

# Human Capital Development to Promote Thai Traditional Medicine for Medical Treatment in Central North-Eastern Region

*Sasaphon Moongvicha*

Faculty of Business Administration, Rajamangala University of Technology Phra Nakhon, Thailand

E-mail: Sasaphon.m@rmutp.ac.th

## Abstract

Base on the fact that Thai traditional medicine was popular thousand years ago because of its immune system for balancing human body that is suitable for chronic diseases. This research is focused on building its popularity thru factors of the human capital development which apply with wisdom intelligence to Thai Traditional medicine. 370 samples are Thai traditional medicine from 4 provinces in central north-eastern region; data was analyzed by mixed-method. Quantitative analysis was used for testing variables relationship between Thai traditional medicine's core practices and Thai traditional medicine syllabus. Qualitative analysis intend for examine and cross check outcome from quantitative analysis and for fact finding in government and remuneration supporting system in Thai traditional medicine in central north-eastern region. Quantitative analysis using canonical correlation with eigenvalues and correlation coefficient indicated for variables' relation. In-depth interview was performed with group of administrative levels in central north-eastern region. The results are human capital development has related to Thai traditional medicine syllabus in low range but has related to government supportive and remuneration system in very high range.

**Keywords:** Knowledge, Skill, Capability, Human Capital, Thai Traditional Medicine in Medical Treatment

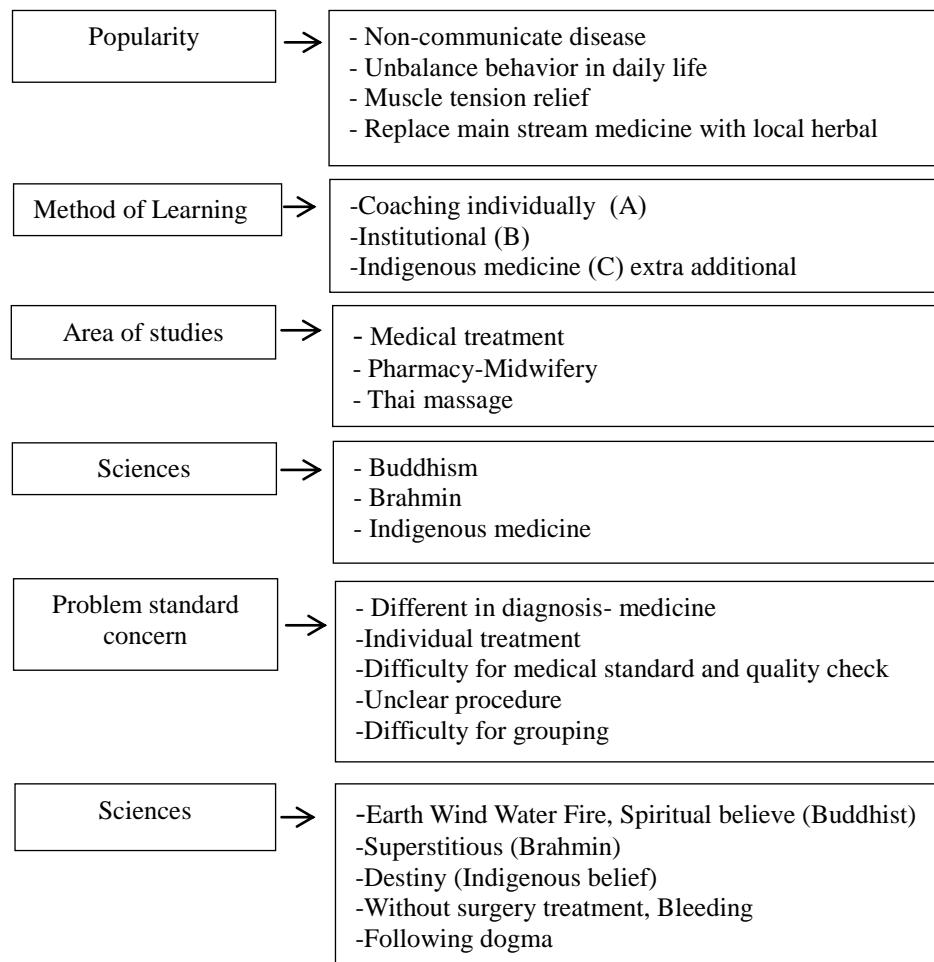
## Introduction

Even though western medicine was worldwide accepted since 1978 but due to current patients' sickness mostly are from chronic disease, so the World Health Organization has encouraged countries using multidisciplinary medicine (World Health Organization Geneva, 2002). The unbalance daily life behavior causes the need for promoting human health but mostly restore therapies are from eastern traditional medical treatment. Thai traditional medicine is originally from Buddhism and Ayurveda India civilian (Nitpanich, 2010) while basic ideas remedy by natural herbal therapy, balancing peace of mind with religious and superstitious beliefs. When it was first time proliferated into Thailand and later on blended with indigenous and Indian traditional medicine become a particular Thai traditional style. In order to study human capital development for promoting Thai traditional medicine, concepts, theories and literature reviews relevant are as: 1) historical of Thai traditional medicine 2) core concept of Thai traditional style of medical treatment 3) strategies in promoting Thai traditional medicine 4) human capital concept and its factors 5) wisdom intelligence model 6) Thai traditional medicine development in type A B and C.

### Historical of Thai Traditional Medicine

Thai traditional medicine is one of eastern medical style treatment which emphasize on prevention mainly cure by concept of earth, wind, water and fire. Particular herbal healing will be prescribed individually vary upon diagnosis which causing by inner heat-air and liquid-movement within human body. Moreover the diagnosis is involved with weather,

temperature, season, age, at time, dwelling, altitude, location and patient's behavior which vary individually. Characteristics of Thai traditional medicine are shown as figure 1 (Nitpanich, 2010).

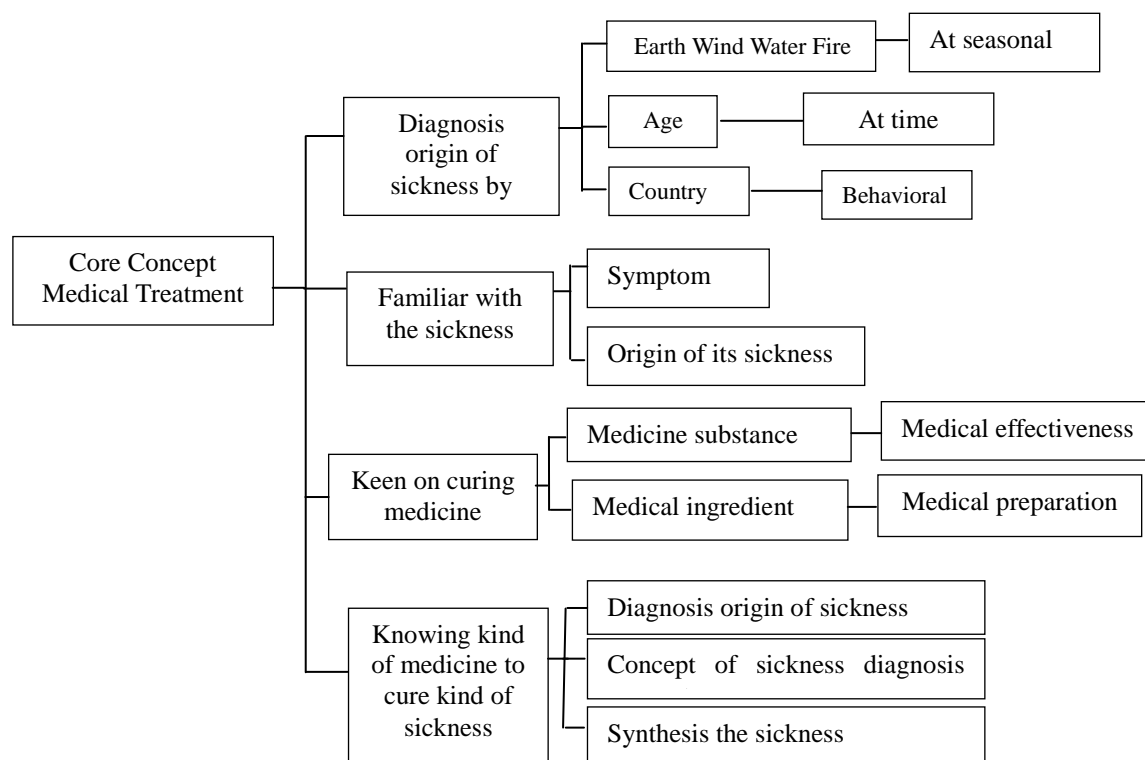


**Figure 1** Concept of Thai Traditional Medicine

Source: Adapted from Nitpanich (2010)

### Core Concept of Thai Traditional Style of Medical Treatment

Thai traditional medicine under Thai Traditional Medical Profession Act, BE 2013 and by mean of Thai wisdom means Thai traditional medicine, indigenous medicine and alternative medicine. Thai traditional medicine composes of 4 areas those are: 1) medical treatment 2) pharmacy 3) midwifery 4) Thai massage. Main task of medical treatment comprises of 4 elements are: 1) capable in diagnosis the origin of the sickness 2) familiar with the sickness 3) keen on medicine 4) knowing kind of medicine to cure kind of sickness. Moreover Thai tradition medicine has special aspects when diagnosis the sickness, detail in explanations are as shown in figure 1.2 (Deeviset, 1994).

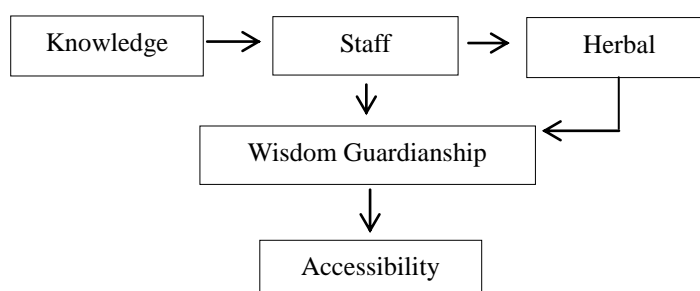


**Figure 2** Core Concept of Medical Treatment

Source: Adapted from Deeviset (1994)

### Strategies in Promoting Thai Traditional Medicine

For previous studies and relevant to sustainable strategy to promote Thai traditional medicine, 5 variables are found out those are knowledge, staff, herbal, wisdom guardianship and accessibility, model relationship are shown in figure 3 (Vasri, 2015).



**Figure 3** Variables in Promoting to Sustainable Thai Traditional Medicine

Source: Adapted from Vasri (2015)

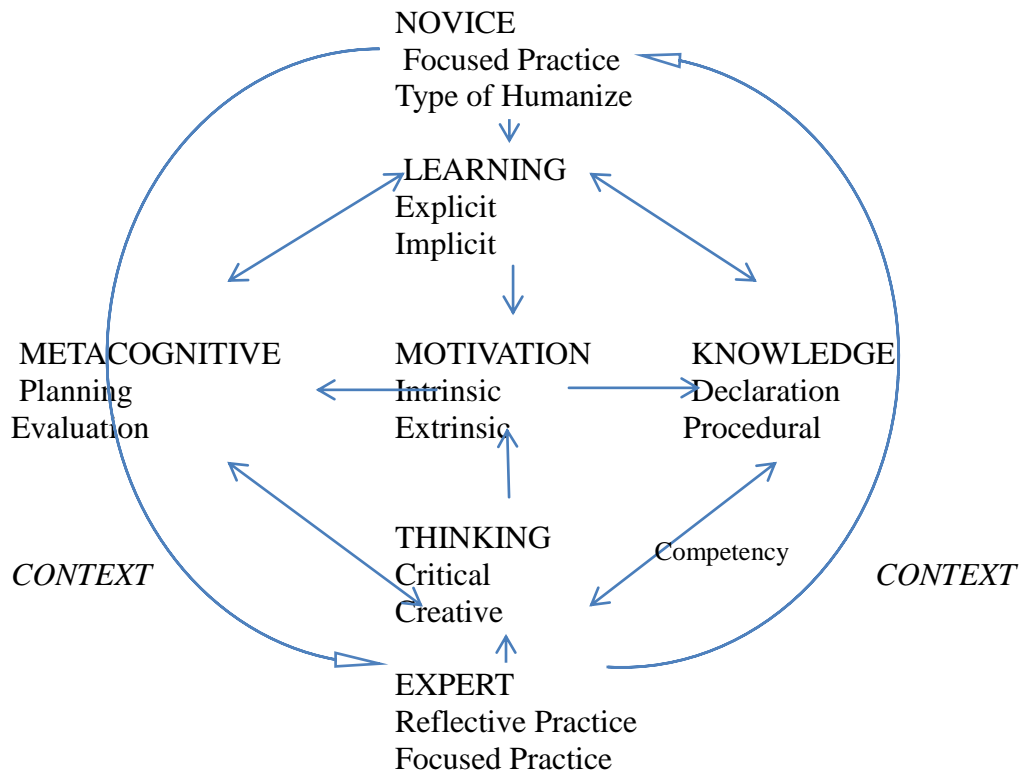
And according to Thai traditional medicine literature review, factors relevant that would be taken into quantitative analysis are:

- 1) knowledge (adapted to knowledge, skill, capability)
- 2) staff and its standard (adapted to human capital)
- 3) herbal (adapted to Thai traditional medicine in medical treatment)
- 4) wisdom development (adapted to wisdom intelligence link to capability)

These 4 factors will be mentioned further in human capital concept and its model.

### Wisdom Intelligence Model

Intelligence could be explained in steps and processes thru intelligence model which demonstrate how novice can become an expert applied to Thai traditional medicine. Novice can become an expert by metacognitive learning thru motivation for gaining knowledge as shown in figure 4 (Wagner, Williams & Harvath, 1995; Sternberg, 2003).



**Figure 4** Intelligence Model

Source: Adapted from The Developing-Expertise Model (Wagner, Williams & Harvath, 1995; Sternberg, 2003)

Intelligence model composes of 5 elements, those are: 1) metacognitive 2) learning skill 3) thinking skill 4) knowledge 5) motivation. The successful intelligence composes of 3 elements those are 1) analytical skill 2) creativity skill 3) practical skill (Sternberg, 2003).

### Human Capital Concept and Its Variables

According to staff, herbal, wisdom, variables that were mentioned above, the studies and literatures reviewed can be summarized into the relationship of human capital factors. Human capital comprises of 32 factors listed in figure 5, tables represented abbreviate letter in left-hand side Colum are as: A: Economist B: Becker C: Goldin D: Nisadar E: Kearns F: Armstrong G: P.M. Wright H: Ulrich I: Burns J: OECD K: Keeley L: Gratton M: Grant N: Stiles&Kulvisaechana and 1: theory 2: human capital 3: intellectual capital 4: social capital 5: emotional capital 6: management 7: strategic 8: changes 9: knowledge.

A	1	H 1	H 2	H 3	H 4	H 5	H 6	H 7	H 8	H 9	H 10	H 11	H 12	H 13	H 14	H 15	H 16	H 17	H 18	H 19	H 20	H 21	H 22	H 23	H 24	H 25	H 26	H 27	H 28	H 29	H 30	H 31	H 32
B	2	•	•	•	•	•	•	•	•																								
C	2		•						•	•	•	•	•																				
D	3, 4, 5			•	•								•	•	•	•	•																
E	2							•						•																			
F	6		•															•	•	•	•												
G	7		•	•	•		•							•	•	•				•		•	•	•	•	•	•	•					
H	6												•								•				•				•				
I	8							•														•					•			•			•
J	2		•	•	•				•		•											•					•			•			•
K	4						•		•								•								•						•	•	
L	3, 4, 5		•													•										•					•	•	
M	9		•	•															•														
N	2		•	•	•							•	•			•	•	•		•			•		•				•	•			•
	Sum	1	8	6	5	1	3	3	4	1	2	2	4	3	2	4	3	2	2	3	3	1	1	2	3	3	3	1	2	2	2	3	2

**Figure 5** Tables of Human Capital Factors

H1-H32 factors are 1) family 2) learning 3) knowledge 4) skill 5) values 6) communication 7) thinking 8) health 9) effectiveness 10) technology 11) ability 12) expertise 13) behavior 14) mind 15) wisdom intelligence 16) innovation 17) human capital management 18) resource management 19) remuneration 20) human relation 21) recruitment 22) admiration 23) organization structure 24) participation 25) to be accepted 26) social status 27) changer 28) motivation 29) competency 30) network 31) ideal 32) environment (external factor).

The most repeated factors are categorized into 5 items, those are as: 1) learning 2) knowledge 3) skill 4) expertise, wisdom intelligence, health 5) thinking, communication, human relation, participation, remuneration, status, and values.

Still there are other human capital factors that related to strategic human capital management variables, those are 2 styles model of human capital those are under American model and British model (Analoui, 2007). 1) The American model of human capital management was separated into Harvard model and Michigan model. 1.1) Harvard model of HRM or developmental humanism; developed by Beer, Spector, Lawrence, Quinn Mills and Watson (1984), mentioned that human capital management developed best under soft skill (Human relation) or was known as administration. 1.2) Michigan model of HRM or managerialism, model aims for utilitarian-instrumentalism which intend to increase corporate income (Fombrun, Tichy and Devanna, 1984), mentioned that human capital should perform best under hard skill (organization profit). 2) The British model of HRM (Analoui, 2007) was separated into 3 types, those are 2.1) Warwick model of HRM (Hendry & Pettigrew, 1990) was also outstanding accepted widely because the model are adjusted to its environment changes for as economic, social, politics and business strategies 2.2) Guest comparative model was a holistic model of HRM, the model support for both idea of soft skill and hard skill (Guest, 1987) 2.3)

Choice model was model which integrated between organization, human and environment (Dessler, 2003). To summarize the idea, all listed factors are shown in table figure 6.

A	1	H 1	H 2	H 3	H 4	H 5	H 6	H 7	H 8	H 9	H 10	H 11	H 12	H 13	H 14	H 15	H 16	H 17	H 18	H 19	H 20	H 21	H 22	H 23	H 24	H 25	H 26	H 27	H 28	H 29	H 30	H 31	H 32	
O	10					•				•	•	•						•	•	•				•			•							•
P	11		•															•		•		•												
Q	12										•							•		•	•			•				•						•
R	13		•							•				•				•	•	•	•	•		•				•						•
S	14										•			•										•			•			•				•
*		-	2	-	-	1	-	-	-	2	3	1	-	2	-	-	-	4	2	4	2	2	-	4	-	1	1	2	1	-	-	-	-	4
**		1	10	6	5	2	3	3	4	3	5	5	4	5	2	4	3	6	4	7	5	3	1	6	3	4	4	3	3	2	2	3	6	

**Figure 6** Tables of Strategic Management Human Capital Factors

Remarks: Abbreviate letters in table left-hand side Colum represent theorists as O: Beer et al. P: Fombrun Q: Henry & Pettigrew R: Guest S: Dessler

Number in left-hand side Colum represents concepts such as 10: Harvard model of HRM 11: Michigan model of HRM 12: Warwick model of HRM 13: Guest model 14: Choice model

\* is the sum of factors within table

\*\* is the conclude sum of factors tables from figure 5 and 6.

So from mentioned above when combine human capital factors and strategic human capital management, most important factors are as:

- 1) learning
- 2) remuneration
- 3) knowledge, human capital administrative, organization structure, external factors
- 4) skill, capability, technology, practice, behavioral, relationship

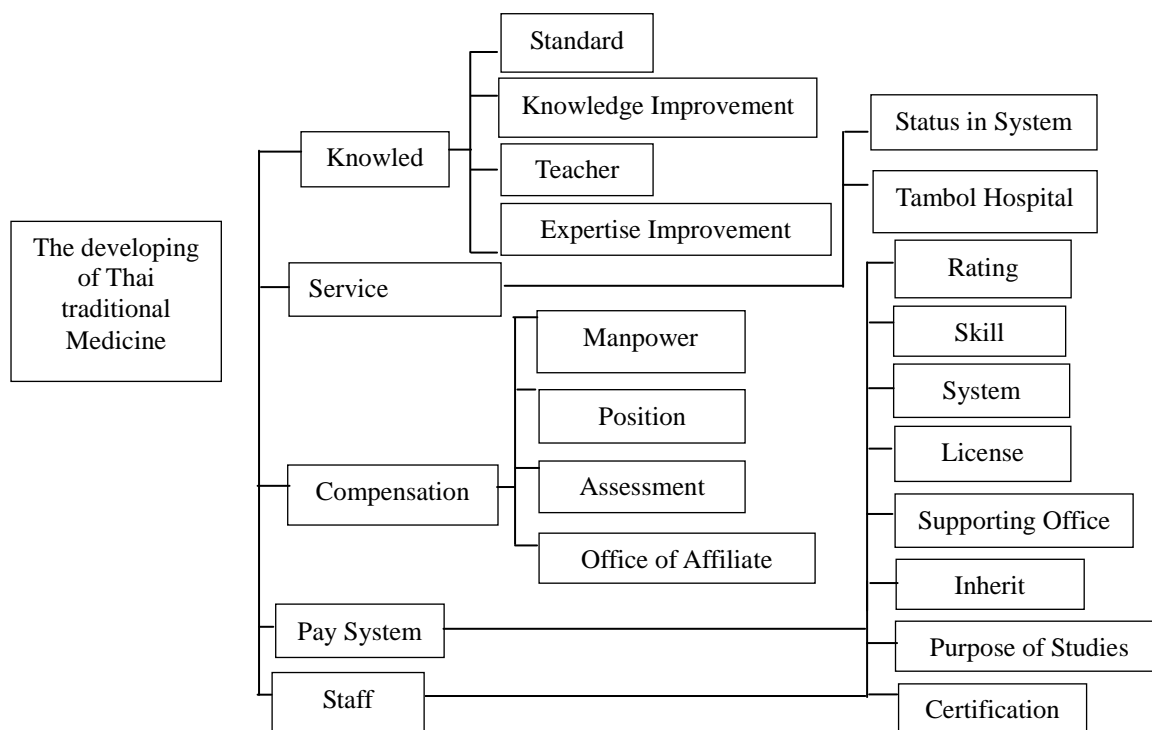
To conclude factors or variables related to wisdom intelligence model are:

- 1) intelligence-learning skill
- 2) intelligence-motivation, remuneration
- 3) intelligence-knowledge
- 4) wisdom-ability and trait

From the evidence above shows that most of human capital variables are related to intelligence variables in learning skill, motivation, knowledge, wisdom in capable and attribute. The intelligence concept is the idea of implicit theory and explicit theory.

### Thai Traditional Medicine Development in Type A B and C

Government policies for system development in learning Thai traditional medicine has settled its own committee emphasize in Thai traditional medicine type A. The planning impels for Thai traditional medicine to be a better service provider, develop manpower for both quantity and quality. Main strategic development aims for improve Thai traditional medicine in 5 areas (Committee of development of teaching and learning system for Thai traditional medicine type A, 2016), those are: 1) knowledge 2) system of service provider 3) compensation 4) paying system 5) staff, each category is detailed as shown in figure 7.



**Figure 7** The Developing of Thai traditional Medicine

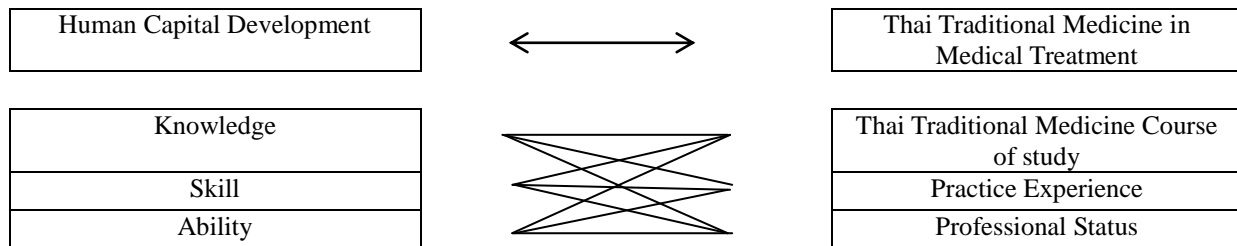
Source: Adapted from Committee develop for teaching and learning for Thai traditional medicine type A (2016)

### Research Objective

Objectives of this research are: 1) to study the relationship of human capital development to promote Thai traditional medicine in central north-eastern region 2) to analyze factors effect to human capital development to promote Thai traditional medicine in central north-eastern region 3) to synthesize the relationship of human capital development to promote Thai traditional medicine in central north-eastern region 4) to synthesize the quality of human capital to promote Thai traditional medicine in central north-eastern region

### Research Conceptual Framework

After literature reviewed in Thai traditional medicine module and human capital development, mixed-method was used for analyze its relationship. Conceptual frame work for quantitative analysis followed canonical correlation method was shown in figure 8. Qualitative analysis was by in-depth interview, the queries were about motivation factors such as remuneration both in intrinsic and extrinsic systems and government supported system.



**Figure 8** Conceptual Framework of Human Capital Development to Promote Thai Traditional Medicine for Medical Treatment in Central North-Eastern Region for quantitative analysis.

## Research Methodology

Quantitative analysis, data collected were 370 samplings from Thai traditional medicine in central north-eastern region; 4 provinces, Kalasin, Roi Et, Mahasarakham and Khon Kaen between August 2017-April 2018. Central north-eastern region is virgin with herbal fertile, indigenous medicine was still worshiped in practice. Statistical analysis was by canonical method for testing dependent and independent variables. Sample was calculated under Krejcie and Morgan (Krejcie and Morgan, 1970: 608) against 1,543 Thai traditional medicines in central north-eastern region. IOC for questionnaire testing validity and reliability were with alpha coefficient more than 0.70. Data analyzed by SPSS 20 calculated mean, median, mode, standard deviation, t-test and F-test, statistics analysis using canonical correlation test for dependent and independent variables relation.

Qualitative analysis, data collected by in-depth interview from administrative of Thai Herbal institution, the administrative of center of Thai traditional medicine, community pathology medicine, faculty of medicine of Khon Kaen University, the administrative of Thai Traditional medicine in Maha Sarakham health officer and group of business enterprise in Khon kaen. Questions were also to insist outcome of quantitative analysis that core concept values of Thai traditional medicine has related to course of study. Interviewer interrogated about level of knowledge, skill and capability that related to government supporting policies, compensation system and trait that can promote to growth of Thai traditional medicine.

## Research Results

### Quantitative Analysis Research Results

**Demographic sampling data** were 370 samples, mostly female 75.4 percent, ages between 21-30 years old 35.1 percent; 31-40 years old, 41-50 years old and above 50 years old were less but in similar proportion. There were 72.7 percent professional of Thai traditional medicine among them 65 percent have already had medical certificate, mostly 48.1 percent had in Thai massage, and for midwifery, pharmacy and medical treatment 27, 25 and 21 percent in order. Mostly practiced or study Thai traditional medicine for 1-5 years 48.1 percent and 6-10 year 37 percent.

Quantitative analysis, questionnaires designed were by checked list scale. Questions covered medical treatment main tasks, those are 4 elements; capability of diagnosis the origin of the sickness, familiar with the sickness, keen on medicine and knowing kind of medicine to cure kind of sickness. The results of check list questions upon knowledge, skill and ability. There were 67.1 percent answered correctly in main task knowledge of medical treatment, 47.1 percent answered correctly in main task skill of medical treatment, 63.2 answered correctly in main task ability of medical treatment and overall average score were 61.2 percent answered correctly.

**Hypothesis testing;** based on eigenvalue of canonical correlation that reflects the effect of



independent variables upon dependent variables. Level effect to dependent variable is based on Dennis and others' criteria (1979:85). Eigenvalues are between 0-0.30, 0.31-0.50, 0.51-0.70, 0.71-0.90 and 0.91-1 which mean that the relationship are very low, low, moderate, high and very high in order.

**Hypothesis 1:** Human capital development has affected to course of study for Thai traditional medicine in medical treatment. The result of eigenvalue for was 0.435 which show that the set of knowledge, skill and ability in main task of medical treatment have low effect to Thai Traditional medicine course of study. Knowledge and ability in pharmacy, knowledge in sickness have very high impact to course of study in pharmacy, midwifery and Thai massage.

**Hypothesis 2:** Human capital development has effected to practice experience of Thai traditional medicine in medical treatment. The result of eigenvalue was 0.100 means that the set of knowledge, skill and ability main task in medical treatment have very low effect on practice experience. Knowledge in knowing origin of sickness, kind of sickness, medicine and ability to know originate the sickness, kind of medicine cure kind of sickness have high effect to practice experience and medical certificate.

**Hypothesis 3:** Human capital development has effected to professional status for Thai traditional medicine in medical treatment. The result of eigenvalue was 0.349 which mean that the set of knowledge, skill and ability main task in medical treatment have very low effect upon professional status. Knowledge in knowing the sickness and ability in knowing medicine have highly effect to professional and certificate of pharmacy, midwifery and Thai massage.

**Qualitative Analysis Research Results:** Data from in-depth interview has shown as:

1) Knowledge, skill and ability in main task of Thai traditional medicine in medical treatment are suitable in current situation, all interviewee agreed that Thai traditional medicine had knowledge in origin of the sickness knowledge of sickness, knowledge in medicine and knowledge in kind of medicine can cure kind of sickness. Reasons behind were current curriculum had been adjusted to be more practical so they can apply Thai traditional medicine to other sciences such as Thai traditional medicine to cure as homeopathy. Practical in pharmaceutical start since the second semester of freshmen, increase clinic hours practice split half of in class learning; add more for R&D. (Interviewed from community pathology, center of Thai traditional medicine, faculty of medical, Khon Khean university, 2017)

Other suggestions were regarding to their own personal interest, if they intended not to be a tradition medicine they would not intend to improve their knowledge. More over the increasing number of coaching institution if they intend their teaching only for certificate, the certificated traditional medicine would not improve or apply knowledge to other sciences. (Interviewed from Maha Sarakham public health officer, 2017)

2) To develop knowledge, all interviewees agreed that curriculum followed Thai traditional medicine council which was more on practice which help link Thai medicine sold across to western medicine. They can export to countries but under western standard or sold to distributors aboard, drug rules were applied to Thai drug with high standard as well. So the collaborate was settle for trail within Khon Khean university among faculties relevant. (Medicine entrepreneur in Khon Khean, 2018)

3) For advance learning, interviewees agree that nowadays teenager pays more interest in Thai traditional medicine so they are alert to research and develop, but medical treatment was confront with short of position within government office so there are lacked of the continue or evolution in medical treatment that need permanent staffs to carry on research and development process for modern medicines. (Maha SaraKham public health officer, 2018)

4) Trait of Thai traditional medicine all interviewees agreed that Thai traditional medicine nowadays are more in capitalism so the treatment are concerned with income. So medical treatment are now has less position in government hospital because medical treatment incur

less income compare with midwifery or Thai massage. So the diagnosis under Thai traditional style has less aspect in hospital, Thai traditional medicine are treatment after western doctor when they prescribe give birth mother to midwifery or promoting muscle after muscle tension. (Maha SaraKham public health officer, 2018)

Even though government announcement was to assist Thai traditional medicine but it was not strong enough for implementation upon practice. (Interviewed from community pathology, center of Thai traditional medicine, faculty of medical, Khon Khean University)

5) Government supportive system, interviewees agreed that there were lacked of government support budgeting, procedural training, in-class training, government back up office in assistance. When Thai drugs are popular, most hospitals w cut off budget so they return to prescribe western drugs instead. (Interviewed from community pathology, center of Thai traditional medicine, faculty of medical, Khon Khean university, 2017)

The pay in government system for Thai traditional medicine is under paid, no standard job specification. There is few positions so after fill in position, one traditional medicine has to do all works for back office and confront with patient that he/she mostly could not handle, and most position is non-permanent staff. (Maha SaraKham public health officer, 2018)

## Discussions

1) Main weakness of Thai traditional medicine is from government support, the improvement cannot be when there is no funding, no position for medical treatment staff, according to Sternberg (2003), wisdom & intelligence model, motivation create learning to metacognitive skill and later on can become as an expert.

2) Government has applied more for Michigan model of HRM (Hard Skill) which concerned only organization profit so in the long run, country may facing loss (Fombrun, Tichy and Devanna, 1984). Instead the Harvard model of HRM that emphasize more on reward system and the development (soft skill) and even Warwick model of HRM (Hendry & Pettigrew, 1990) or Guest comparative model of HRM (Guest, 1987) which is the mixed model between the soft and hard skill and support to the weakness for both hard skill and soft skill. Or even the Choice model of HRM (Dessler, 2003) which try to integrate between organization policy, human capital or external factor into their strategies lead to implementation and the outcome that effective and worth to country and its citizen.

3) Being strength, Thai traditional medicine needs to demonstrate its strong point in curing for chronic disease. They should emphasize in process of sickness clearly in Thai style in order to build more understanding in Thai society. Even though knowledge, skill and ability by eigenvalues are low means that main task of medical treatment has low effect to Thai traditional medicine but the checked list score in skill is low (less than half) while knowledge and ability are in moderate so they need to promote Thai traditional style of learning or promote to process of sickness in Thai style.

## Conclusion

Thai traditional medicine need to promote Thai style of learning to Thai traditional medicine or promote the process of sickness in Thai style under Thai traditional medicine. Knowledge in origin of sickness and kind of sickness needs to be clarified and be supported under government scheme in order to bring upper standard. Remuneration needs to be considered in order to maintain medical treatment for building expert.

## References

Analoui, F. 2007. **Strategic Human Resource Management**. London: Thomson Learning.

- Becker, G. 1994. "Human Capital: A Theoretical and Empirical Analysis with Special Refernece to Education." In G. Becker & T. Research (eds.). **Human Capital Revisited**. Chicago: The University of Chicago press, pp. 15.
- Becker, G. 2002. **The Age of Human Capital**. Retrieved from media.hoover.org/sites/default/files/documents/0817928928\_3.pdf.
- Beer, M., Spector, B., Lawrence, P., Mills, D., & Walton, R. 1984. **A Conceptual View of HRM in Managing Human Assets**. New York: Free Press.
- Committee on Thai Traditional Medicine Education Development for Type A. 2016. **Guidelines for Development of Teaching Thai Traditional medicine**. Nonthaburi. Ministry of Health.
- Deeviset, K. 1994. **Hand book for Traditional Medical Treatment**. Bangkok: Provincial Health Office of Prachin Buri, Central Thai Traditional Medicine Coordination Center Prachin Buri.
- Dessler, G. 2003. **Human Resource Management**. 9<sup>th</sup> ed. New York: Prentice Hall.
- Fombrun, C., Tichy, N., & Devanna, M. 1984. **Strategic Human Resource Management**. New York: John Wiley.
- Guest, D. (1987). "Human resource management and industrial relations." **Journal of Management Studies** 24 (5): 503-521.
- Hendry, C.& Pettigrew, A. 1990. "Human resource management: An agenda for the 1990s'." **International Journal of Human Resource management** 1 (1): 17-43.
- Keeley, B. 2007. **OECD Insights: Human Capital**. Paris: Organization for Economic Co-operation and Development.
- Nitpanich, S. 2010. **Annual Thailand Health Report of Thai Traditional Medicine, Indigenous Medicine and Alternative Medicine, 2011-2013**. Nonthaburi: Department of Thai Traditional and Alternative Medicine.
- Sternberg, R. 2003. **Wisdom, Intelligence and Creativity Synthesized**. New York: Cambridge University Press.
- Vasri, P. 2015. **Thai Traditional Medicine System on Wisdom-Based**. (A paper presented at the 12<sup>th</sup> Thai Traditional Medicine Conference Indigenous Medicine and Alternative Medicine. Bangkok).
- World Health Organization Geneva. 2002. **WHO Traditional Medicine Strategy 2002-2005**. Geneva: World Health Organization.