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Determinants of Human Capital Accumulation of Female Migrants in the Destination

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Abstract

The purpose of this research was to examine human capital accumulation and factors determined human capital accumulation among female migrants, who moved from the rural northeastern region of Thailand, at destination areas. Using quantitative methodology in the study, and unit of analysis was at the individual level. The sample size was 320 female migrants who have been living in Chonburi for 1-10 years with inclusion criteria. The approach for sampling was the randomized enumeration area. The interview schedule was used as a research tool, and the data collection period was in January 2018. Data analysis was done by PATH analysis with STATA program. The results found that factors effected directly on human capital accumulation consisted of 1) female migrant characteristics; marriage status and number of the dependent household member, 2) migration factor; remittance, 3) human capital factor; the computer skill and 4) economic factor; occupational income with statistical significance level at 0.01 and 0.05. In addition, it was found those female migrant characteristics; age, and education, human capital factor; training on occupational skill, and social capital factor; membership had indirect effects on human capital accumulation through single marriage status with statistical significance level at 0.01 and 0.05. In addition, the factor of female migrant characteristics, migration factor, human capital factor, economic factor, and social factor were able to explain the variance of human capital accumulation by 49.34 percent (the R-squared = 0.4934).

Keywords: Migration, Female Migration, Human Capital, Human Capital Accumulation, Economic Factor, Social Factor

Introduction

Migration from rural areas to urban areas has become a mainstream migration of Thailand for decades. According to migration survey by the National Statistical Office in 2006, 52.56 percent of the migrant population was male migrants, while 47.44 percent was female migrants. However, considering only those who migrated to Bangkok, it appeared that the number of female migrants was higher than male migrants National Statistical Office, (2016). In addition, the analysis of domestic migration trends during 2007 to 2009 pointed out that female migrated from rural areas to urban areas and from urban areas to urban areas more than male (Tangchonlatip and Richter, 2011).

Therefore, it is to say that the migration of female is a movement from rural areas to urban areas, and the ratio of migration by the female is close to men.

Considering the destination of migrants, Chonburi is a province with the highest number of immigrants who are from the northern region of Thailand National Statistic Office (National Statistic Office, 2013). The number of migrations to Central region especially to Chonburi Province has been increasing because of developments of infrastructure, industrial sector, and services sector in the eastern region which have been growing rapidly. While the trend of work has shifted from industrial sector to services sector, so it resulted in the highest ratio of migrants who work in services sector with 34.5 percent in 2002 and up to 46.7 in 2006. Amongst these numbers, migrants from the northeastern region were found the most Office of the National Economic and Social Development Council (National Economic and Social Development Council, 2007). It can be said that economic growth in the industrial sector, and services and tourism sector become the pull factor attracting migrants to move to urban areas of Chonburi Province because urban areas of Chonburi is a location contains the capitals, and it is perfect for those who wish to accumulate, distribute, or seek advantage from the capitals (Harvey, 2012).

At destination areas, Most female migrants have conducted occupations in services sector such as waiter/ waitress, employees in the market, industrial employee, mechanic officers, clerk, etc. (National Statistical Office, 2013). These occupations have been defined as the occupational prestige at a moderate level and a fairly low level (Chantavanich, 1991).

Chamratrithirong (2007) conducted research on migration indicating that female migrants sent remittances, included facility stuff, to origin areas more than male migrants, and their parents were receivers. The remittances were a relief factor for eliminating poverty. It is clear that female migrants conducted migration due to economic purpose. They sent remittances higher than male even they had low education and conducted occupations with a moderate and fairly low level of occupational prestige. Therefore, research questions are raised. While female migrants are working at the destination areas, how do they accumulate human capital in order to improve knowledge and labor value for themselves, and what are factors determining the human capital accumulation of female migrants at destination areas. The output of research reveals the developing guideline for female migrants in accumulating human capital to improve individual capability in a long term.

Research Objective

To examine the accumulation of human capital and factors determining human capital accumulation among northeastern female migrants at destination areas.

Theory and Concept

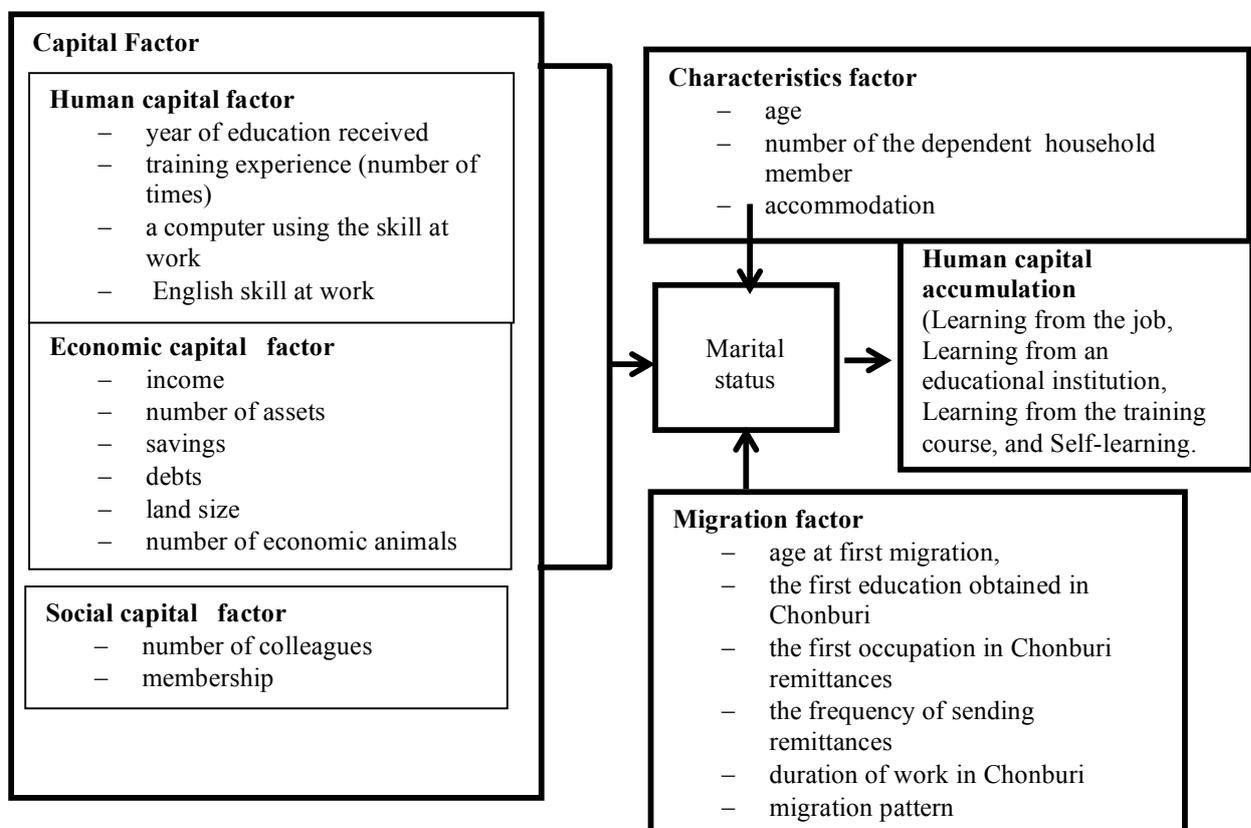
Human capital accumulation Becker (1964); assumption of the concept focuses on individuals who are able to choose education, training, and other knowledge improvements by weighing between benefits and cost they engaged in. In this case, benefits are in forms of culture and anything other than money received from occupational income, while cost is presenting as the take-out value such as time spent. The concept applied human capital indicators of the European Human Capital Index, which developed by the Lisbon Council and Deutschland Denkonto the study (Ederer, Schuller, & Willims, 2006). The researcher selects indicators regarding elements that secure human capital, and lead to economic activity, as indicators of human capital accumulation among female migrants. Therefore, the definition of human capital accumulation among female migrants is the actions that female migrants committed in order to accumulate human capital, such as education and occupational skill training, for themselves.

The researcher developed the conceptual framework by implementing the theory of the expected wage Todaro (1976) in the study. Todaro stated that migration between rural areas and urban areas was a response of individuals to the expected wages from work rather than a response to actual wages from actual work. Migrants made a

decision from opportunities in the labor market and decided to migrate when they think they would receive the maximum benefit. In addition, Lee (1966) stated that migration is a selectivity that focused on the importance of individual characteristics on migration. Therefore, this study applied individual characteristics including sex, age, marital status, education level, occupation, etc. to the study as an independent variable. In addition, variables from the qualitative study conducted by Saithong, Ayuwat, and Chinnasri (2018) are applied to this study.

Therefore, in this study, variables used to analyze consist of 1) characteristics factor; age, marital status, number of dependent household member, and accommodation, 2) migration factor; age at first migration, the first education obtained in Chonburi, the first occupation in Chonburi, remittances, frequency of sending remittances, duration of work in Chonburi, and migration pattern, 3) human capital factor; year of education received, training experience (number of times), computer using skill at work, and English skill at work, 4) economic capital factor; income, number of assets, savings, debts, land size, and number of economic animals, and 5) social capital factor; number of colleagues, and membership (figure 1).

Figure 1 Conceptual Framework



Research Methodology

This research employed a quantitative methodology to examine the accumulation of human capital and factors determining human capital accumulation among northeastern female migrants at destination areas. Unit of analysis was at the individual level. Research sample were female migrants who were based on inclusion criteria as following details. 1) female migrant were those who migrated from rural northeastern Thailand and age between 20-45 years old, 2) they must engage occupations and earned income, 3) they had lived in urban areas of Chonburi province for 1-10 years, and 4) they engaged in 5 occupational categories including Major group 4; clerical support workers, Major group 5; service and sales workers, Major group 9; elementary occupations, Major group 7; craft and related trades workers, and Major group 8; plant and machine operators and assemblers.

A sample size of the study was 320 female migrants, calculated by Cohen's formula (Cohen, 1988). All 320 cases were sampling by stratified random sampling method Prasitrathasin (2005) and it was determined by the proportion of female migrants in each occupational category, which presented 380,908 female migrants in total (National Statistical Office, 2016). Sample group, thus, were selected by randomizing the Enumeration Area (EA) in accordance with the National Statistical Office's guideline. 18 EAs were randomized covering 3 districts Chonburi province including Meung district, Sriracha district, and Banglamung district (Pattaya).

The dependent variable was human capital accumulation which measured at the interval scale. Independent variables consisted of 3 variable groups included 1) female migrant characteristics; age, number of dependent household member, and accommodation, 2) migration factor; age at first migration, the first education obtained in Chonburi, the first occupation in Chonburi, remittances, frequency of sending remittances, duration of work in Chonburi, and migration pattern, 3) capital factor including *human capital*; year of education received, training experience (number of times), computer skill on work, and English skill on work, *economic capital*; income, number of assets, savings, debts, land size, and number of economic animals, and *social capital*; number of colleagues, and membership, while the extraneous variable was the single marital status. In addition, some independent variables (accommodation, the first education obtained in Chonburi, the first occupation in Chonburi, and migration pattern) had measuring scale lower than the interval scale, so these variables were adjusted as the dummy variable in order to input in the multivariate analysis.

Data collection was conducted by interview. Selected sample was classified by inclusion criteria. The interview schedule was constructed and tested (try out), and the reliability value was 0.907. Period of data collection was in January 2018. Chi-square test and PATH Analysis method were implemented in data analysis (Wuensch, 2016).

Result and Discussion

Results of this paper cover female migrant characteristics, human capital accumulation, and determinants of human capital accumulation among female migrants as following details.

Characteristic of Female Migrants

Majority of female migrants (56.9 percent) aged 21-38 years old (Gen Y), and followed by those who aged 39-45 years (Gen X) (40.0 percent). The average age of female migrants was 35 years old. The lowest age was 20 years old, and the oldest one was 45 years old. It was noticed that although female migrants were into middle age, they still intended to stay at Chonburi, where was a destination of migration. More than half of female migrants did not have to household members who were the dependent-aged person (below 15 years old and over 60 years old) at origin areas. However, one-third of female migrants were responsible for taking care of dependent aged-household member at origin areas. They had to take care of those who were left behind at their origin areas since it was a traditional practice of Thai daughters (migrants) who were expected to send remittance back to origin areas (Knodel et. al. 2000). This research also found that more than 85 percent of female migrants lived at destination places without dependent household members. Regarding education, female migrants graduated primary school level (26.6 percent), secondary school (21.3 percent), and junior high school level (20.3 percent) respectively, and found 16.6 percent of them graduated Bachelor degree. In addition, most female migrants (83.1 percent) had never attended training on occupational skills. This result indicated that female migrants obtained only primary education and most of them had never received any skill-based training while they were living at destination places. This became the limitation of female migrant to access high skilled-occupation.

Human Capital Accumulations of Female Migrants

The results revealed 4 methods used to accumulate human capital among female migrants. Details of the method are as following details.

Learning from the job included the on-the-job training (OJT) at the workplace and learning from secondary learning materials. These learning methods occurred among female migrants who conducted different works. The on the job learning mostly appeared in industrial workplaces. Duration of learning was short. They had learned their tasks over and over, so it resulted in an improvement in their working skills. Another learning method generally was found in female migrants who worked in services and tourism sector. Learning from secondary learning materials was quite flexible in working time, so it allowed female migrants to allocate time to learn by themselves such as using the internet, reading, etc. The quantitative analysis found 51.3 percent of the majority of female migrants had a low level of human capital accumulation by learning from the workplace (5-7 points), and only 26.6 percent of them had a high level of learning at the workplace (11 -15 points).

Learning from educational institution referred to a study from educational curriculums provided by educational institutions. Female migrants had attended learning at educational institutions along with working at the same time, so they had to manage time between working and learning. Many of female migrants chose to study at the vocational level which took around 2 years. When they graduated, they were able to use the graduation certificate to apply for a job such as accounting, etc. Some female migrants chose to study in the general course in order to enter an undergraduate degree in an open university. This type of study took longer than the vocational education, but the bachelor's degree provided more opportunities to work in secured occupations, such as government jobs, etc. the result revealed that 88.1 percent of female migrants had a low level of human capital accumulation by learning from educational institutions (6-8 points).

Learning from training course means a short-training course to improve occupational skills such as beauty course, Thai massage course, cooking course, English language course, etc. Most courses took between 3-6 months, and training courses were organized by public agencies, private agencies, or the non-profit organization. Female migrants chose to take the training course because they were able to start occupational activity immediately after they completed training courses. They also allocated the time off work time along with the training period. It was found that 96.5 percent of female migrants had a low level of human capital accumulation by learning from a training course (10-14 points).

Self-learning means female migrants learned and applied their skills to their works. This type of learning normally occurred among those who had noticeable character and applying thoughts to their works. Self-learning mostly was found in jobs regarding services and tourism sector. This kind of learning can happen with the service sector and tourism sector. The quantitative analysis found 64.1 percent of female migrants had a low level of human capital accumulation by self-learning (6-9 points).

In addition, the results indicated that female migrants were able to accumulate human capital at the destination, and it could be beneficial to them to secure livings. For instance, they had a higher education level, or they had better working skills. Outcomes of human capital accumulation led to a better occupation as same as a study by Jacobs (1999) titled "Trends in Women's Career and Gender in Britain", which found that although the qualifications of female and the proportion of participation in work were increasing, the human capital of female did not increase. It reflected that although female migrants had the potential to learn and improve their human capital, but the accumulation of human capital through 4 methods, namely learning from workplace, learning from educational institutions, learning from training course, and self-learning, still found at low level because female migrants might have individual characteristics before migration differ from Lee's theory of migration (Lee, 1966). Therefore, female migrants had to learn more at their destinations. However, this paper revealed that female migrants always seek opportunities to improve their potentials through various methods.

Determinants of Human Capital Accumulation among Female Migrants

Multi-collinearity test was implemented in order to observe linear association among independent variables input in the analysis, and there was no issue of multicollinearity among independent variables. Thus, Path Analysis was

implemented in data analysis to examine factors including characteristics factor, migration factor, and the capital factor which influenced on the single marital status (Table 1) and drew a path diagram (Figure 2). The results found that variables presented a positive direct effect on human capital accumulation consisted of 4 variables, and variables presented a negative direct effect on human capital accumulation consisted of 1 variable as following details

1) Single marital status (X2) had path relationship with human capital accumulation with statistical significance at the 0.01 level and had a positive direct effect with regression coefficient (b) by 2.174. It indicated that female migrants who had single marital status would have more opportunity to accumulate human capital than those who had other types of marital status by 2.174. The single marital status had a path coefficient (β) by 0.137, which presented that a variable accounted for 13.7 percent in explaining human capital accumulation. The findings supported Saithong (2018) who found that female migrants had better opportunity to accumulate human capital while they were still single while Fabrizio and Juan (2010) who found that the high-educated women tended to get married less than other women. It was said that if a woman accumulated human capital by education, it was possible that they received education or accumulated human capital for themselves while they were having a single marital status.

2) A number of dependent household members (X4) had path relationship with human capital accumulation with statistical significance at the 0.05 level and had a positive direct effect with regression coefficient (b) by 0.696. When female migrants took care of their dependent household members 1 person, human capital accumulation among them would increase by 0.696. A number of the dependent household member had a path coefficient (β) by 0.121, which represented that a variable accounted for 12.1 percent in explaining human capital accumulation. It indicated that if female migrants had more dependent household members to be taken care at origin area, they had to accumulate more human capitals at destination areas because they had to sacrifice themselves for the household at origin areas. The findings confirmed Tacoli (1999) study that suggested that the migration of female migrants depended on migrant's self-interests and benefits of migrant households.

3) Remittance (X10) had path relationship with human capital accumulation with statistical significance at the 0.05 level and had a positive direct effect with regression coefficient (b) by 0.0002. This indicated if remittance per month increased by 1 Thai Baht, human capital accumulation among female migrant increased by 0.0002. Remittance also had a path coefficient (β) by 0.120, which represented that a variable accounted for 12.0 percent in explaining human capital accumulation. The findings confirmed Göbel (2013) who found that remittance was what female migrants representing the importance of human capital accumulation. Human capital accumulation resulted in female migrants had more working skills and experiences and higher education, so female migrants were able to work better and had higher incomes.

4) Computer skill on work (X14) had path relationship with human capital accumulation with statistical significance at the 0.01 level and had a positive direct effect with regression coefficient (b) by 0.733. This indicated when female migrants had more computer skill on work by 1 unit, human capital accumulation among them increased by 0.733. Computer skill on work also had a path coefficient (β) by 0.408, which represented that a variable accounted for 40.8 percent in explaining human capital accumulation. The result confirmed Davenport (1999) who found that all individuals owned human capital. Individuals had the authority to make a decision on how do they invest in human capital or create value on human capital. Computer skill improved the potential of female migrants at the workplace. They had the ability to learn computer skills through various computer programs, and they applied the ability to improve working potential and had higher incomes. Moreover, female migrant used computer skill to create a social network to make a connection with others.

5) Income (X16) had path relationship with human capital accumulation with statistical significance at the 0.05 level and had a negative direct effect with regression coefficient (b) by -0.00004. This indicated when the income of female migrants increased 1 Thai Baht, human capital accumulation among them decreased by 0.00004. Income also had a path coefficient (β) by -0.110, which represented that a variable accounted for 11.0 percent in explaining

human capital accumulation. The result supported Saithong (2018) who found those female migrants engaged in occupations with less income because they wanted to spend more times on higher education. Female migrants expected higher education would lead them to conduct secured occupations with higher income.

Moreover, the study revealed 4 variables, including age, year of education received, training experience (number of times), and membership, presented an indirect effect on human capital accumulation with statistical significance at the 0.05 level. All variables that affected human capital accumulation were used to draw the path diagrams, 9 diagrams in total. The variables accounted for 49.34 percent of the variance in explaining human capital accumulation among female migrants ($R^2 = 0.4934$) (figure 2).

Comparing path coefficient (β) of all 10 variables that influenced on human capital accumulation, found that computer skill on work (X14) ($\beta = 0.408$) had the highest effect on human capital accumulation with statistical significance at the 0.01 level, and followed by Single marital status (X2) ($\beta = 0.137$), Number of dependent household member (X4) ($\beta = 0.121$), remittance (X10) ($\beta = 0.120$), and education (X12) ($\beta = 0.023$) respectively.

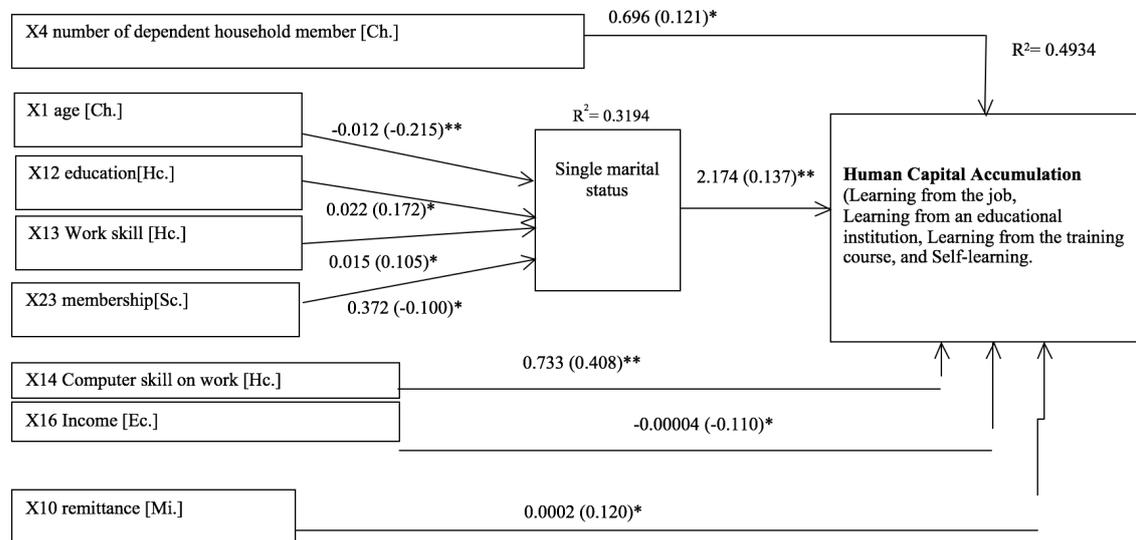
Therefore, it is concluded that characteristics factor, migration factor, and capital factor are the determinants of human capital accumulation among female migrants, which the hypothesis is confirmed. Computer skill on work has the highest effect on human capital accumulation by 40.8 percent. It is clear that computer skill is a crucial skill that female migrants have to learn and train in order to improve their potentials. This confirms the theory of human capital Becker (1993) that suggested that individuals make a decision to receive education and training by comparing to benefits and cost they have spent.

Table 1 Regression Coefficient, Standardize of Regression Coefficient and Coefficient of Human Capital Accumulation of Female Migrants

Variables	Human capital accumulation [$R^2 = 0.4934$]			order
	b	β	Sig	
Characteristics factor				
X1age (year)	0.029	0.033	0.633	
X4number of the dependent household member	0.696	0.121	0.010	3
X5house	-0.955	-0.066	0.189	
X6 apartment	0.872	0.047	0.359	
Migration factor				
X7age of first migration	-0.093	-0.090	0.107	
X9first occupation at Chonburi	0.113	0.006	0.886	
X10 remittance(number)	0.0002	0.120	0.024	4
X11monthly remittance	-1.501	-0.099	0.063	
X27duration of work at Chonburi (year)	0.007	0.003	0.947	
X28indirect migration	-1.301	-0.089	0.083	
Capital factor				
X12education	0.126	0.061	0.311	5
X13Work skill (number of training course)	0.152	0.065	0.134	
X14 Computer skill on work	0.733	0.408	0.000	1
X15English skill on work	0.193	0.102	0.061	
X16 Income (monthly)	-0.00004	-0.110	0.018	
X17Asset(number)	-0.002	-0.002	0.963	
X18saving	4.040	0.064	0.163	
X19 debts	2.010	0.000	0.984	
X20land size	-0.051	-0.072	0.104	
X21economic animals (number)	0.128	0.032	0.470	
X22colleagues (number)	0.172	0.050	0.284	

X23 membership	1.307	0.022	0.611	
Single marital status	2.174	0.137	0.006	2

Figure 2 Path Analysis of Factors influenced directly on Human Capital Accumulation among Female Migrants and Factors influenced indirectly on Human Capital Accumulation through single marital status.



Remark ** Significance Level at 0.01 * Significance Level at 0.05 Effect $b(\beta)$

Conclusion and Suggestions

This paper explores 2 major conclusions which are (1) human capital accumulation of female migrants at destination areas has done through 4 methods including 1) learning from the Job, 2) learning from educational institutions, 3) learning from the training course, and 4) self-learning. The results also found a low level of human capital accumulation in each accumulating methods. Therefore, the process of learning in each method should be developed in order to implement as a mechanism to accumulate human capital. Another major conclusion is Cohen (1988) the determinants of human capital accumulation among female migrants at destination areas consisted of characteristics factor, migration factor, and capital factor. Computer skill on work is a determinant that performs the highest predictive power (40.8 percent). Therefore, agencies related to women's potential development should provide the computer skill on work to female migrants to learn and train more in order to increase human capital. In addition, the results are able to implement in the policy suggestions to promote human capital accumulation among female migrants who are both single and get married. Female migrants with single status should be promoted to receive training on computer skill in order to accumulate human capital, while female migrants with marriage status should be supported by the policy to reduce the burden on taking caring of dependent household member at origin areas in which lead to more opportunity of female migrants in accumulating human capital.

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