

Work Ethics-Innovation Nexus: Evidence of Thai Returnees from Japan

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Received 7 October 2022, Received in revised form 24 December 2022,

Accepted 12 January 2023, Available online 4 September 2023

Abstract

Japan moved its production processes through foreign direct investment to Southeast Asia, including Thailand, in the 1970s. However, due to the lack of human capital, Thailand failed to absorb the technology and came up with their own innovations as the Asian New Industrialized Economies. Research shows that returnees from developed countries during the 2000s contributed greatly to their home economies, including China and India, which recognized labor dispatch strategies as an effective way to develop human capital. Thailand has also dispatched trainees (since 1993) and students to Japan, and many of them have returned to become entrepreneurs or executive managers in Thai firms. To determine the effectiveness of labor dispatch, this qualitative research aimed to find out the human capital Thai returnees gained during their stay in Japan and how they transferred their knowledge and skills to their own firms and the Thai industrial sector.

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This paper is a selected paper from Asia Pacific Economic Integration Forum (A-PAC EIF 2022), organized by Faculty of Economics, Thammasat University; Thammasat Business School, Thammasat University; Maharaja Agrasen Institute of Management Studies (MAIMS); The University of Danang - University of Economics and Faculty of Economics & Business Administration, Dalat University; and Entrepreneurship Development Institute of India.

The results indicated that the returnee gained the most knowledge concerning Japanese work ethics. The work ethics led to the application of Japanese management processes and technical knowledge in their firms, which helped generate innovations. Concerning technology transfer, returnees cooperated with Thai authorities in transferring their knowledge to Thai entrepreneurs through training programs. Lastly, we suggested that dispatching Thai students and trainees to Japan would be an effective way to increase Thailand's human capital needed for innovation.

Keywords: human capital, work ethics, technology transfer, labor dispatch, returnees

JEL Classifications: A13, J24, O15

1. Introduction

The absorption of technologies from advanced countries is mainly attributed to the economic development of most catching-up Asian countries. For example, when Japan moved its production processes to the Asian New Industrialized Economies (NIEs) (i.e., Taiwan, Singapore, Hong Kong, and South Korea) through Foreign Direct Investment (FDI), the latter could successfully absorb the Japanese technology and come up with their own innovation. Within a short period of time, NIEs were able to become high income economies. However, when Japan later moved its production processes to other Southeast Asian (SEA) countries (e.g., Thailand, Malaysia, Philippines, and Indonesia), many of them failed to absorb the technology and come up with their own innovations (Castly, 1997; Diao et al., 2006; Ohno, 2009).

Thailand was one of the SEA countries that enjoyed high economic growth from Japan's FDI during the 1980s but failed to absorb Japan's technology. Ohno (2009) mentioned that Thailand lacked sufficient human capital to absorb Japan's technology. Therefore, human capital is a vital factor that would help Thailand reach the innovation stage. One effective way to develop human capital is to dispatch workforces to developed countries. Developed economies in Asia (e.g., Japan and Taiwan) and fast-growing economies (e.g., China and India) had experience dispatching their workforces to develop their human capital. We hypothesize that workforce dispatch would be helpful to successfully develop Thailand's human capital and, therefore, the Thai industrial sector. Using its own development experience, Japan has been offering technical assistance to develop human capital by accepting foreign students and trainees from developing countries. Government programs for accepting foreign students and workers include the 100,000 International Student Plan (1984), the 300,000 International Student Plan (2008), and the Technical Intern Training Program (TITP) (1993). Thailand's students and workers in Japan have also gradually increased and many of them have returned to Thailand to become entrepreneurs or managers in Thai firms.

Thai and Japanese social, economic, and cultural contexts are different; therefore, questions arise about what the human capital returnees gained from Japan, whether they are useful in their current firm, and how they could transfer it to other Thai local firms. This research aims to: 1) find out the human capital (knowledge, skills, and work ethics) the returnees gained from their time in Japan; and 2) find out how Thai returnees use and transfer their human capital to Thailand's industrial sector. This research would contribute to the literature in three ways. Firstly, the existing literature on human capital development in Japan has mostly been negative and critical. This research will help set new standards for the mutual benefit of two countries and the wider Asian community. Secondly, Thai returnees from Japan are an underexplored group. This prevents their human capital from realizing its full potential. This research identifies how returnees transfer the gained human capital to increase the innovative capacity of Thai local firms. Lastly, the concepts of work ethics and virtue were only added to the human capital theory in the past decade. This research would add to the small library of human capital regarding work ethics.

2. Literature Review

This section briefly describes Thailand's economic development, its labor dispatch strategy, and theoretical concepts including work ethics, human capital, and Japanese management style.

Thailand enjoyed rapid growth during the 1980s. According to the World Bank (2022), Thailand's GNI per capita in 1980 was 710 USD, which grew one-fold to 1490 USD in 1990. Kittiprapas & McCann (1999) claimed that the investment from Japanese firms played an important role in Thailand's economic growth. Japanese firms started investing in Thailand when the latter implemented an export-oriented strategy during 1972-1980. Investment from Japanese parts and component manufacturers inflowed into Thailand through the establishment of joint venture firms (Kittiprapas & McCann, 1999; Ueda, 2018). Ueda (2018) claimed that the Thai automobile industry developed through the expansion of Japanese automobile manufacturers and parts manufacturers.

Despite the high growth rate, researchers such as Diao et al. (2006) argued that the development of the Thai industrial sector during the 1980s was not sustainable. To become sustainable, Thailand needs an innovation-based strategy, which could be done by copying and adopting technologies from developed countries.

Ohno (2009) regarded the final stage of technological development as the stage where countries can innovate new products through their own local firms. Ohno (2009), Saggi (2002), and Xu (2000) claimed that in order to reach the final stage, Thailand needs to replace FDI firms in all industrial areas with local firms. To do so, Thailand needs to upgrade its human capital to internalize advanced foreign knowledge.

Developing human capital by dispatching workers to developed countries is nothing new. Japan, the first country to develop, used this strategy to industrialize by dispatching students to the US and European countries in the Meiji era (Ohno, 2019). The US was the popular destination of Taiwanese immigrants during the 1960s and Chinese and Indian immigrants during the 1970s (Kenney et al., 2013; Liu et al., 2010; Tzeng, 2018). When the dispatched intellectuals returned to their home countries (reverse brain drain), the returnees could not only transfer the technology to their firms but also come up with innovations and spill over the technology to the local firms (Liu et al., 2010). In contrast, Thai immigrants were mainly unskilled laborers. Thai immigrants were housewives of US soldiers of the Vietnam war in the US during 1964 -1980 (Desbarats, 1979) and unskilled and semi-skilled farmers in West Asian countries during 1973 -1980 (Jarallah, 2009). Therefore, the performance of Thailand's reverse brain drains or human capital development through labor dispatch was not as prominent as that of China, Taiwan, and India (Visetsak, 2009).

The early concept of human capital developed by Schultz (1961) and Becker (1993) focused on the skills, knowledge, and health that the labor force possessed. More recent researchers gradually added values and attitudes to the definition of human capital. Baptiste (2001) defined human capital as "knowledge, attitudes, and skills that are developed and valued primarily for their economically productive potential". Sánchez-Báez et al. (2018)

said that an entrepreneur's personal values that shaped the organization could also be considered human capital, especially in small businesses. Therefore, in this research, human capital is defined as "skills, knowledge, and attitudes (which also comprise values and ethics) that a person (in this case, returnee entrepreneurs and managers) possesses.

In this research special, emphasis is placed on work ethics. Various researchers defined work ethics, for instance, as "a constellation of attitudes and beliefs on work behavior" (Miller et al., 2002) or "the value considered morally correct and honorable by a larger group of people" (Omisore & Adeleke, 2015). By reviewing these definitions, this research defines work ethic as 'the principles an individual holds to decide what course of action is more preferable in a working context'. Since this research focuses on Japanese work ethics, the 'context' in this study refers to the Japanese workplaces.

This section briefly introduces four Japanese work ethics that were commonly identified by the Thai returnees in their interviews. The first work ethic is 'Wa' or harmony. Japanese people view the company as a unit that belongs to every member. They think of themselves as interdependent members of a firm that share the same fate. Therefore, they will give more importance to the firm's benefits than personal benefits (Al-alsheikh, 2014). If one breaks the harmony of the group (*Wa*) for personal benefits, they would be scolded by superiors or excommunicated by their colleagues. The concept of 'Wa' overlaps with the act of kindness and responsibility to society (e.g., wearing a mask in public places, not taking things that they do not own, and returning things that someone drops. 'Wa' also overlaps with the act of being self-reliant to minimize burden on others and having pride in serving the community (Hirata & Warschauer, 2014).

The second work ethic is called '*Omotenashi*' ('hospitality' in English). Hospitality happens best when the host knows what the guest wants in advance and offers a service that exceeds the guest's expectations. Japanese people give values to hospitality because, firstly, the Japanese believe in "*Ichigo Ichie*" which means that people will only meet once and may never meet again (Al-alsheikh, 2014). Another reason, according to Hattori (2008) (as cited in Al-alsheikh, 2014) is that they believe good customer service would attract loyal customers.

The third work ethic is preparing to be a '*Shakaijin*' which translates as a "society person" as Noguchi (2014) pointed out. Cook (2018) said that transitioning from a student to a full-time worker is considered a major transition in life. Young Japanese are trained on the polite behavior and language needed in the new workplace.

The fourth is separating the private self from the public self. The public self is defined as the self that is accessible to others, while the private self is the self that is not revealed to other people. While western countries like the US are more communicative and the public self dominates the private self, Japan has a relatively small public self and a large private self. Therefore, Japanese people would prefer to interact with fewer people, prefer formal encounters to random encounters, not express their thoughts or feelings openly, and prefer a more passive way of responding to harmful situations (Barnlund, 1989).

These work ethics are part of the unique way that Japanese firms are managed (named as 'Japanese management style'), which is influenced by Japanese culture. Of the various concepts in the Japanese management style, this paper draws your attention to two

broad and well-known Japanese management concepts: consensual decision-making and quality control. The first management concept, consensual decision-making, is highly related to Japanese collectivist culture. Gill & Wong (1998) mentioned that Japanese workers view the organization as one single family. Every process must involve everyone in making decisions to raise morale and create a sense of team unity. Meyer (2014) said that from the power distance score developed by Hofstede (2013), Japan might be a hierarchical society; however, at the same time, Japan has a bottom-up decision-making system. Meyer (2014) and Gill & Wong (1998) explained that the Japanese have a system called the '*Ringi*' system where the low-level manager submits a request for a decision to their superior. The document being passed to the upper level is called a '*Ringisho*'. The '*Ringisho*' will be passed up the hierarchy until it reaches the top-level managing position. During this process, an unofficial meeting called '*Nemawashi*' will be repeatedly held to confirm that everybody consents to the decision.

The quality control concept, which includes Kaizen¹, quality control circles², and 5S³, is a Japanese management strategy which is well known throughout the world. After WWII, Japan seriously needed quality products to compete with the West. Japan needed to improve its goods, which were seen as low-quality cheap goods during the pre-war period, to higher-quality goods (Trevor, 1986).

3. Methodology

This research was based on semi-structured interviews with Thai returnees from Japan. By utilizing convenience sampling and snowball sampling methods, we selected 26 participants to conduct online interviews through ZOOM online platform due to the travel restrictions of the Covid-19 pandemic situation. The criteria for selecting the participants are, firstly, that the participant must have studied or worked in Japan for more than a year. Secondly, the participants must either establish their own firm or work in a management position at a Thai firm. The basic demographic details of the interviewees are as follows: out of 26 interviewees, 9 are female and 17 are male. Nine returnees went to Japan with the purpose of studying; five returnees worked or trained in Japan; and twelve returnees studied, and then worked in Japan after graduation. Each interviewee is represented with an 'I' followed by a number (e.g., I16). The specific background of each interviewee is described in Appendix Table 1.

To analyze the data, we adopted Gioia's approach, which consisted of three orders: open coding, axial coding, and analytical coding. The first order, open coding is to identify interviewees' ideas by using the same 'terms and words' the interviewee used. The second order, axial coding, is to further categorize the codes into more abstract 'themes'. The last

¹ Kaizen: A concept of small, incremental, continuous improvement (Prošić, 2011).

² Quality control circles: A group of employees who come from various levels of hierarchy in an organization and are involved in problem solving activities together (Rafaii et al., 2018).

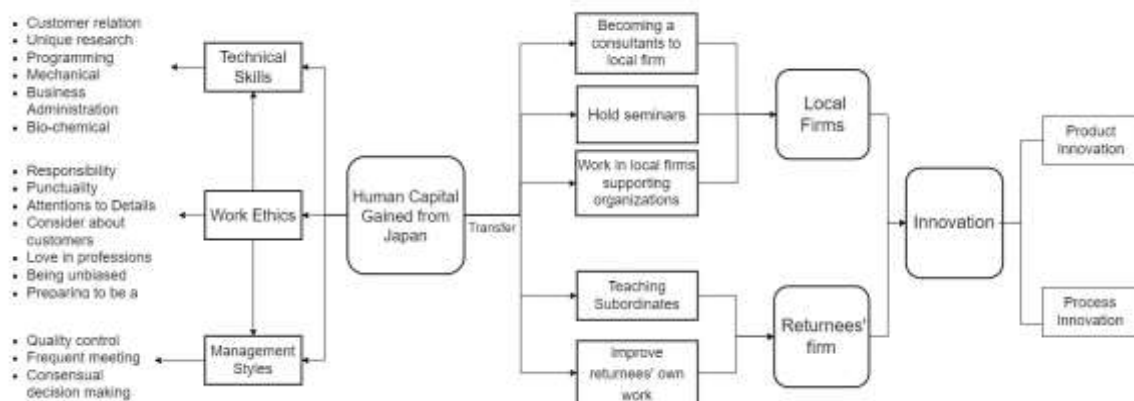
³ 5S: Five methods to keep the workplace well organized, clean, and effective. (Michalska & Szewieczek, 2007).

step, analytical coding, is to further distill the themes into aggregate dimensions. We utilized NVIVO Qualitative Data Analysis Software to aid the coding process.

4. Analysis and Results

We came up with three major findings from the interview with 26 returnees and the coding process. Firstly, the human capital (knowledge, skills, and attitudes) that returnees gained from Japan was mainly in three areas, including work ethics, management concepts, and other technical knowhow (customer relations, research skills, programming skills, language, etc.). Secondly, the returnees transfer human capital gained from Japan to their own workplaces, for example, by training their subordinates. Returnees could also transfer human capital to Thai society by conducting seminars and training programs, working in organizations that support the development of local Thai firms, and becoming consultants for local Thai firms. Thirdly, with the transferred human capital, some returnees' firms could come up with innovations. According to the findings, the conceptual framework of the relationship is depicted in Figure 1 below.

Figure 1: Conceptual framework



Source: Authors' creation

4.1 Human Capital (Work Ethics, Management Concepts, and Technical Knowhow) Gained in Japan

4.1.1 Work Ethics

All interviewees mentioned that they learned “Japanese work ethics” while they were studying or working in Japan. It was the most frequently mentioned human capital among other human capitals in the interviews. After refining the data and analyzing the relationship between each code, we grouped Japanese work ethics into five categories. Each category consists of smaller concepts of ethics, which we would like to describe in detail.

Responsibility: Responsibility is an essential work ethic learned. Responsibility can be presented in various formats. Two returnees (I16 and I23) experienced responsibility in

the form of being responsible for their own actions. Interviewee 16 (I16) mentioned that as responsible citizens, Japanese people have been taught to recycle (reduce waste) and keep the streets clean since they were children. When returning to Thailand, he always sorted his garbage into different types. He owns a tobacco stalk exporting firm. The tobacco stalks, which are thrown away in Thailand, are used to produce alternative tobacco in Japan. In this way, he helps reduce waste while increasing farmers' income. I23, who used to work in a construction firm in Japan, said that when they were setting up a construction site, the workers in the construction site had to apologize to everybody in the neighborhood for possible inconveniences. He talked about his experience as follows:

"The Japanese construction firms always think about the surrounding neighborhood. They have to "aisatsu" or greet the neighborhood they were working in. Thai construction firms lack this sense of public responsibility." (I23, May 25, 2022)

I26 learned that Japanese people are responsible for the development of their hometown community. She said that the president of the company where she worked always helps with events that promote his hometown as a tourist destination in various countries (e.g., Thailand, by assisting Thai television programs and Thai authorities). After returning, she followed her boss and coordinated with the Thai students who wished to participate in a short-term exchange program in Japan.

Punctuality: Punctuality is expressed in many ways, for example, by submitting their work (I9) or coming to work on time (I4, I5, I23). I9, who worked in the software industry, mentioned that Japanese people are aware that if they were late, it would trouble their co-workers. Japanese firms always meet deadlines without being late, which is not often seen in Thai firms. I4, I5, and I23, who worked in the service industry, mentioned the importance of working on time. I4, a manager of a Japanese-style restaurant in Thailand, always taught her staff to come to work on time because if one person was late, it would affect the whole staff team. I4 mentioned punctuality and responsibility as follows:

"Punctuality and responsibility are very important when working with a Japanese company. Especially in the restaurant, if one person comes late or goes missing, that person's work will be loaded on to other staff". (I4, April 13, 2022)

Attention to detail: Giving attention to details is so prominent in Japanese work ethics that there is a proverb that says, "*Kami wa saibu ni yadoru*" which translates to "god is in the detail". This ethic is expressed through the Japanese work process, which is done in stepwise order. The detailed work process was experienced by I26 who used to work at a Japanese firm that exported second-hand products. The Japanese firm provides a detailed guide to the branch in Thailand on how they can achieve the sales target. I26 was responsible for supervising the Thai branch. I26 said that according to the guide, the firm emphasized orderliness. Every step must be done in order and must be documented in order to be retractable when problems occur. I26 mentioned her experience working for the Japanese firm as follows:

“Japanese firms give importance to steps and procedures. You must do everything step by step, as the head office advises, to reach the mutual goals and to pinpoint the causes when a problem occur.” (I26, June 2, 2022)

Considering customers: Returnees learned that Japanese firms work by always considering the customer. It can be expressed in two ways: considering customers when giving service (I12) and when developing a product (I7 and I20). In giving service, the Japanese have the concept of ‘*Omotenashi*’, (‘hospitality’ in English). Japanese people tend to give the best service to the customer and produce the best quality product to exceed the customer’s expectations. I12, who owns a Thai traditional apparel rental store, mentioned that when Japanese staff give services, they must consider the customer from the point they enter the store until they leave. They hold the door for the customer, communicate with the politest language, and show the customer gratitude when they leave. When she opened her own store in Thailand, she taught her staff to not only recommend suitable outfits for their customers but also consider their other needs. I12 mentioned how she trained her staff as follows:

“The role of the staff is to recommend the outfit to the customer and to recommend beautiful tourist spots for the customers to take pictures in the outfit. To do so, they must be able to select the item and place that match the customer’s style. In Thailand, there are few stores that can do what we do. So many customers were impressed with our service”. (I12, April 30, 2022)

Japanese firms always consider the safety and health of the customer first, not only when giving services but also when developing a product. I7 and I20 were impressed with how the Japanese have products that improve customers’ wellbeing, in this case, orthopaedic fashion shoes, which are still unpopular in Thailand. These products inspired them to establish their own custom pillow, and custom shoe firms, respectively, in Thailand.

Love of profession: I7, a returnee who owns a custom shoe business, was fascinated by the Japanese workers’ love for their profession. Japanese workers do not regard work as a duty but as ‘*Iki-gai*’ or their ‘purpose to live’. I7 mentioned that since Japanese people do not regard their job as a duty, they are able to put in more effort and creativity into their work. I7 transferred this work ethic to her staff by improving their skills in suggesting shoes for customers. When the customer was satisfied with their service, it would make the employees proud. When they know that the customer values their efforts, they sometimes come up with their own suggestions to improve the customers’ experience. I7 mentioned how love in one’s profession can lead to innovation as follows:

“When one puts much effort in their work, they will be proud and love the organization more. The love of a profession would lead to creativity and innovation”. (I7, April 30, 2022)

Being unbiased: Since Japanese people usually divide their work and private selves, they tend to be less biased. Several returnees (I12, I17, I18, and I24) struggled with adapting to their Japanese peers' high proportion of private selves during their student days. They struggled to become familiar with their Japanese colleagues. However, when they graduated, they found good points in their ability to clearly divide themselves between work and their private selves. For example, I18, who used to work as a Japanese-Thai interpreter, mentioned that when Japanese employees do not like someone, they conceal their personal feelings and professionally work with them. As an interpreter, she also thinks it would be more professional to interpret without including personal emotions.

Preparing to be a 'Shakaijin': Returnees who studied in Japan (I10, I23, and I24) found that Japanese students were more prepared to go out into the working society (or become a 'Shakaijin') than Thai students. Japanese students and new graduates experience working in society through part-time jobs. I10 and I24 stated that part-time jobs help students learn about work ethics, be more self-reliant, and realize which field of work they are suitable for. For example, I23 did about seven part-time jobs, which included being a patrol station staff, a convenient store clerk, a labor worker, a factory worker, separating fish at a morning market, and teaching Thai language. I23 learned the Japanese work ethic of work dedication and supporting co-workers from the part-time job. I24 mentioned that he did various part-time jobs while he was studying, i.e., house mover, video rental store clerk, and restaurant staff, in which he learned about the work ethics of clear division between work self and private self and working in unity by sharing the same goal. I24 talked about his experience as follows:

"Japanese people start doing part-time jobs in high school. I also did a lot of part-time jobs and learned many things that could not be learned in the university. For example, the work ethics of a clear division between the work self and the private self and working in unity by sharing the same goal. Part-time jobs would let the student experience how working society really is. It would also let them experience various types of work before they could choose their career path. (I24, May 26, 2022)

4.1.2 Japanese Management Style

We also recognized Japanese management style as another human capital gain and divided it into three categories consisting of bottom-up decision-making, frequent meetings, and quality control. From the coding process, we found that these management concepts are created based on work ethics.

Bottom-up decision making: As we explained in section 2, 'literature review' that Japanese organizations give importance to the concept of 'Wa' or harmony. In order to preserve harmony, agreements from all employees are required. This leads to the unique Japanese management style of 'bottom-up decision making' which some returnees have experienced and transferred to their firms in Thailand. I26 was the returnee who experienced the 'Ringi' system while she was working in Japan. She explained the 'Ringi' system as follows:

“In Japan, when the firm decides on something, the decision would have to be signed from the employee level, passed to the lower-manager level, then to the higher manager level, and then to the president”. (I26, June 2, 2022)

Another returnee, I3, who experienced the work ethic of bottom-up decision-making in Japan, transferred it to her firm in Thailand by letting her subordinates express new ideas. She mentioned that most Thai firms do not let young employees express their thoughts freely. If they do, the older employees will reject them without giving any reasons and will not even let them challenge the conclusion. Through the use of communication technology, she thinks the new generation sees themselves as part of the world population and not only a member of one nation; thus, they are more creative.

Frequent meetings: In Japanese firms, frequent meetings are required to ensure that all employees arrive at a mutual understanding. Two forms of meetings that were experienced by returnees (I6, I17, I18, 19, and I23) who worked in Japan were the daily ‘morning meeting’ and the weekly ‘department meeting’. Regarding the morning meeting, I6, I17, I18, 19, and I23 said that the meeting was held in Japanese firms to give an overview of what should be done on that day, but not in detail. Apart from morning meetings, I18 mentioned that there were also weekly department meetings to update their knowledge, discuss the problems they faced, and find solutions to the problems together. The meetings conducted in Japanese firms were explained by I17 as follows:

“Morning meetings were usually held so that anyone who faced a problem in their work could immediately raise the question and ask for advice. Every week there will also be a manager-level meeting where each manager shares problems and updates the work process”. (I18, May 7, 2022)

Before returning to Thailand, I18’s family business was using the Chinese management style, where her father and uncle held the sole authority over their poultry firm. She suggested that the firm holds a morning meeting where all the employees participate. She said that having a meeting will let her know the work progress and the attitude of the subordinates. The employees who worked at the site would have a chance to express their opinions in the meeting. It would also give them a sense of ownership over their work. I17 was another returnee who implemented both morning meetings and weekly meetings for his firm. He wanted his employees to know the situation in other departments so they would have a sense of unity. When they have a sense of unity, the employees in each department will not think that they are just handing their work to other departments, but rather that they are handing the work to the customers together.

Quality control: During their time in Japan, returnees had learned the well-known Japanese quality control principles such as ‘Kaizen’, ‘6Whys’, and ‘Kiken Yochi’ through working in Japanese companies. Since giving importance to details is an important Japanese work ethic, the Japanese quality control principle is based on ‘small and continuous development’. I22, I25, and I7 have learned about Kaizen; I21 and I22 have learned about 5S; I1 and I22 have experienced the usage of ‘6Whys’ analysis, a method of

finding the root cause of the problem by asking ‘why’ six times; and I2 has learned the ‘Kiken Yochi Training’ to predict hazardous factors from the Japanese firm where he worked.

Moreover, Japanese work ethics play a significant role in improving the quality of a product. I7 mentioned that the work ethic of giving importance to customers leads to quality control. By keeping in mind that the product you are working on will be used by important customers, you will always make sure that the product is of top quality. I7 said that the focus of Japanese management styles, for example, ‘Kaizen’, is improving the old process and managing people and time to meet the deadline. Therefore, the Japanese work ethic of ‘effort’ is required to always improve the process and the ‘punctuality’ in order to manage the work to meet the deadline.

4.1.3 Technical Skills

Most of the returnees went to Japan to improve their knowledge and skills in their respective fields. Apart from work ethics and management styles, returnees gained various technical skills that led them to better work opportunities and allowed those entrepreneurs to improve production processes or products. We broadly categorized these technical skills into customer relations, research, language skills, and other technical skills.

Customer relations skills: We have described in the earlier section that the Japanese emphasize “*Omotenashi*” or “hospitality”. Therefore, Japanese firms emphasize training their new employees in customer hospitality (e.g., how to hand out name cards, receive phone calls, and use the language and appropriate dress code) during the pre-training period. For example, I21 and I9 mentioned that there was one-month training in which all new employees must participate. I12, who is the owner of an apparel rental store, had great customer relations skills and utilized them in her firm. We explained how she taught her staff to give good service to customers in the work ethics section.

Unique research skills: returnees mentioned that they gained unique research skills from the university (I11) and from working in Japanese firm (I20). I11 mentioned that in Japanese universities, rather than focusing on coursework and theory from the textbook, they focus more on self-learning through experiments. For research conducted in Japanese firms, I20 experienced that Japanese firms emphasize research when inventing a new product. I20 explained the process by which the electronic appliance firm she worked invented new products:

“Before coming up with any products, the market had to be researched first. There are four steps in researching to develop a product: First, research the reasons why the product needs to be developed. Second, research whether there have been similar products before. If a similar product already existed, how was the market’s attitude toward it? Third, develop a machine or process to develop a quality product. Fourth, develop the actual product.” (I18, May 16, 2022)

I20 used her unique research skills to innovate her product, a customized ergonomic pillow. She innovated her own measuring equipment and pillow design, which we will cover later.

Japanese language skills: The Japanese language was very important for the returnees when they were in Japan. They needed language skills to survive in their everyday lives and use them to understand their work instructions and lectures, communicate with colleagues, and expand their social life. The returnees mentioned three main methods for learning Japanese: taking a Japanese course provided by a language school or the university, self-learning, and practicing Japanese in everyday life. Most of them said that after taking a Japanese language course for one year, their language skills were enough to be used in everyday life without difficulty. Some of the returnees, for example, like I3, I21, I4, and I5, took Japanese Language Proficiency Test (JLPT) after the course and were able to pass level N2 and N1⁴. I21 spent more time in social events held by the university to learn more Japanese. I26 chose to do part-time jobs to learn more Japanese outside the university.

The language skills helped the returnees find better opportunities in their careers. I8, I9, I18, I19, I24, and I26 could use their language abilities to do job hunting in Japan and get recruited by Japanese companies. I1, I2, I17, I21, I23, I24 and I25 could use their Japanese abilities to become interpreters in Thailand. Returnees who experienced living in Japan became good translators since they understand the Japanese context.

Other technical skills: One important skill returnees learned is **computer programming**. Some of them could establish their own firms in Thailand. The types of programming include statistical programming (I6), lifelogging (I8), and artificial intelligence (I9, I10, and I15). I6 who studied statistical programs (Python and R language) became a manager and a data scientist at one of the most famous banks in Thailand. I8 researched lifelogging and worked as a system engineer in a Japanese research institute after graduation. I9, I10, and I15 learned about machine learning, artificial intelligence, and software design in Japan, and they all established their own firms and came up with their own innovative software in Thailand.

As explained by I16, another technical skill returnees gained in Japan is **mechanic skills**. He went to a vocational school in Japan in the field of production machinery for four years, then continued his study at a higher vocational school majoring in automobiles for two years. After graduation, he worked at a car repair garage, where he worked for three years. After coming back from Japan, I16 opened a big motorcycle garage. A I16 mentioned how his mechanic skills in Japan helped him give better service to the customers:

I think the experience in Japan gave me both experience and a theoretical foundation. A motorcycle is like a human body. Even if the symptoms are the same, the root of the symptom is different. That is why I can analyze the problem with the bikes and use the most appropriate repair method. When you don't use appropriate methods, the problem will recur. (I16, May 7, 2022)

I17, I18, I19, and I22 already had family businesses before they went to Japan. These interviewees went to Japan with the goal of learning about business administration. The family of I17 runs a plastic injection business. Many of their machines are from Japan, so

⁴ Japanese Language Proficiency Test or JLPT consisted of a 5 level ranking from the lowest level, N5, to the highest level, N1.

he decided to go to Japan to learn more about the technology. After retirement, he became a consultant for a Thai injection firm that took over a Japanese firm.

The family of I19 has a firm that is in the fashion industry. They have a lot of business partners in Japan, so he went to Japan to study more about the textile and fashion industries. After finishing his degree, he went for an internship in Japan at the business partner of his family's firm. With on-the-job training through the job rotation system, he got to work in three departments: production, logistic, and sales. When I19 came back to Thailand, he established his own textile firm, which provided fabric to apparel firms. His textile brand was showcased during fashion week in Milan and won the 'Good Design' award in Japan. Many educational institutes and universities, especially SME-promoting organizations in Thailand, often invite him to share his experience.

Following this success, I19 could contribute to Thai society on a large scale by becoming a member of the board of directors of the 'Office of Small and Medium Enterprise Promotion' for two years. The office developed and implemented policies to support and promote Thai SMEs. As a policymaker, I19 implemented a policy that consisted of five guidelines that could be implemented by different types of SMEs. According to I19, one of the guidelines was to encourage the entrepreneurs to have a creative, different, and outstanding product. This was inspired by Japanese work ethics of job dedication, small incremental development, and the unique research skills he learned. He also introduced Thai products to foreign markets, including Japan.

I13, who studied tissue engineering, and I14, who studied molecular biology, were two returnees who went to Japan to study biomedical sciences. I13 mentioned that, in contrast to Thai laboratories that are underequipped, the laboratory in Japan was well equipped with the latest machines used in conducting experiments. Both returnees worked as managers of organizations which support the development of private firms in the medical field. When I13 came back, he became the manager of an advanced therapy medicine development center that was operated by the Thai Red Cross. I13, who is also a consultant for a firm that gives stem cell banking services, advised the firm about the environment standard, setting up the system and protocol to meet the standard requirement, and training the employees. I14 worked as a manager for a government organization which supports the life science business and industry. I14's work specialties involve technology transfer from universities and research institutes to entrepreneurs. There were various projects on which her organization cooperated with Japan, including the Japan Pharmaceutical Manufacturing Association in developing medicine from natural essences and a cooperation with Panasonic in developing mechanical robots.

4.2 Innovation

When the returnees came back to Thailand with their knowledge, skills, and work ethics, they applied what they learned in their own firms or workplaces and came up with innovations. This section introduces four of such returnees' innovations.

Ergonomic Custom Pillow: I20's firm used an innovative process to create a customized pillow. The product was made by combining the Japanese work ethic of considering customers with unique research skills. While she was in Japan, she had trouble sleeping, and she found an ergonomic pillow that made her sleep better. She got inspired

by the product that thinks about the customer first—a Japanese work ethic that she was always impressed by. The firm provided a service of measuring a customer's physique and making a highly customized pillow that most suits the user. First, she developed an instrument to measure the customer's physique, and studied medical research about sleeping angles and materials used in pillows. The final innovative product is a pillow with 14 adjustable slots. In each slot, six materials imported from Japan could be inserted, and the height could be freely adjusted according to the customer's physique.

Customized High-end Shoes: Similar to I21's story, I7's customized shoes were inspired by the Japanese work ethic of giving importance to customers. Her product also integrated the work ethic of giving importance to detail to create beautiful shoes with her craftsmanship. She thought that court shoes and designer shoes were uncomfortable. However, Japanese women wear beautiful court shoes every day, even though they also walk a lot. She realized at that time that Japanese products always considered the customer and made innovations to satisfy them. After coming back to Thailand, she established a firm with her former Japanese co-workers. The firm started with a website that sold lifestyle products from Japan targeting Thai office workers. After learning 'shoe fitting techniques' in Japan, she started making shoes that were custom made to give the most comfortable wearing experience without giving up the aesthetic of the shoes in Thailand. During the first period of her firm, her shoes were sold only online. It gave the customers a lot of trouble to measure their feet with her guidance. Therefore, she invented a shoe fitting kit that the customers can print out on A4 paper, fold the paper, and measure the right shoe size with fewer steps. Now her firm had a storefront in Bangkok's office area.

Software and Artificial Intelligence: Some returnees, especially in the IT industry, established start-up firms in Thailand developing their own software. I10, who owns a robotics and software firm, won several national start-up and funding competitions. The firm specialized in developing AI for robots and machinery such as Unmanned Aerial Vehicles 'computer vision' software, which enables the machine to identify the object it views.

I9, who researched software design in Japan, established two software firms. During the COVID-19 pandemic, they developed software for a famous car factory to keep track of the status of their employees. Another software firm, which I9 established, developed software for household bookkeeping applications for smartphones. The distinctive function of this application was that it utilized optical character recognition technology, which helps one scan physical bills and keep them in digital format.

I15, who studied machine learning and AI in Japan, developed a text-to-speech software, a program that will read the text one inputs aloud. There was only one firm that provided a text-to-speech service in the Thai language, and its accuracy was low. Thai is a tonal language in which the meaning changes with the pitch of the word; therefore, it was very hard to replicate. However, I15's firm developed the software, which sounds so realistic that a Thai television channel used it to substitute newscasters.

Tobacco Stalk Harvesting Machine: As mentioned earlier, I16 owns a tobacco stalk export firm. He taught the farmers to focus more on quality and produce less waste than on quantity. Moreover, with his knowledge of machinery, which he learned from Japan; he invented a machine for harvesting the tobacco stalks.

5. Conclusion

We found that the returnees learned work ethics, management concepts, technical knowledge, and skills from studying and working in Japan. The returnees could utilize the human capital they gained from Japan to improve their firms' performances and, more importantly, product and process innovations. They could also transfer the human capital gained from Japan not only to their subordinates but also to other local Thai firms by holding seminars, providing consultancy services, or becoming managers.

There are two contributions to this study. The first is the central role of work ethics in human capital development. Work ethics influence the management styles and the knowledge and skills of the returnees.

The second is the establishment of the relationship between human capital and innovation in the context of Thai returnee entrepreneurs and managers from Japan. The returnees transferred their management concepts, work ethics, and technical knowledge and skills, collectively known as 'human capital,' to their own firm and other local Thai firms. With the human capital transferred to the local firms, they could come up with product and process innovations.

Lastly, we would like to suggest four recommendations to policymakers. First, prioritize developing human capital by sending human resources (both skilled and semi-skilled) to advanced nations since human capital is essential to initiating innovation. Secondly, the curricula of dispatching institutions and accepting institutions should give special emphasis on Japanese work ethics among the trainees (e.g., pre-departure language training, internships, and community interaction). In this study, we found that work ethics is an important factor that enhances the development of other skills. One good example of a training course for learning Japanese work ethics is a course provided by AOTS based on the Malaysian government's "Look East" policy. If Thailand has a stronger policy on learning work ethics and cooperating with Japanese organizations, the dispatched workforce could adjust to the Japanese working society better and pay more attention to the importance of learning work ethics. The third recommendation is to establish an organization that gives direct support to returnees who came back to Thailand in finding suitable job opportunities, which might include providing funds to start their businesses. The last recommendation is to help returnees build networks with local entrepreneurs and related stakeholder institutions. A strong network is an effective and fast way for returnees to directly transfer their human capital to local firms.

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Appendix

Table 1 List of interviewees and their backgrounds

Code	Gender	Purpose for going to Japan	Current position	Current firm's industrial sector
I1	Male	Training (TITP)	Entrepreneur	Car rental firm, chemical goods retailing firm, paint manufacturing firm, agricultural product retailing firm, restaurant
I2	Male	Training (TITP)	Entrepreneur	Electrical appliance importing firm
I3	Female	Studying and working	Manager	Automobile assembling firm
I4	Female	Working	Manager	Japanese style restaurant
I5	Male	Studying	Entrepreneur	Textile manufacturing firm, rental apartment
I6	Male	Studying and working	Manager	Bank (data scientist manager)
I7	Female	Studying	Entrepreneur	Custom shoes manufacturing and retailing firm
I8	Male	Studying and working	Manager	Insurance firm (application system support manager)
I9	Male	Studying and working	Entrepreneur	Software development firm
I10	Male	Studying	Entrepreneur	Hardware and software development firm
I11	Male	Studying	Entrepreneur	Software development firm
I12	Female	Studying	Entrepreneur	Apparel rental firm
I13	Male	Studying	Manager	Medicine development center
I14	Female	Studying	Manager	Science research institution (under the Ministry of Higher Education, Science, Research, and Innovation)
I15	Male	Studying	Manager	Software development firm
I16	Male	Studying and working	Entrepreneur	Rental apartment, big motorcycle garage, tobacco stalk exporting firm
I17	Male	Studying and working	Entrepreneur	Golf ball manufacturer (former owner), automobile parts manufacturing firm (manager), plastic mould manufacturer (consultant)
I18	Female	Studying	Entrepreneur	Poultry farm
I19	Male	Studying and working	Entrepreneur	Textile and apparel manufacturer (former owner), Office of Small and Medium Enterprise Promotion (director), Department store (managing director)
I20	Female	Working	Entrepreneur	Custom pillow manufacturing and retailing firm
I21	Female	Studying and working	Entrepreneur	Old Japanese Students' Association (manager), entertainment firm (owner)
I22	Male	Studying and working	Manager	Lifestyle product manufacturing and retailing firm (co-owner), real estate (manager), rubber glove manufacturing firm (manager), holding firm (manager)

Code	Gender	Purpose going to Japan	for	Current position	Current firm's industrial sector
I23	Male	Studying working	and	Entrepreneur	Industrial park (former manager), consulting firm (owner)
I24	Male	Studying working	and	Entrepreneur	Consulting firm
I25	Male	Studying		Entrepreneur	Publishing firm
I26	Female	Studying working	and	Entrepreneur	Localization firm