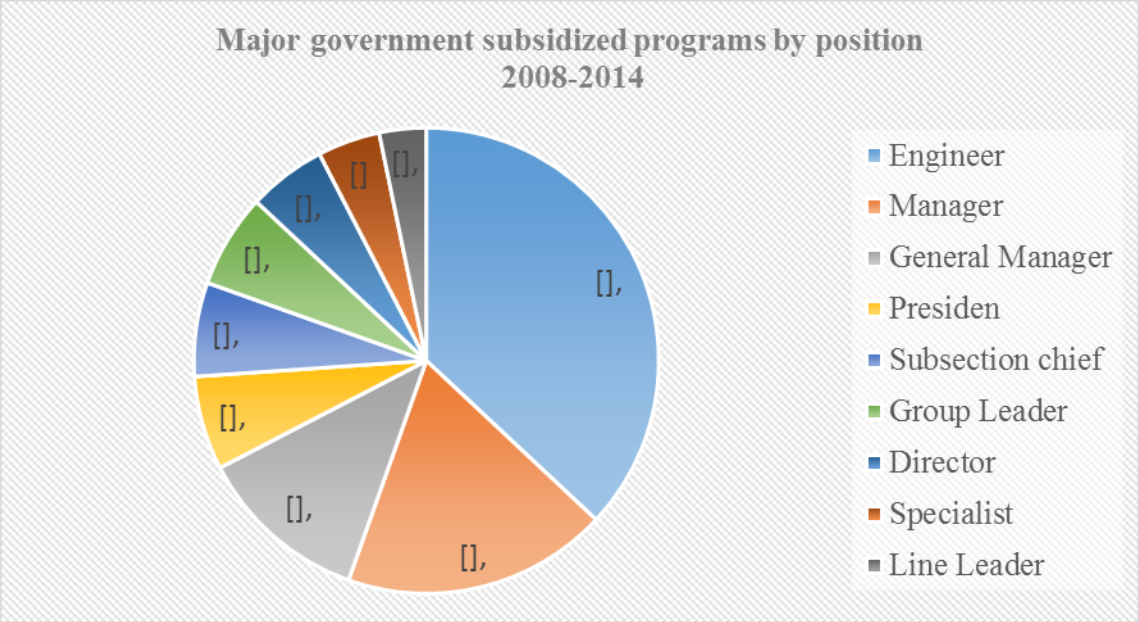
The Overseas Human Resources and Industry Development Association (HIDA) is an organization for human resources development in developing countries to promote technical cooperation through training, experts dispatch and other programs. HIDA has two training centres in Japan (Tokyo and Osaka) which organized 190 training courses in Japan and overseas for Japanese firms all over the world.

Figure 4: Major government subsidized programs in Asia FY 2008-2014



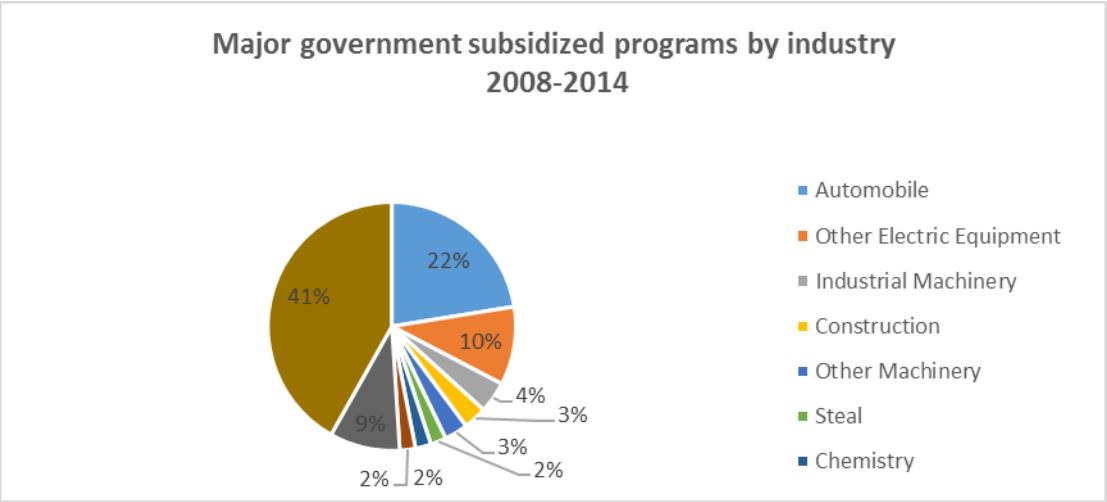
In 2014, the proportion of technical training program for Vietnamese trainees occupied 12%, after Thailand in Southeast Asia. This data showed that the Japanese firms consider Vietnam as a potential labor market for the investment and technical ability of Vietnamese labor can be improve through these activities.

Figure 5: Major government subsidized program by position 2008 -2014



The technical training in HIDA Osaka Office only for the high- level local staffs and these staffs will transfer technical skills the worker in the host countries through workshop or practical training on the spot. Because of the technical level of staff who have training course in Japan is high such as group leader, supervisor, and manager so that the technology which can be transfer will upgrade the technical skilled labor in the host country.[15]

Figure 6: Major government Subsidized program by industry 2008-2014



All the project of HIDA will be based on the application from the Japanese firms. 22% of the technical training programs in HIDA is in the automobile industry. In Southeast Asia, the technology which Japanese firms want to transfer to the host country will be automotive industry in the long-term industry development and the technical transfer will be depended on the strategies of each company.

3.2 Technical trainings for local employees of Japanese manufacturing firms

Technical trainings of Japanese manufacturing based on on-the-job training, the employee will learn in the workshop, on the spot where the senior staff provide detailed verbal instruction rather than written manuals. When Japanese investors started to establish factories in Vietnam, they set up the on the spot training system for local labor that can improve practical technical skills for Vietnamese workers. Additionally, this on the spot training system is necessary for less educated labor who do not understand Japanese or English.

Case study of Mazda- Vietnam automotive factory, Thaco Group

[15] In the interview with HIDA's staff in HIDA Bangkok office : Mr. Kazuhisa Ogawa

Thaco-Truong Hai Automobile Co., Ltd. was established on 29 April 1997, headquartered at Bien Hoa II Industrial Zone, Dong Nai Province. The founder is Mr Tran Ba Duong, who is now Thaco's Chairman.

Currently, the company has three administrative offices located in Ho Chi Minh City, Hanoi, and Chu Lai (Quang Nam). Particularly, Chu Lai-Truong Hai Auto Manufacture and Assembly Complex (Quang Nam) which was established in 2003 on an area of nearly 600 hectares, consists of 24 subsidiaries and affiliated factories. As to April 2016, the distribution system consists of 89 showrooms and 53 dealers nationwide and the company now has 14,900 employees.

Thaco Group is the only company in Vietnam that produces and assembles passenger cars with the highest localization rate of 15-40% after 16 years since its establishment and development. At its very first days, Thaco Group only assembled automobile spare parts imported, and now it is establishing its own business chain value from being as a supplier to a manufacturer, a distributor, and a retailer. Thaco Group's main role is to manufacture and assemble the passenger vehicles of KIA (Korea), Mazda (Japan), and Peugeot (France).

Mazda-Vietnam car belong to cooperation between Mazda Company with Thaco Group. In order to produce MazdaVina in Vietnam, Mazda Company have to transfer technology to Thaco Group Company.

At first, Mazda firm will send some Japanese engineers to Vietnam, to work together with Thaco engineer on technology. Depending on the technology and local engineers, Japanese trainers have to stay in Vietnam for 6-8 months. There are 5 steps in terms of technical transfer from Japanese trainer to Vietnam engineer:

a. Engineer read and understand the technology guidance
b. Engineer read and understand the technology guidance and do the job
c. Engineer don't need to read the technology guidance and do the job 50%
d. Engineer don't need to read the technology guidance and do the job 70%
e. Engineer don't need to read the technology guidance and do the job 100%

Vietnamese engineers trained by Mazda trainer have to fulfil the request:

- Automotive engineer
- Have automotive experiences
- Be able to speak English and Japanese
- Be able to read and understand technical guidance.

The Japanese trainer will train in Japanese or English so the language become the problem for Vietnam engineers. The Japanese trainers are senior trainer so that they cannot speak English really well, the technical guidance also are written in Japanese so that the staff need to study Japanese. Nowadays, the staff and engineer of Thaco Group who in charge with Mazda have to study Japanese in the evening, after the office-time. The Japanese course for Thaco Group employees is free of charge and only for Thaco Group employees.

After the technical training time from Mazda trainer, Vietnamese engineer will train the Vietnam workers at the workshop and Mazda trainer will become the examiner. The Exam for Vietnamese local worker will be tested on the spot and paper (100 multiple – choice questions). When Mazda trained back to Japan, Vietnamese engineer will become the examiner.

The technology transfer only could be upgraded when Thaco Group request to Mazda. Thaco Group have to prepare all the fee and technical preparation for Mazda trainer. The fee for Mazda trainer will be 800USD/ hours and accommodation. The technical training will be around 2 or 2, 5 months. Mazda acceptance depend on the technology which Thaco Group request to transfer and the demand of Vietnam market (in case of increase local content)

There are some difficulties during the technical collaboration between Mazda Company and Thaco Group

Firstly, the language has became the problem between Vietnamese engineer and Japanese trainer. The Japanese trainers speak Japanese or English so the language become the problem for Vietnamese engineers. Some Japanese trainers are senior trainer so that they cannot speak English really well, the technical guidance also are written in Japanese so that the staff need to study Japanese. Thaco Group is located in Quang Nam Province, in the central of Vietnam, the industrial zone is quite far away 100km from the city, and it is not an interesting working place for who can speak Japanese or English. Currently, the Thaco Group staff have free Japanese course after the office working time in the evening.

Secondly, Thaco Group need the technical training from JICA but it is difficult to have JICA training because Thaco Group is a private company. Vietnamese government prefer the public company to receive the technical training from JICA.

Thirdly, the automotive components for Mazda in Thaco Group currently come from the suppliers of Japan, Thailand and Malaysia. Vietnam government need to improve the industry

support and provide new policy which support for the automotive supporting industry so that Thaco Group can increase the local content for Mazda car.

4. The policy proposals/ recommendations for the government in promoting transfer of technology

Technology transfer depends on foreign investor, not the government of the host country. However, Vietnam government plays the role to encourage and stimulate the foreign firms with several schemes.

Firstly, tax incentive offer for foreign investors with requirements about technology transfer or research and development cooperation between foreign firms and the host country will be considered. This mechanism has been applied for many countries which attracted FDI for industrialization. In Southeast Asia, Thailand's government started automotive production program with government policies inducement incentive in 1960s (Techakaont, 2011). At that time, Japanese assemblers started their production for the domestic market and later expanded their production. The Board of Investment (BOI) have been in charge of promoting foreign technology to Thailand capacity. Firstly, during the end of 1970 -1990s, the BOI has implemented several policies to promote the industrial sector, especially the regional development.[16]

[16]

	Zone 1	**Zone 2**	**Zone 3**
Corporate Income Taxes	100 % exemption for 3 years	100% exemption for 7 years if location in Industrial Estates	100% exemption for 8 years + 50% reduction for a further 5 years
Duties on Capital Goods (Machinery, part etc.)	Pay 50%	Pay 50%	Free
Duties on Imports Raw Material	Exemption for 1 year if exports at least 30%	Exemption for 1 year if exports at least 30%	5 years exemption if exports at least 30%, pay 25% for 5 years for domestics sale
VAT, Excise Tax, Surcharge (BOI), Import and Export Duty (IEAT)	Normal rates	Normal rates	Normal rates
Transportation, Electricity, Water	Not applicable	Normal rates	Double deduction from tax income for 10 years
Infrastructure Facilities	Not applicable	Normal rates	Deduction from taxable income 25%

Table 4: Investors' Privileges in Accordance with BOI and Industrial Estates Authority of Thailand (IEAT) for Location in Three General Industrial Zones[16]

The tax incentive offer from Thailand government attracted many foreign investor, especially Japanese manufacturing firms since 1987 (Sadoi, 2012). Depend on the priority industry, Vietnam government can choose the foreign investment as a collaborator to cooperate. In the case of Thailand, Japan has contributed to Thailand automotive industry through FDI and JTEPA (Japan Thailand Economic Partnership Agreement).[17] Japanese automotive manufacturers accounted for nearly 90% of total automobiles produced in Thailand (Sadoi, 2012). The JTEPA was singed in April 2007 has encouraged the cooperation between Japan and Thailand in term of technology transfer and human resources development and Japanese manufacturing can. (Sadoi, 2012).

In the Action Plan for Vietnam industrialization strategy, Deputy Prime Minister Hoang Trung Hai, Chairman of the Vietnam Industrialization Strategy announced that there is the cooperation framework between Vietnam-Japan towards 2020 for six priority industries: electronics, agricultural machinery, agricultural and fisheries processing, shipbuilding, environment and energy saving, and automobiles and parts[18]. But Vietnam government need to publish more detailed cooperation plan. The tax incentive and special tariff for Japanese manufacturing firms can drive further bilateral economic and innovation relationship between Vietnam and Japan. Through this cooperation, technology transfer requirement for Japanese manufacturing is also included to promoting human resources development.

Secondly, the government should consider about the policy which encourage the foreign investors upgrade the technology to transfer to the country. For case study of automotive industry, the size of market is important and decided levels of technology which

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Source: www.ieat.go.th (December 2007)

[17] Interview with Yusuke Taguchi, Deputy Representative AMEICC Secretariat AEM-METI Economic and Industrial Cooperation Committee HIDA The Overseas Human Resources and Industry Development Association. The special policies of Thailand for Japanese enterprises are made under JTEPA (Japan Thailand Economic Partnership Agreement) . For the example: Basically, in service industry (e.g. retail, wholesale etc) in Thailand, foreign enterprises cannot obtain majority in capital investment. However, under this JTEPA, some selected sectors are opened for Japanese companies to take majorities (e.g. Japanese restaurant, consultant service for logistics & management, sales shop for Japanese companies' products, maintenance service for Japanese product etc).

[18] Decision No. 1829/QĐ-TTg dated October 28, 2015 of the Prime Minister

foreign investor will transfer. According to Mr Sato Susumu, Senior staff of Japan External Trade Organization (JETRO) Office in Hanoi, Vietnam "In 2016, the sales of Toyota in Vietnam is 25, 000 unit while 1 million in Thailand. If Vietnam wants to increase the localization rate (currently: 10%), then the market needed to be promote for example 30, 000 units/ year,". In 2015, Thai production reached 1.9 million units (passenger and commercial vehicles), compared with only 42,000 in Vietnam. On the other hand, the gap is smaller in terms of market size, with 800,000 light vehicles sold in Thailand in 2015, compared with 200,000 in Vietnam.[19] About 60 % of Japanese enterprises admitted that higher labor costs and other issues, such as the incomplete legal framework, the inconsistent application of existing laws, incomplete infrastructure (logistics, electricity, and communications), and complex tax procedures create higher risks, according to a report from JETRO[20].

Thirdly, the government should cooperate for the research and development of the firms. The budget for R&D activities for firms should be increased. The firm own their technology and practical knowledge which can improve the technological skills for the engineers and workers. Moreover, government can be the mediator to connect and strengthen relation between firms and universities. The cooperation between firms and universities can enhance the R&D development and promote innovation for both. Furthermore, the cooperation between universities and firms is very popular and effective in other countries, for example in Japan the firms will order the research from the technical universities. In Thailand, The Thai-Nichi Institute of Technology, established in 2005 by the Thai-Japanese Technology Promotion Institute, provides education at undergraduate and graduate levels in engineering, information technology, business administration and language skills with the programmes combine academic teaching and practical training in Japanese companies which based in Thailand.

[19] https://motiondigest.com/2016/08/06/asean-auto-tariff-expands-free-zone-in-2018/
[20] http://vneconomictimes.com/article/business/japanese-automakers-may-leave

1. Conclusion

Technology transfer from foreign investment have related to human resources development of Vietnam. Besides, technology transfer process belong to the foreign firms which are operating in Vietnam. Meanwhile, Government can encourage technological training and development for local labor through public policy on FDI policy and education policy.

Government should focus on both industry policy for FDI and education policy to promote technical skills of human capital FDI policies for Japanese firms will based on the market with technology transfer requirement and expand the domestic market for Japanese automotive industry. The technical skills for worker and technological level for engineer through national finance support. Add to this, the finances support for R&D need to focus on R&D centre in universities and private manufacturing firms.

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