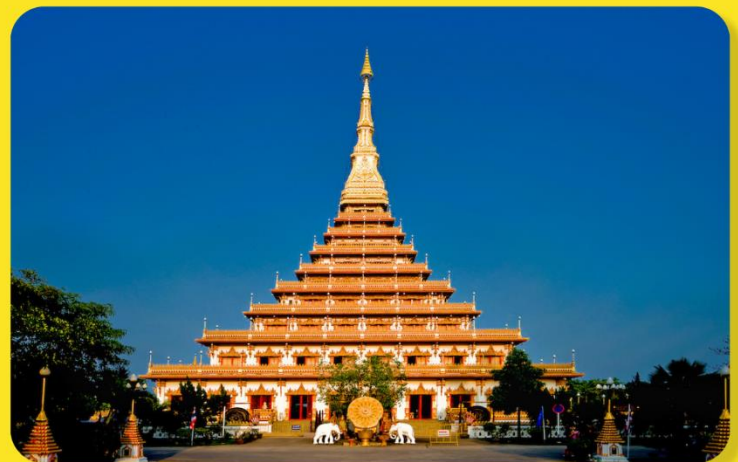




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ON SOCIO-ECONOMIC AND ENVIRONMENTAL ISSUES IN DEVELOPMENT

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8th INTERNATIONAL CONFERENCE ON SOCIO-ECONOMIC AND ENVIRONMENTAL ISSUES IN DEVELOPMENT, 2017

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PART 1: ECONOMIC DEVELOPMENT AND INTEGRATION

THE IMPACT OF GLOBALIZATION WITH THAI UNIVERSITY STUDENTS ENROLLED WITH INTERNATIONAL PROGRAM

Dr. Chuanchen BI

chuabi@kku.ac.th

Nithikarn Sanoamuang

nithsa@kku.ac.th

Wei Yang

weiya@kku.ac.th, Corresponding Author

Paul Fairclough

paul@kku.ac.th

Taraa Mothuratana

taraa@kku.ac.th

Roman Klimenko

roman@kku.ac.th

International College, Khon Kaen University, Khon Kaen, Thailand

Abstract

Globalization, caused by the rapid development of Information and Communication Technology (ICT), is becoming an inevitable trend in the present world. Globalization offers clear opportunities and benefits for the world economies but comes with substantial social costs that often appear to affect people, especially the youth. The world's researchers have paid most of their attention to adolescents, the special group of youth whose transition from being children to adulthood, has been most affected by the globalization period.

The aim of this study is to study the future impacts of globalization towards perspectives in place identity, specifically, the hometown identity of the youth. As most of the migration workers from Bangkok are coming from northeastern of Thailand, the place where agriculture industry is the major industry. The young students who enrolled with international program in the under-graduate level forms the basis for this research. This study uses primary data which was collected in Khon Kaen University Internasional College (KKUIC). The research results indicated that the respondents from KKUIC were more willing to live in big cities and that traditional music styles are neither popular nor attractive anymore. Among the participating youth students, place identity concerning future working place and living place, big cities such as Bangkok, Chiang Mai, etc. are more attractive for them. The willing of migration is higher than 78%. Sustainable development in the

agricultural based region needs contributions from the locals. However, the loss of place identity might act against this participation.

Keywords: *Globalization, Future Perspective, Place Identity, Youth Student, Northeastern Thailand*

1. Introduction

Globalization is not a new phenomenon in the 21st century, but its impact could spread in all perspectives. The positive and negative influences of the impact of globalization grip the attention of researchers all over the world. It is noticeable that, in the positive perspective, globalization could offer economic benefits to the country, which will benefit both the nation and its people. However, the social cost could have a substantial impact upon the younger generation due to a questionable transnational status within an uncertain and rapidly evolving global context.

Globalization can be defined as, the changing of the world combined with technological improvement. Robertson (Robertson, 1992) defined globalization as the subjection and also intensification for the awareness of the world in whole aspects. Currently, the world seems smaller because of lots of compression of time and space, shrinking of distance, being easy to cross and the world becomes smaller and we become closer to one to another. Tomlinson (Tomlinson, 1996) and Devereux (Devereux, 2014) described the key features for the definition of globalization, as: (1) the growing level for the connectedness between individuals, societies and nation states at a global level; (2) the reduction of the distance between individuals, societies and nation states in both time and space which could be facilitated by technological developments; (3) the development of Information Communication Technologies (ICTs) increasingly allows the rapid transfer of information, knowledge and capital, (4) increasing awareness of global phenomena in people's (local) lives.

Furthermore, interaction between one to other become higher intense with the increasing of migrations, worldwide media dissemination, multinational companies everywhere, tourism travel and so forth (Friedman, 2000). Giddens (Giddens, 2013) defined globalization as the intensification of social relations which link with distant localities and that could have an effect upon local happenings by events occurring many miles away. In this context, the relationship of improving economic and cultural interdependence of societies, especially regarding identity, is becoming a particularly interesting phenomenon.

Moreover, the other scholars also focus on the globalization and its impact towards to the world (Bauman, 1998), most of them are focus on the economic

dimension. For the research of the impact on globalization towards the cultural identity is limited (Featherstone, 1996; Momeni & Rasekh; Wang, 2007).

The youth as a special group, aged between 15 and 24 (WHO), are greatly influenced by the globalization time, and whose transition, from childhood to adulthood, due to their unstable emotional control, draws most of the attention from researchers. Globalization offers clear economic opportunities and benefits, but comes with substantial social costs that often appear to affect people, especially youth, disproportionately, given their tenuous transitional status within an uncertain and rapidly evolving global context (Kenway & Bullen, 2008). Moreover, Development activities mostly underpinned the young people and put them as the powerless for globalization process in each sectors (Wallace, 2001).

Thailand, as the most tourism based country, yearly attracted millions of tourists, the information exchanged with globally citizens are obviously, and the impact of globalization generally has had a positive impact to the national economy. However, the economic development is not balanced and this is especially obvious by the different regions, such as Esan area (Northeastern of Thailand). Migration flow from the Esan area to the central part of the country is serious; what issues support this regular migration flow in Thailand? What are the issues of globalization that affect the youth population in the Thai university?

Due to this, the impact of globalization towards the future perspective of place identity is the concern of this research. In this study, the researcher focuses on place identity in the future perspective of the adolescents who are studying with International Program in the university level, especially their attitude towards their current living area and as a place to live in the future. Their attitudes towards frequently accessed music styles and their attitude to their parents' occupations are the supporting issues considered in the questionnaire, to describe the impact.

2. Method

Quantitative method is used in this study. The impact of Globalization regarding the future perspective of place identity is set as the guideline in the questionnaire. According to the definition of the WHO, the youth is the period in human growth and development that occurs after childhood and before adulthood, from ages 15 to 24. At these ages, the target population should be in education from grade 10 to under-graduate study. Based on this information, the target population selected had an average age of 20 years and consisted of 216 youth students, enrolled in international program in Khon Kaen University International College.

What the students think about globalization and what is the impact of globalization towards place identity will be the focus of this research, is the change

in the place's identity due to changing economic, or is outside culture involved? Due to this, the research specifically selected students who enrolled with international program, as English is widely used among those respondents. Data collection was carried out using the self-administered technique. The questionnaires were given to the youth students and they filled them out by themselves. Some of the students ignored the questions that they thought were too sensitive for them to answer, e.g what is your attitude to marrying a foreigner.

The data analysis for this study uses univariate analysis and descriptive analysis to show the prevalence of the sample. The researcher uses SPSS IBM 20 as the statistic analysis tool to analyze the result.

3. Result

The result of this research will be divided into three parts, firstly, it will describe the characteristics of the respondents; secondly, their attitude to the globalization era; thirdly, the future perspective of place identity, regarding globalization issues. The characteristics of the respondents will be described by their socio-economic status, their standard of living and their family conditions. The following phase of this study is to describe the attitude and behavior of the undergraduate students, regarding globalization. In this phase, I explore their frequency of using the internet, their attitude towards music; the respondents' expression of ecology, economics and social structure issues; their appraisal of the global warming issue; and their attitude towards the personality they would like to be. The third part explains how the respondents think about the future of the place, what is their attitude towards the big cities, where they want to live in the future and their dream career that may also impact to their place identity.

4. Characteristics of Respondents

In the study, a total 235 respondents were carried out from International college, Khon Kaen University. The characteristics in this study describe their gender, ages and their way of life, including what areas they live in and the condition of their housing.

Based on the result, the numbers between male and female in Yog are almost. Regarding the ages of the respondents, the average age is around 20. As for their living area, most of the respondents are lived in the northeastern part of Thailand (E-san), it could be explained as Khon Kaen University as the top leading university attracted most of the local E-san students to come and study.

The background of the family members were also considered in the questionnaire, since most of the households in E-san area do not pay more attention in education. But

seen from the questionnaire, education is considered as important choice. Most of the fathers of the respondents had graduated with a bachelor degree (50.4%) and post-graduates (40.3%), regarding their mother's education, most had graduated to bachelor degree level (65.5%). Because of the higher education levels, the majority occupations are being, civil servants, employees in the private sector, entrepreneurs, headmaster, and teachers. 71% of the students' families have farmland, but plantation is not longer the choice for their parents. Most of the family rent their farmland for the rice plantation, and receive the rental fee with set amount rice.

5. The young students' attitudes in the Globalization Era

This study defines attitude as an expression of favor or disfavor toward a person, place, thing or event (Allport, 1935). The phenomenon of dissonant acculturation (Portes, 1997), happens when exposure to a new culture could lead to more rapid change among adolescents rather than the adults. In this part of study, the researcher is trying to explore further information related to attitude in the globalization era, also encouraging the expressions of the adolescent students in grade 9, concerning ecology, economics and social structure issues. Since the internet and music are the products of globalization, they may also have an impact upon the adolescent's attitude, so the study will start with internet use and music styles.

The internet, as the most popular social media, is also the easiest way to find out about the whole world, and could be an instrument for the respondent to be involved in globalization. Furthermore, using the internet will erase the distance as a physical barrier to the transferring of information. Nowadays, the internet is involved in daily life, this is also the product of modern globalization, the speed of using the internet could let the youth know exactly what is going on outside, it may have an impact upon youth's attitudes in the globalization era. The aim of this question is to know how frequently do the students use the internet. The result is as in Table 1.

Table 1: Frequency of using Internet

How often do you use internet	Results in %
Every day	98.4
Several times a week	1.6
Never	0

The table indicated, internet is not popular among the young students in KKUIC. The educational-purposed WI-Fi are applied in almost everywhere at KKUIC building, which also offer the easy way for access the internet. Moreover, currently internet access has become the primary need of the family, supporting education for the young student and also work for the parents. The basic education, from the very early age of children,

could also be promoted by internet access. Hence, internet access becomes a primary or basic need for the family and also for the students.

Townsend (1994) explained the impact of globalization is still evolving and uncertain. However, the certain of globalization is characterized by increasing market power and impact to the dangers of power will be abused (Townsend, 2000). The impact from the over hastily of privatization on corporations and companies, less or depreciation of public sector and imbalance between private interests and collective public interest could vulnerable the youth's developing life. The globalization influence could also observe from the young generation way of life, one of them is the type of music they usually hear. Based on this, the questions related the types of music that young students frequently heard is asked. In the questionnaire, the researcher takes 4 kinds of music for the students to select. Which one do you like or which one is your usual choice, the music styles are, pop music, E-san music, Western music and classical music (opera). The result is as in Table 2.

Table 2: Attitude towards the music style

What kind of music do you usually hear	Result in %
Pop music	51.2
E-san music,	22.5
Western music	19.4
Classical music (Opera)	6.9

The influence of globalization could also be observed from the young generation's way of life. The spread of music is an impact from globalization, before the social media globalized, the people had little opportunity to know of the music from outside, what they heard every day would be the local music, ethnic traditional music or other kinds of music, which related to their daily life. With globalizations rapid involvement in people's lives, music is not only limited to local music, but also pop music, country music, rock music, etc.

In this study, most of respondents responded that pop music is their favorite music, and 22.5% of the respondents choose E-san music, as they heard this kind of music every day and also in every resturtants.

Internet access and the favourite music style are directly impacted by the globalization era, in the following questionnaire, the researcher encourages the respondents to give their expressions relating to the issues of ecology, economics, and social structure. Specifically, in this study, we questioned the respondents, regarding these three issues. The students in KKUIC stated social equality, ecology issues and pollution in the environment as the very important issues.

Table 3: The expression of importance of ecology, economics and social structure issues (%)

QuesItems	VI	Im	LI	NI
1) Everyone have the same oppourtunities in the society	76.1	20.4	1.3	2.2
2) Ecology issue, pollution in the environment, global warming	69.1	18.4	9.3	3.2
3) Stable in economics, against economical crisis in globaly and nationaly	57.1	33.0	5.9	4.0
4) Democracy proceding	44.3	31.3	14.6	9.8
5) Sustainability of traditional social structure	42.3	34.9	20.4	2.4

Note: VI= very important, Im= important, LI= less important, NI= not important

Equality and social justice are the basic human rights for human beings as their development capabilities expand. Its significance is related with the other issue regarding democracy, which the youth students assess as important and very important. Moreover, it is also explained, with the sustainability of traditional social structure issues, as a question in the questionnaire. For respondents in KKUIC, social equality comes first, followed by ecology issues.

Regarding social equality, this ranks No.1 with the youth students who enrolled in international program, moreover, the air pollution and global warming are also the issues that the youth also cared about. Water pollution along the Greater Mekong sub-region are becomes much more serious, almost all the cities which is nearby the Mekong river get impacted.

For the respondents, the youth students stated that economic stability, against economic crisis both globally and nationally is the very important issue. This might be due to the occupations of their parents and the economic crisis happened in 1997. During an economic crisis, their parents may be involved or get impacted by the crisis and this may have a direct impact upon their lives, also for Thailand, as an important import & export country, a crisis in the world trade market may influence the national economy.

In this research, the researcher also set a question asking about the students ideas related to global warming, since global warming is partly a human disaster which is impacted by the humans for their exploitation of natural resources and the making of an imbalance between ecology and economic needs. In this multi-selection question, related to the perspective of agriculture, the researcher is trying to uncover the information of how the respondents think global warming will impact upon agriculture and also upon Thailand

Table 4: Attitude of adolescent towards global warming

What do you think the global warming will impact to your country	Result in %
Will make it more hot	98.6
Will impact more drought	96.1
Rice products will be decreased	89.6
Will impact more flooding	51.8
Rice products will be increased	8.7
Will make it more cold	8.5

The curriculum concerning global warming is already introduced to the students in Thailand, with the aim of building the awareness of the youth students to keep taking care and promote balanced use between ecology and their way of life.

When asked about how global warming will impact on the world, 98.6% of KKUIC respondents agreed that global warming would make the world hotter. It also influences on the second choice which informed the researcher that global warming would impact in the form of drought.

To strengthen the young students perspective, the researcher also measured their perspective over several themes. In these questions, each student chose their level of agreement regarding ten questions about the personality of their parents' occupation and their daily life.

Table 5: What kind of person do you want to be in the future

Questions	SA	Ag	Dis	SD
After I finish my education, I will be free to have a job which I want	79.2	13.9	3.8	3.1
It is important to lived in the solidarity society where everyone always support one to other	78.4	11.9	5.8	3.4
If I am a farmer, I will plant economic plants which obtain income for me and family	58.2	15.9	17.3	8.6
My job in the future is depend with the social need	34.7	31.9	22.1	11.3
If I have farm land, it is better to plant the food plants for my own and family need, rather than sell them	33.4	33.1	28.2	5.3
Food that you buy in traditional market have a better quality compare with supermarket	41.3	35.8	20.9	2.0
To be a farmer will not sufficiently enough to earn enough money to meet a descent life style	43.8	39.1	10.3	6.8
It is important for me to have a job with less physical activity	56.1	33.8	8.7	1.4
To be a farmer and plant all the food every day is the best way of life	10.2	11.1	43.1	35.6
Urbanization in job matter is the negative impact for social traditional structure and rural society	11.9	21.5	45.7	20.9

Note: SA= Strongly agree, Ag= agree, Dis= disagree, SD=strongly disagree

For the respondents in the KKUIC, they did not think that to be a farmer and plant their own food is important, most of the respondents gave the answer of “Strongly Agreed” with less in the agriculture sector. Being a farmer and planting their food for themselves are not their ways of life.. From an education perspective, the respondents all agree with the first important option. In their minds, a better education will give them a better chance of a dream career in the future. This may impact on the attitude towards migration.

Moreover, Only 11.9% of the respondents strongly agreed that migration will have a negative impact on the tradition structure, which indicated that migration is acceptable for the students in KKUIC.

The data mentioned above pointed to the respondents involved in the globalization era, with the internet offering an easier way to share information outside. The local music will be the last choice for the respondents enrolled with international program. The education perspective, all agreed this to be a strong and important option, migration is positive for the respondents in KKUIC as well.

The Young students’ attitude and future perspective for place identity

Future perspectives in this study explore what the youth students want to be in the future. In this study, the students were asked about their judgment concerning future perspective, mainly focusing on place identity. The questions described in this study are about the choices of the young students for their future, specifically do you like agriculture work as your parents do now? What is the future perspective of their dream career? what do you think about the big cities outside? Which city are you willing to live in the future? Since the atmosphere of globalization also impact to the place identity (Rapoport, 1981).

Furthermore, in this research the researcher uses scales to ask the perspective and attitude of respondents, what kind of person do you want to be in the future? Including important statements regarding the economy, ecology and social structure, the researcher gave 12 questions to be answered on a scale of 4 (strongly agree, agree, disagree, and strongly disagree).

Table 6: Future perspective in Economy, Ecology and Social Structure regarding adolescents' future (%)

What kind of person you want to be in the future	SA	Ag	Dis	SD
Economy:				
Have the good education level	89.9	7.6	1.4	1.1
Have privately owned dwelling	79.1	14.2	4.9	1.8
High income, have car, and house	88.1	9.2	1.1	1.6
With a work no need heavy labor	74.9	14.1	4.2	6.8
Have own land, plant food	12.1	19.9	38.1	29.9
Ecology:				
Live with good environment	79.1	19.1	1.1	0.7
Social Structure:				
Live with parents	24.7	18.5	32.8	24
Have rich spirit life	64.1	18.1	10.6	7.2
Live in high class community	69.1	17.3	12.6	1.0
Live in big cities in country	68.1	19.1	11.7	1.1
Live outside of current province	65.8	18.2	13.2	2.8
Marry a foreigner	26.8	15.5	43.1	14.6

Note: SA=strongly agree, Ag=agree, Dis=disagree, SD=strongly disagree

Regarding the economy, respondents agreed that having a good education and having a private dwelling are very important to their economic perspective of the future. Moreover, these groups also agreed that having land and planting food is less important for them, in the future. This means that most of the students think that skills are the important foundation to earn more wealth and have a great job in the future. The future perspective, regarding human development, is already built, the awareness to reach a great education level, as the way to achieve great wealth in the future is already increasing. Regarding the heavy-labour jobs in the future, their backgrounds might impact their attitude.

Furthermore, the ecology future perspective also asked them the question regarding the environment they want to live in, in the future. The respondents from KKUIC stated that living in a clean environment, with less pollution, is very important for them in the future. The awareness to keep the country green for the

younger generation is one of the academic matters in Thailand. Pollution, especially air pollution and water pollution, is the most serious problem along the GMS countries.

Social structure is the perspective which is vulnerable to the influence of globalization among teenagers, including their way of thinking regarding living in society. The influence of the entertainment sector and social media sector, including music, the internet, etc. bring a huge impact for the young generation to change their perspective and way of life. In previous tables, it is indicated that globalization already impacts on the young generation (see table 2 and 3).

The interesting point in this sector is 'Marry a foreigner'. This phenomenon comes with globalization, moreover, due to the social impact, marry a foreigner is not a shy idea. The situation of 'marry a foreigner' is quite popular in Thailand, this situation is even serious in E-san of Thailand.

As in the data shown above, most of the students who enrolled with International program do not want to be a farmer as their parents are now, they want to move to the outside, to find a better job, such as a teacher, doctor, policeman, internet game player, tour guide, etc. They desire high income with high social position and no need for heavy labor as their first priority.

For the questions related to their attitude towards the big cities outside of the mountain area, the researcher set 9 questions regarding their attitude towards the current place and outside cities, which were friendly, modern, rich, happiness, terrible, solidarity, fashionable, creative, and belief, to test students' attitude. The result is as in Table 7.

Table 7: The attitude of youth respondents towards big cities outside (%)

Items	SA	Ag	Fa	Dis	SD
Modern	72.1	12.5	2.8	6.6	6.0
Innovative	70.1	22.6	0.8	3.3	3.2
Fashion	77.2	10.1	2.8	4.8	5.1
Friendly	60.2	15.9	8.7	4.7	10.5
Happiness	59.9	25.4	10.4	2.2	2.1
Solidarity	11.1	19.5	10.5	36.4	22.9
Rich	67.4	19.6	10.1	2.1	0.8
Belief	32.2	22.6	17.8	18.7	8.6
Boring	5.2	8.3	27.5	41.9	17.1

Note: SA= Strongly agree, Ag= agree, Fa= fair, Dis= disagree, SD=strongly disagree

Result in Percents

The table indicated that the respondents strongly agreed that big cities are modern, innovative and fashionable, few of them believe that big cities are boring.

Boring is the last judgments for appraisal of the big city by the respondents in KKUIC, It also appears that belief is another point with low levels of ‘strongly agree’ from the respondents in KKUIC. It means that big cities are assessed by the youth as having low concern, less friendliness, and less safety.

Moreover, the obvious way to show a place identity is whether you wish to stay in the current area or you would be attracted by the outside world (Krupat, 1983; Proshansky, 1978; Proshansky, Fabian, & Kaminoff, 1983). Based on the above data, respondents think the outside city is more modern, innovation, fashionable, rich, and has solidarity more than the local place. This may cause youth migration to the big cities in Thailand. The social media, most of all advertising showing how powerful, modern, rich the big cities are, may impact on the youth’s mind when they were filling out the questionnaire. Furthermore, some of the respondents’ relatives work in outside cities, what they see, hear and talk about may also impact on the young.

In the following questionnaire, researchers give several questions for the respondents to select where they want to stay in the future. The results are as in the Table 8.

Table 8: Attitude of youth students towards future place to live (%)

Where do you want to live in the future	Result in %
Big cities in Thailand	91.8
Hometown	3.1
Developed countries in the world	3.8
Developing countries in the world	1.3

In the close-ended question, the future perspective of living in the city is asked. Around 91.8% of the KKUIC respondents wish to stay in the cities in Thailand; in particular, the cities of Bangkok, Chiang Mai, Phuket, etc. , all of these cities are big cities and economy core zones, which have lots of opportunities for high-income jobs.

This is a very surprising result, which could be explained by the different backgrounds. As they enrolled into international program, which indicated the English communication is requested in the classroom, this offer the opportunities for the respondents to see the outside world easily. Moreover, compared with the big cities in Thailand, Khon Kaen is not a big town, the opportunity for them to know

about the outside world may through advertisements or the internet, travel while visiting, etc. The huge migration flow happened in E-san area towards big cities in Thailand also impact to respondents' selection. What their relations or friends real experience may encourage them for living and working in the big cities in Thailand. Those activities are inadequate for the youth who stay in E-san area and may impact on their attitude towards the big city. Furthermore, it might strengthen or weaken their local place identity.

7. Discussion and Conclusion

Globalization, for the Thai people understanding, is not a newly issue. Especially after Thailand set tourism as their strategical pillar industry, Thailand is becoming much more active in the globalization. The rapid economic expansion and the rapidly migration flow in Thailand have been one of the hot issues in the international community. During the last decades, people's living standard is improving, the increasing of the salary standard give them the chance to go aboard to travel, to study, to get the latest news from outside. Nowadays, the world is more than a community, rather than countries.

The globalization in Thailand generally has the positive impact to the national economy. However, everything has 2 faces, with the economy rapidly growing, and the social media rapidly used people's daily life, to get the information from outside is much more easy that previous time. The place identity, especially the youth people's place identity is changing into negative face. The willing of the youth to move outside of their residence area is strongly enhanced.

Occupation in local place, farmer, is the product of the daily life, also the products of place identity. With the rapid globalized economic growth, the youth in E-san area starting to look for another kind of job which could offer them the high income, high social position, no need the labour work as their parents do now. The outside cities seem more attractive for the youth, especially for the youth who current lived in the unknown small cities. The lost of place identity, and the lost of traditional culture identity should be pay more attention in the related research.

8. Acknowledgement

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REVIEWING ABENOMICS AND IMPLICATIONS FOR VIETNAM

Vu Huy Thong, Assoc.Prof., PhD,

National Economics University, Vietnam

Vu Thanh Tung, MA,

University of Finance & Marketing, HCM city, Vietnam

Abstract

The Abenomics has been still a hot subject for economists in the world up to now. Japan, one of the most powerful countries of the modern world, has tried all its resources for the economics reform using the Prime Minister Shinzo Abe's theory. This policy is considered to affect not only Japan but also the world economy. By researching contents of Abenomics, analyzing successes and limits of this policy, this paper suggests some more experienced lessons for Viet Nam when we are on the way of renovating and developing the economy.

Key words: *Abenomics, lessons of Abenomics, Abenomics for Viet Nam*

1. Introduction

The Japanese economy has stagnated since 1992. Back then, the country was suffering its third recession in four years. The yen was uncomfortably strong, the stock market was unsurprisingly weak (the TOPIX index was about 743), and consumer prices (excluding food and energy) were falling for the 45th month in a row. Between 1993 and 2012, real GDP growth averaged just 0,8%. In 1996, Japan recorded a GDP growth rate of 3%. One year later, Japanese government raised VAT rates from 3% to 5%. That action worsened the recession and deflated the economy. The sales tax was raised for the purpose of balancing the state budget, and then the government revenue decreased by 4,5 trillion yen because consumption stumbled. After the tax hike, the economy sank into deep recession. The nominal GDP growth rate was below zero for most of the next 5 years. After 1997, Japan wages dropped faster than the nominal GDP, and prices have fallen most years since 1998 like below.

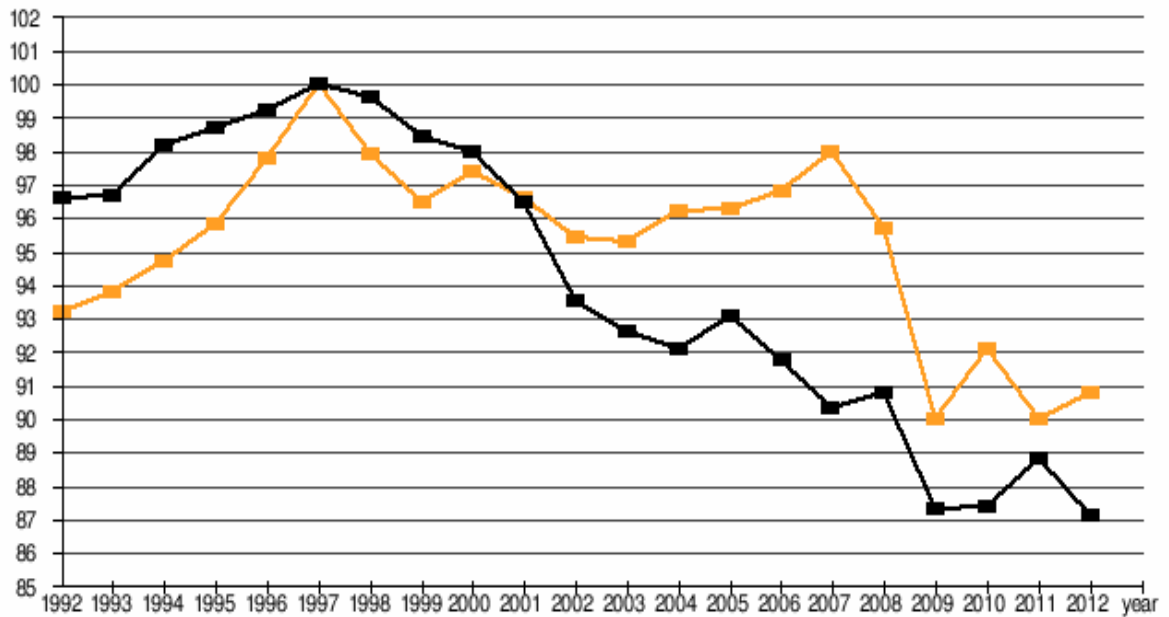


Figure 1. Japan nominal GDP and annual wages in 1992-2012

Source: Anthony Fensom. (2015)

■ Japan's nominal GDP (index YR1997 is 100)

■ Japan's annual wages (index YR1997 is 100)

During the global economic recession stemming from the US financial crisis in 2008, Japan suffered a 0,7% loss in real GDP in 2008 followed by a serious 5,2% loss in 2009. Exports from Japan shrank from 746.5 billion to 545.3 billion U.S dollars (a 26,95% reduction) from 2008 to 2009. By 2013, nominal GDP in Japan was at the same level as 1991 while the Nikkei 225 index was at a third of its peak.

What occurred in Japan economy in a long time has pushed Abenomics to rise as a sparkling star in the dark sky of the world economy. Abenomics is now considered as one of the greatest economic plans in Japan history. By using the Prime Minister Shinzo Abe's theory, "Land of rising sun" has tried all its resources for reviving the world's third-largest economy. This event has affected not only Japan but also the world economy. By studying content of Abenomics, analyzing successes and limits of this theory, this paper provides some experienced lessons for Vietnam when our country is on the way of renovating and developing the economy.

2. Main contents of Abenomics

2.1 Origin of Abenomics

Abenomics means that the "economic theory of the Prime Minister Abe". It is the nickname for the multi-pronged economic program advocated by Shinzo Abe since the December 2012 general election, which elected him to the second term

as Prime Minister of Japan. The term is a portmanteau of Abe and economics. This term came from the 1980s when Americans said about “Reaganomics” – the economic theory of the US President Ronald Reagan.

A tale of “Three Arrows”

For a long time, many ages of Japanese have kept their solidarity tradition in a tale of a powerful sixteenth-century feudal lord, called the “three arrows”. Once upon a time, the daimyo Mori Motonari ruled Chugoku (near Hiroshima now). According to legend, when neighbouring countries attacked his territory, Mori Motonari talked with his three sons. Every boy was given an arrow that he could easily curve and break. Mori instructed each of his three sons to snap an arrow in half. After they had succeeded, he told them to tie three arrows together, and break the whole bundle, but none was able to do that because it was very hard.

The ancient story above is what the young talent student, Shinzo Abe, has kept in mind all of his life. Many years later, after becoming the Prime Minister of Japan – symbol of the power of Asia economy, he used the spirit of the old story as the heart of his great plan to recover Japan economy’s health.

Like three arrows in the tale, those of Abenomics are supposed to reinforce together. But Mori’s arrows were bound together in parallel, whereas Abe’s policy arrows have been connected through economic structural relationships. While the first and second arrows aim to transform Japan’s actual growth path, the third operates on the economy’s potential growth path, which assumes the optimal use of all available resources and technologies of Japan. Until now, Abenomics has two versions.

2.2 Abenomics version 1.0

Content of Abenomics 1.0

Prime Minister Shinzo Abe created the first version and made it public in November 2012. Known as a nationalist hawk, Abe soon revealed himself to be a monetary dove. Within days of his leadership victory, the yen weakened in anticipation of bolder monetary easing to come. Abe once said that his economic theory had been the hard medicine and the last chance for Japan to revive the world's third-largest economy. Abe's supporters drew explicit parallels between Abenomics and the Meiji era program of fukoku Kyohei. Many Japan politicians confirmed Abenomics as the national security.

Abenomics version 1.0 had a series of economic policies that depended on a model of three arrows: the fiscal stimulus, the monetary policy and the growth strategy. They are three arrows that alone can be easily broken, while considered together they are very difficult to bend. Monetary easing represents the first arrow of

Abe's strategy to revive Japan economy. Two others are fiscal stimulus, which allowed higher spending despite Japan's large public debts, and growth strategy. Of the three, growth strategy is the key in the eyes of many leading specialists. But the third arrow is nothing without the first.

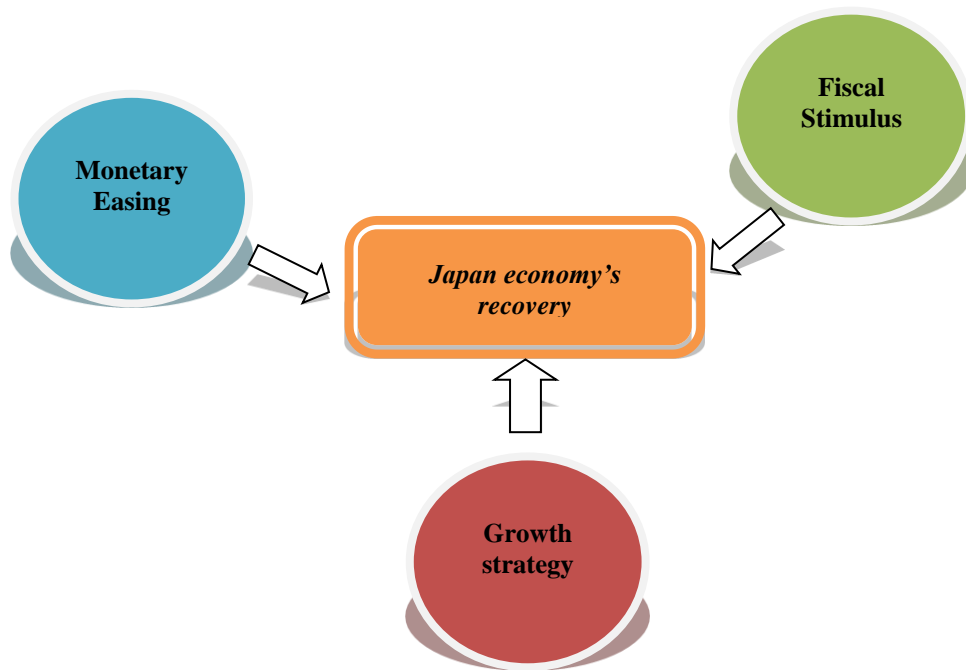


Figure 2. Three arrows in Abenomics 1.0

Source: The authors did from Micheal E.Porter (2013)

The purposes of Japan economy's recovery are: Sustainable economic growth led by private demand, nominal GDP of around 3%, and real GDP growth of around 2%.

(1) *The first arrow 'Monetary Easing' (a.k.a Monetary Easing)* signalled the strong will of the Bank of Japan (BOJ) to end 15-year-long deflation. It would like to achieve price stability target of 2% in about 2 years and to raise the real interest rate. Japan Government and BOJ used the bold monetary policy to change the economy's deflation. The key tool of this arrow was monetary policy that would increase the monetary base at an annual pace of about 60-70 trillion Yen. Main operating target for money market operations was changed from uncollateralized overnight call rate to the monetary base. By injecting cash into financial markets, BOJ wanted to improve credit, to lower lending costs, and to stimulate investment of companies and people's consumption

In March 2013, BOJ applied the monetary easing in both quantitative and qualitative measures. BOJ bought a huge amount of bonds and other securities in the

open market to increase the monetary supply. The raise of government spending, and the monetary easing, pushed the market to decrease the value of Yen much more before so that Japan exports were impulsed strongly. The USD was more than 100 Yen on 9th May 2013, the top price during the past 4 years.

(2) *The second arrow ‘Fiscal Stimulus’* was created to avoid recession and pave the way for the third arrow. This policy was flexible to increase aggregate demand of Japan economy, and to avoid deflation. The key tool of this arrow was the “budget” that would provide hundreds of billions of Yen for supporting economic plans.

Japan accepted to increase public debts by the government spending package of 60 billions Yen in the financial year 2013. The package was used to improve infrastructure, to make more jobs, to increase revenue, and to encourage tax payment. In long term, Japan Government decided to inject 260 million USD into the market during 5 years, among them were 116 million USD for facilities and infrastructure.

(3) *The third arrow ‘Growth Strategy’* called for private sector investment. The tools were: the economic reform to recover potential growth of Japan, lowering tax duties for companies, promoting free electricity trade, modernizing agriculture, and making more jobs.

The plans were built for sustainable economic growth in the long term. The government promised to support private sector investment and enterprise activities, to increase total invested capital by 10% in the next 3 years (up to 700 billion USD), and to raise per capita income by 1,5 million Yen in the next 10 years.

In order to have income to reduce the cost burden of the huge government debt, Japan planned to increase consumption tax by 8% in April 2014, and by 10% in October 2015. Japan focused on agriculture to make it become the 6th industry of the economy. They did that by opening agriculture market, and increasing value from 450 million Yen to 1000 million Yen. Free trade was promoted more than 18.9% in the background of Japan’s joining TPP (*Trans-Pacific Strategic Economic Partnership Agreement*)

To obtain sustainable development, Japan has no choice but raises its TFP (*Total Factor Productivity*) growth which had got stuck on low levels for the last 20 years. That way was done by facilitating regulatory reforms and openness of the country without accumulating the amount of debt. For the third arrow, the Council for Regulatory Reform submitted its recommendation to the government, which was incorporated into the growth strategy, together with public investments. In addition, according to the Basic Policies, the proportion of the volume of trade with using FTA should be increased from 19% to 70% in the next five years. The third arrow gave

prominence to agriculture and healthcare as promising and knowledge-based industries. Therefore it has promoted public projects and got acceptance of Japan public for these industries.

Details of Abenomics version 1.0 are generalized in the figure 3 below:

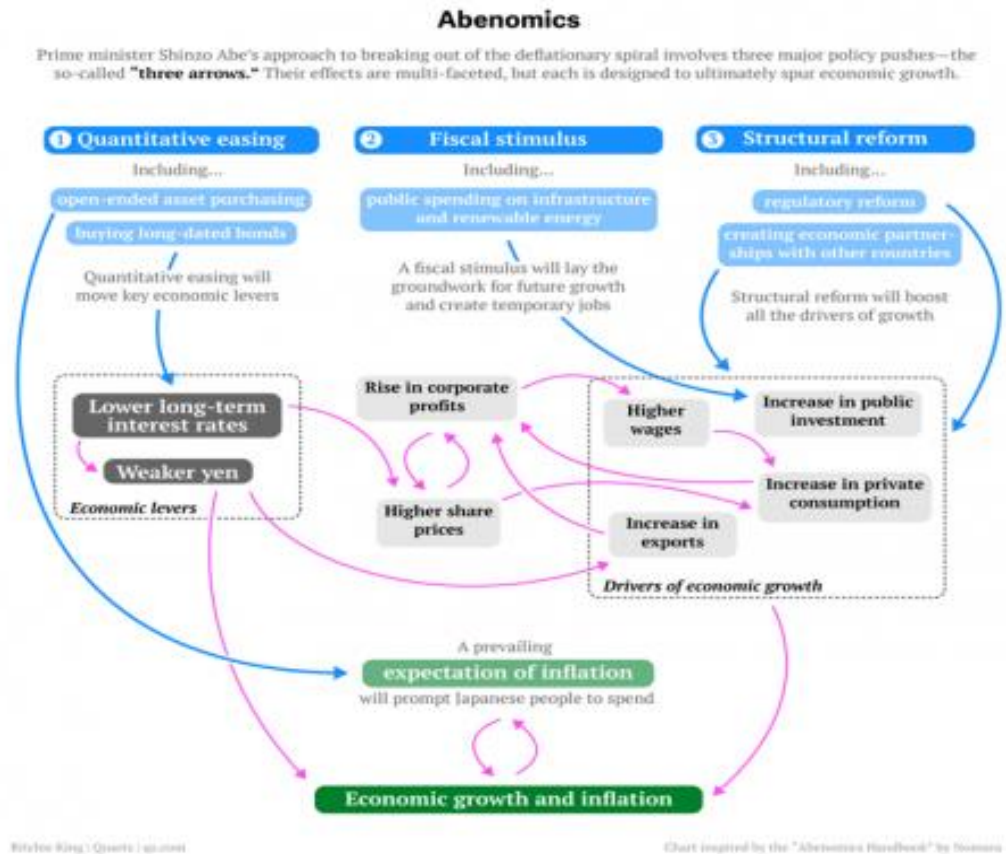


Figure 3. Details of Abenomics

Source: Erol Sonderegger (2013)

According to Japan public and world opinion, Mr. Shinzo Abe has placed himself in a gamble "sink or swim". That was facing high risks to improve economy in the short term so that he could help Japan to avoid deflation and slow growth which had been existing for many years. However, if Abenomics fails, the price to pay will be very high: Mount Fuji of debts will collapse, and hyperinflation may come; much more worrying, domino effect will lead the world economy to crisis. IMF considered this as one of the highest economic risks of the modern world.

Outcome of Abenomics 1.0

The initial results of Abenomics were better than anyone might have expected. The yen cheapened dramatically, the stock market surged, and BOJ shed its past inhibitions.



Source: Bloomberg, Last data point 15 July 2014.

Figure 4. Some good initial results of Abenomics

Source: Bloomberg (2014)

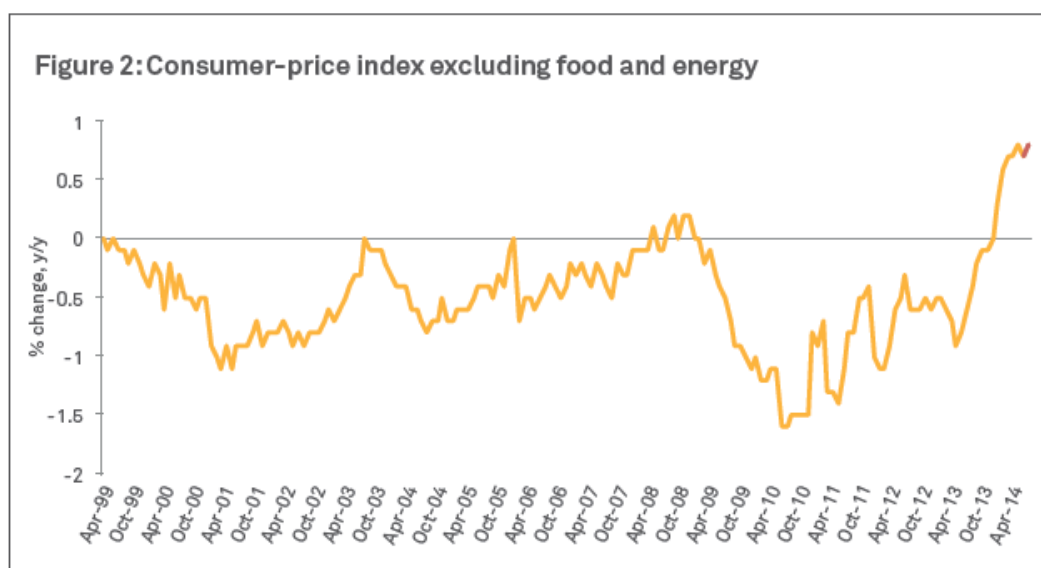
Other effects of Abe’s policies are summarized in the table 1 below:

Table 1. Effects of Abenomics on some key factors in Japan economy

Factor	Effects of Abenomics
<i>Nominal GDP</i>	<i>Nominal GDP (the yen value of domestic production, before stripping out the effects of inflation) increased in both activity and prices. It had been growing at an annual pace of 2,3% in the first 18 months of Abe’s government. That is better than any equivalent stretch of growth in the preceding 15 years, with the exception of Japan’s rebound from the global financial crisis after April 2009</i>
<i>Inflation</i>	<i>Core inflation (excluding food prices and energy costs) were the strongest in a decade and a half, even when the effects of the consumption tax were subtracted. The increase was not confined to a few industries. Prices had been now rising for more than half of the items in Japan’s consumption basket. (see figure 5)</i>
<i>Equities</i>	<i>To encourage households to hold assets other than cash, Japan government introduced tax-friendly investment accounts (the nippon Individual Savings Accounts or nISA) in January 2014. Households can invest 1 million – 5 million yen a year in these accounts and escape tax for the first five years. The government encouraged institutional investors to assert the interests of shareholders and keep company managers on their toes by introducing a “stewardship code”</i>

Factor	Effects of Abenomics
<i>Farms</i>	<i>The government decided to phase out the Gentan rice quotas that date back to the 1970s. The scheme rewarded rice farmers for abiding by production quotas, and imposed to keep prices artificially high. Abe government will instead reward farmers for growing alternative crops, such as wheat, soybeans, or rough rice for livestock, and encourage them to put idle paddy fields to alternative uses, such as flood prevention.</i>
<i>Pharmacies</i>	<i>Abe has shaken things up for pharmacies. Almost all “over-the-counter” can now be sold online, despite the strong objections of bricks-and-mortar drugstores. (23 drugs that were only recently cleared for sale without a prescription cannot be sold online for another three years. five other drugs, four of which treat sexual dysfunction, were also deemed too dangerous for sale online.)</i>
<i>Electricity</i>	<i>In 2013, Abe passed a law that will create a national grid (the Organization for Crossregional Coordination of Transmission Operators) in April 2015, allowing power producers in one region to sell more of their electricity in another. Legislation passed in June will let consumers choose their supplier. The final stage of reform, due in 2018-20, will liberalize prices and separate generation from distribution, so that competing power plants can use the grid on equal terms.</i>

Source: The author's did from Bloomberg (2014)



Source: Bloomberg, Bank of Japan. The latest figure excludes consumption-tax hike.

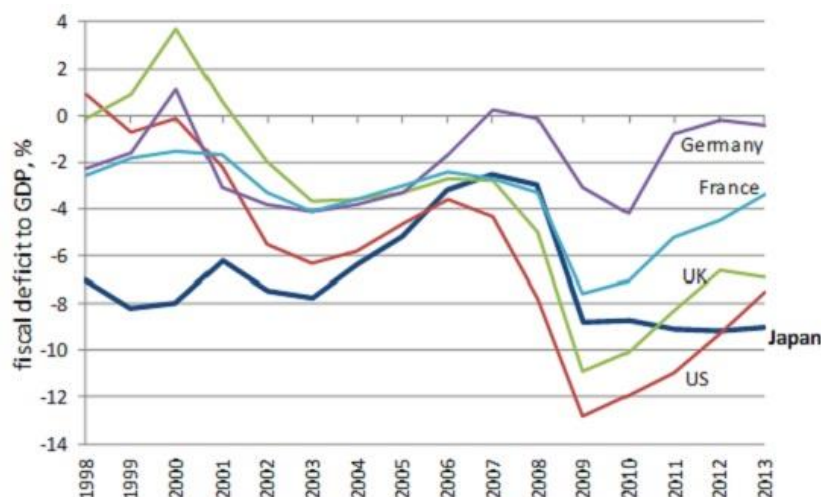
Figure 5. Core inflation of Japan in 1999 - 2014

Source: Bloomberg (2014)

After a long time, the first two arrows might be successful but the last arrow didn't. The first arrow - extraordinary quantitative and qualitative monetary easing - has been launched towards the right direction to reach this aim. But, as the benchmark bond yield rose above 1%, concerns about its side effects rose. They were an asset price bubble, a sharp decline of bond prices, and difficulties in exiting from extraordinary monetary easing.

In order to make sustained economic growth, the government priorities should be first to reduce public debt and to raise its growth potential. The second arrow which increased spending on public investment has been launched at the wrong direction. In January 2012, Japan government made up its mind on the bigger-than-ever supplementary budget. That decision has speeded up the amount of spending to support the economy. But in 2013, Japan's economy recorded 1,0% growth in the first quarter and was expected to grow by 2,5% in FY2013. That confirmed fiscal measures are not necessary to stimulate Japanese growth.

Fiscal situation in Japan is usually not sustainable, and this view has been shared by many research papers. According to the simulation by Hoshi and Ito (2013), the debt level will exceed private sector saving by 2024; and then the government will run out of room to sell more bonds domestically at the latest. In 2000, the Abe government made efforts for fiscal consolidation by setting the ceiling of its new bond issuance at 30 trillion yen so that the amount of debt began declining after 2005. However, after the Lehman Shock, the ceiling was set at 44 trillion yen in 2010 and Abe government took over it. Most developed countries now try to shrink their budget deficit which expanded during the crisis period, but only Japan kept it crisis level



(Figure 2) Fiscal deficit to GDP (G5)
 (Source) OECD Economic Outlook No 92 Database, and Ministry of Finance, Japan

Figure 6. Fiscal deficit of Japan in 1998 - 2013

Source: OECD (2014)

Some specialists feel sorry for the growth strategy because it didn't include some key structural reforms which could attract investment in Japan, such as reduction of corporate tax rates and deregulation on dismissal of workers. For promising industries, reforming some regulations which promoted new entries to or raise competitiveness, such as further deregulation on entries of private enterprises and public insurance reforms, were pigeonholed partly due to LDP (*Liberal Democratic Party*) 's worry that it might lose supports of relevant groups at the election. In 2014, skeptics questioned commitment of Abe to structural reform, fretted about a big consumption-tax hike on April 1st, and worried about the return of inflation. Their concerns weighed on the stock market, leaving the TOPIX index down by 1% in the first seven months of the year.

2.3 Abenomics version 2.0

Content of Abenomics 2.0

“For the next three years, I'd like to promote measures with an eye on the future. Today, Abenomics is entering its second phase,” the Japan Prime Minister was quoted saying by the Japan Times (2015)

After a long time, the first two arrows might be successful but the last arrow didn't. Three arrows of Abe's plan have fallen short of their targets although share prices and corporate profits have soared. In September 24th, Mr Abe marked his re-election as head of LDP by announcing the new version of Abenomics headlined by the GDP target, which would see the world's third-biggest economy reach 594 trillion yen in fiscal 2020 and 616 trillion yen in the following year. A big question is now raising in the world financial markets: “Will Abenomics 2.0 Be Enough to 'Bring Japan Back?’”

Mr Shinzo Abe (2015) declared on the national television: “Tomorrow will definitely be better than today... From today, Abenomics is entering a new stage. Japan will become a society in which all can participate actively”. Mr Abe is aiming at building a society “Promoting Dynamic Engagement of All Citizens”.

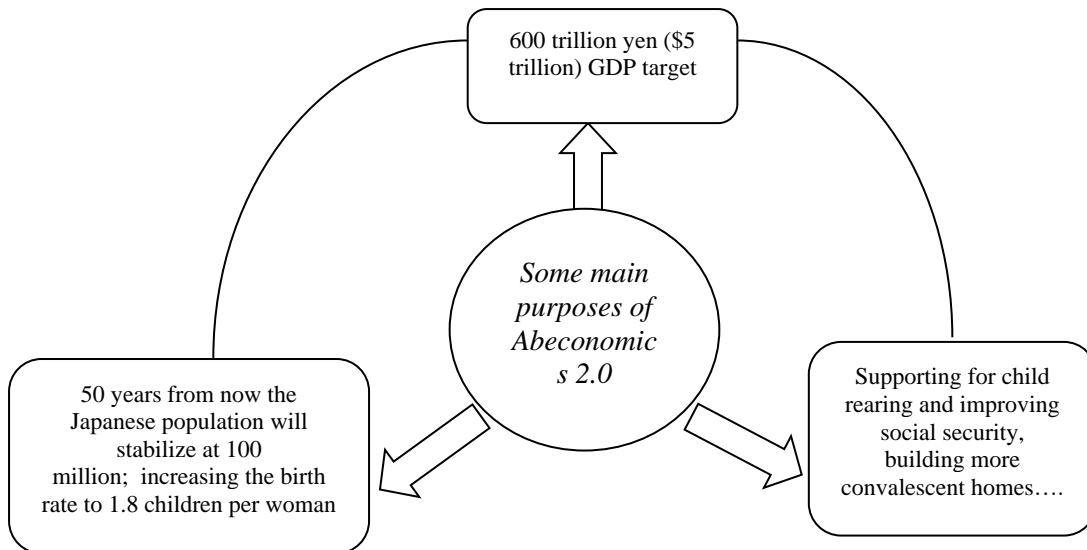


Figure 7. Some main purposes of Abeconomics 2.0

Source: The author's did from intermarketanalysisblog.com (2015)

The Prime Minister has continued to “shoot” three new arrows when announcing that the second stage of Abenomics would focus much more on social security. It's far different from the first stage which relied on fiscal - monetary. The challenge that Abe will face in the future is how he can find a suitable solution to overcome the supply constraint created by the decline in the labor force population. Japan is a country of aged population. There are about 150.000 old folks who can't take care of themselves so that they are waiting for living in convalescent homes. That's the reason why 100.000 labours give up working to care for their parents every year. To deal that decline, mr Shinzo Abe committed to support more Japan women to go to work, and to build more convalescent homes. Many unreasonable regulations in industries will be abolished. Agriculture will be free...

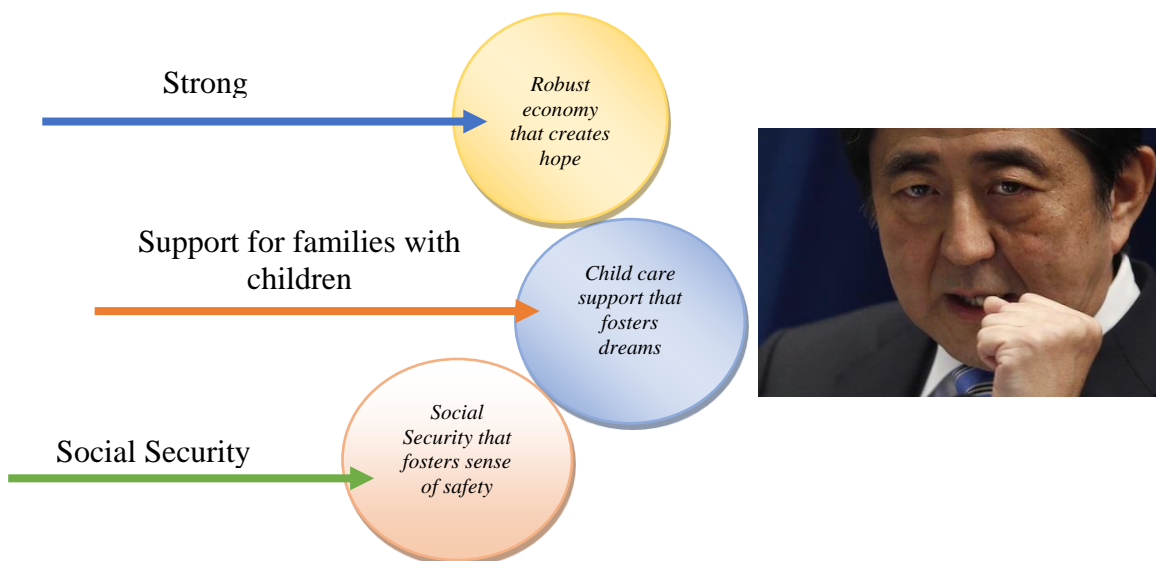


Figure 8. Three arrows of Abenomics 2.0

Source: The author's did from from intermarketanalysisblog.com (2015)

For the success of three new arrows, these main policies below are done by Japan Government, supported by BOJ

Table 2. Main policies of Abenomics 2.0

The Main Policies

CORPORATE TAXES	INVESTORS	LABOR
<input type="checkbox"/> Cut below 30% from above 35%	<input type="checkbox"/> Pension fund buys more stock <input type="checkbox"/> Tougher corporate governance rules	<input type="checkbox"/> More women workers <input type="checkbox"/> More immigrants <input type="checkbox"/> More flexible work rules
AGRICULTURE	ENERGY	DEREGULATION LABS
<input type="checkbox"/> Consolidate small plots <input type="checkbox"/> Free-trade pacts	<input type="checkbox"/> End utility monopolies <input type="checkbox"/> Restart nuclear reactors	<input type="checkbox"/> Red-tape cutting special economic zones <small>Source: staff reports The Wall Street Journal</small>

Source: The Wall Street Journal (2014)

Although the version 2.0 has focused on social security, Abe has maintained the monetary easing in a stimulus plan valued 665 trillion USD on 7th October 2015. He promised that local economy would be improved, and agriculture would be reformed. Besides, the government will raise consumption tax by 10% in April 2017. A new hope for the “Land of rising sun” is that Japan has just already joined TPP. The Wall Street Journal (2015) said that TPP was a sign of the alive Abenomics.

3. Lessons for Vietnam economy

When working with Japan Government’s representatives, Mr Vuong Dinh Hue, ex-Head of the Central Economy committee, Deputy Prime Minister of Viet Nam Government, said: “Abenomics of the Prime Minister Shinzo Abe had been successful. This gives valuable lessons for Vietnam in the way of restructuring our economy”

Studying Abenomics may bring the stability and growth to Vietnam economy in the future. But Vietnam have to be very careful to choose the best model and reasonable ways to do for Vietnam. Japan, the world's third-largest economy, has a solid economy base, on the other hand Vietnam is a developing country.

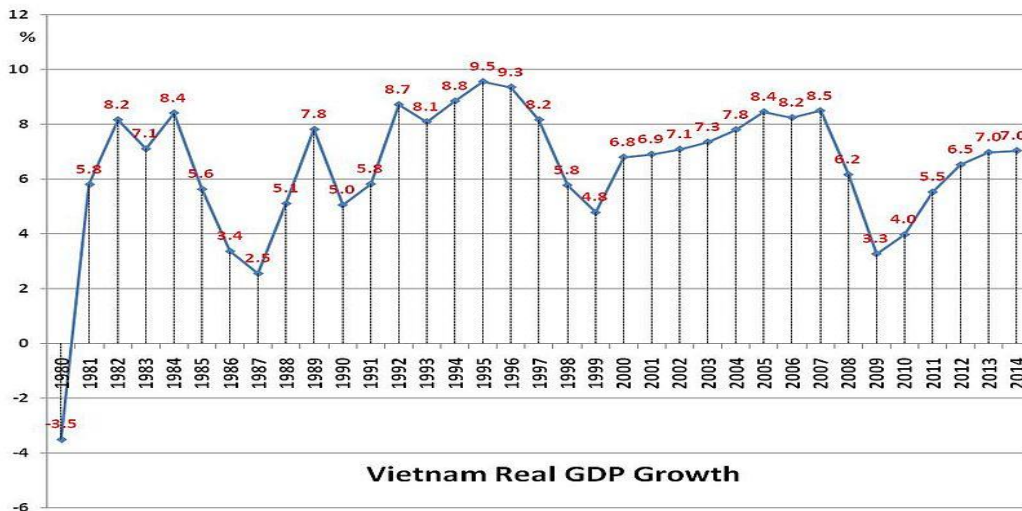


Figure 9. Real GDP growth of Vietnam during 1990-2014

Source: IMF (2015)

Vietnam macroeconomics still has many problems. For a long time, Japan had been in deflation, but Viet Nam had been one of the countries having highest rate of inflation in Asia. Certainly, Viet Nam economy is in recession now, and for many years, the relationship in politics and economy between Viet Nam and Japan has been much more better. We are close partners. Japan has been the leading FDI investor in Viet Nam and they support largest ODA for our country. So, we can learn many from Abenomics, both versions.

3.1 Solving national debt

There are many people worrying about Vietnam government's debt. In the government's official announcement, our debt level is accounting for 64,5% GDP, still safe. But that's the Viet Nam measure of the Ministry of Planning and Investment's method in October 2015. According to IMF, in international standard, calculating national debt must have state companies so that Viet Nam's debts are over 100% GDP.

In comparison with Japan, although government's debts are over 200% GDP, they can control them. 95% of total debts are payable by Japanese who have the long tradition of saving. Their money are kept safely in banks, insurance companies and pension funds. Japanese have been so famous for extraordinary energetic that they can come over many risky periods of the economy. Although Japan are not in crisis now, the government are trying to cut the debt. Vietnam's economy is far different from Japan's, so we must be extremely careful in using public debt. The policies to control national debts have to be planned for long term. We need to reduce public costs and avoid corruption in using national debt, especially debts from foreign countries such as ODA...

3.2 A country is not only developing economy, but also ensure social fairness welfare

Though Vietnam economy continues to grow, the growth speed becomes slower than before. The growth quality is not good. ICOR of Viet Nam was 5,2 in 2014. The price that we pay for our wrong growth model is so high. The more we invested, the more GDP went up. That's why our economy is not sustainable. Economy growth has been far higher than social security for many years. Abenomics versions 2.0 is the valuable lesson for Viet Nam. Social security is too important for any government to keep the country stable and improvable.

3.3 More attention on labour force population

Mr Shinzo Abe always takes care of the labour in his policies. While difficulty of Japan is the decline in the labor force population, Viet Nam have many labours, but not good quality. Productivity of Viet Nam is very low, just as 61% as the average of Asean. If one would like your economy to be stable and sustainable, one must raise the labour quality. Payment for labour in Abenomics doesn't depend on how long you work, but relies on results of works. Japan supports old people in order to set the youth's mind at rest. That experience is worth studying!

3.4 Decreasing currency to improve exports

Japan combined monetary easing with government spending to decrease yen in order to increase exports. But Viet Nam need notice that Japan successes because they can produce almost raw materials, but Viet Nam didn't. There are nearly 70%-80% of materials that Viet Nam have to import from foreign countries. So if Viet Nam'd like to decrease VND, we should compare the improving exports with the increasing cost due to exports.

3.5 Investing more in the private sector

The wide and deep economic policy of Japan government has spent a large capital to invest in private sector and companies. It's very necessary for Viet Nam to study and use. We have invested in public sector so much for many years but the effect was rather poor. On the contrary, private sector has got little capital but result has been very good.

4. Conclusion

Although we haven't seen last results of Abenomics, it is a very practical and useful model. How Mr Shinzo Abe has used it to recover Japan economy's health and what the "Land of rising sun" has received are experienced lessons for our country. Abenomics is extremely necessary for reforming and restructuring Vietnam economy. If our country can make this model suitable with Viet Nam reality, bring into play advantages, and overcome limits of this theory, the growth quality will be improved and raised much.

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DOMESTIC CAPITAL AND FOREIGN DIRECT INVESTMENT – THE ROLE IN ECONOMIC GROWTH OF VIETNAM

MA. Ngo Quoc Dung

Email: dungnq@neu.edu.vn

MA. Hoang Vu Hiep

Email: hiephoang@neu.edu.vn

*Faculty of Planning and Development,
National Economics University, Hanoi, Vietnam*

Abstract

Capital can be regarded as one of the most crucial resources for the socio-economic growth and development of every country, especially developing nations like Vietnam. However, in developing economies, especially Vietnam, are experiencing shortage in economic resources. Therefore, in Vietnam, apart from the domestic capital flow which is considered as the main growth resource, Foreign Direct Investment (FDI) is also the necessary additional economic resources to ensure the issue of shortage in capital flows and export-import. Thus, this research attempted to evaluate overall both long-term and short-term impacts of capital (including domestic and foreign direct capital) on Vietnam economic growth. This paper applied quantitative approach using Autoregressive Distributed Lag model with time series data collected from 1995 to 2015. The results showed that FDI and domestic capital presented positive impacts. Especially, domestic capital is considered to have the most significant impact. Besides, FDI's influence on economic growth is witnessing a downward tendency.

Key words: *Growth, foreign direct investment, domestic capital, ARDL*

1. Introduction

In the last 10 years, Vietnam economy has experienced a lot of challenges with the changes of global economy. However, Gross Domestic Products (GDP) of Vietnam in 2015 has reached 6.68% which is the highest growth rate since 2008. This great achievement was made thanks to not only the industrial production sector but also the significant contribution of capital flows. In order to be able to deal with the issue of maintaining the economic growth and its pervasive effects, the sources finance and investment are regarded as the most essential factors. However, in developing economies, especially Vietnam, are experiencing shortage in economic resources. Therefore, in Vietnam, apart from the domestic capital flow which is

considered as the main growth resource, Foreign Direct Investment (FDI) is also the necessary additional economic resources to ensure the issue of shortage in capital flows and export-import.

In the recent years, Vietnam economy showed several considerable internal weaknesses such as low quality of economic growth, productivity and competitive capacity. One of the most typical causes is the breadth economic growth model which is recently unable to keep high and sustainable growth rate. Thus, changing the economic growth model is being considered as an important solution for further economic development. However, many researchers have concluded that until 2020, Vietnam economy will not have successfully changed to the depth economic growth model – productivity focusing. Therefore, in the next development period from 2016 to 2020, Vietnam will follow a simultaneous growth model which focuses on both economy scale expansion and high quality of growth. In other words, Vietnam economic growth's resources will depend on both capital flows and advanced technology. Based on this conclusion, capital will still be considered as one of the most important resources for Vietnam economic growth in the coming period, which leads to the essence of identifying and analysing the role of capital factor in Vietnam economic growth.

2. Literature review

2.1. Impacts of foreign direct capital on economic growth

Among foreign capital flows, FDI and ODA are researched and concluded to have significant impacts on economic growth in many countries. In specific, Albulescu (2015) indicated that FDI flows have impact which is equivalent to 0.846 point in regression correlation on GDP growth of 13 countries in the Middle and East Europe areas during the period from 2005 to 2012. Tahir *et al.* (2015) have researched into the relationship between macro-economic factors including FDI flows and GDP growth of Pakistan from 1977 to 2013. This research showed that FDI flows positively affect the economic growth. In contrast, Durham (2004) concluded that it is unable to indicate a direct impact of FDI flows on economic growth. He suggested to additionally consider the absorption capacity of the researched countries. In another paper conducted by Ferrer and Zermeno (2015), they pointed out a contradicted opinion which shows that the growth of GDP is the cause leading to the rise of FDI flow with the example of China economy.

Akinlo (2004) conducted a research on the impacts of FDI on economic growth of Nigeria for the period from 1970 to 2001. His paper applied error correction model and found out an insignificant influence of both lagged foreign capital and domestic capital on growth rate. Besides, he also indicated a significant and positive effects of labour force, export and human capital on growth. Another study held by

Lee and Chang (2009) using annual data from 1970 to 2002 in 37 countries which attempted to examine the causality directions of three variables: financial development, foreign direct investment, and economic growth using panel co-integration and panel error correction models. This study explored a remarkable correlation among these variables in the long-term perspective, especially financial development indicators illustrated stronger effect on GDP growth than FDI ones. Applying the same econometric method, Babalola *et al.* (2012) analysed the correlation between FDI, exports and economic growth in Nigeria for the period 1960-2009. Error correction model was used together with fully modified least squares method to come up with the conclusion that there is a significant positive impact of FDI on economic growth. They also suggested a further conclusion that the degree of openness should also be included in the model which can facilitate increase in inflows of FDI and, thus, accelerating the GDP growth.

Besides, many researches in Vietnam show that foreign capital flows increasingly have positive impacts on economic growth. Regarding the FDI effects, Nguyen Nhu Binh and Haughton (2002), Parker *et al.* (2005) researched into the commercial agreement signed by the governments of Vietnam and USA in 2001 which has played an important role in attracting FDI to Vietnam. Meyer and Nguyen (2005) pointed out that national regulation has significant impact on the FDI flows into Vietnam. Besides, Nguyen Phi Lan (2006) applied GMM model to come up with the positive relationship between FDI and economic growth of Vietnam. Tran Quang Tien (2009) indicated a remarkable improvement of infrastructure of Vietnam thanks to FDI. In a recent research, Pham Thi Hoang Anh *et al.* (2014) used VAR model and identified a significant positive impacts of FDI on growth rate of GDP.

2.2. Impacts of domestic capital on economic growth

If foreign capital flows are believed to be an additional economic resources for the growth of the economy, then domestic capital is regarded as the most major source for economic growth. Indeed, domestic capital flows are also confirmed by several researchers to have significant impacts on national economic growth, especially the private capital flows. In the study by Omri and Kahouli (2014), the authors have found a positive relationship between domestic capital flows and economic growth. Consistent to this conclusion, Agbloyor *et al.* (2014) have conducted an investigation in 14 countries in Africa and indicated that the role of foreign capital flows is not clear, while the development of the private capital market in the country have a strong impact with integrated positive effects to economic growth. In addition, Agbloyor *et al.* (2014) also said that the countries that have strong and stable domestic financial market will have better ability to effectively utilise foreign capital inflows. This conclusion is completely coherent with the study of Durham (2004). Agbloyor *et al.* (2014) even better to

concretise the “absorption capacity” concept mentioned by Durham (2004) which is the capability of converting and reasonable allocation of foreign capital inflows through domestic capital markets.

In the specific case of Vietnam, most of the researchers have focused on analysing the impact of public sector’s capital on economic growth. Studies have showed different impacts of public investment on growth. Typically, the research results of To Trung Thanh (2010) showed that public investment has a positive relationship with economic growth in Vietnam. Tran Nguyen Ngoc Anh Thu and Le Hoang Phong (2014) provided the conclusion that the outcomes of public investment for economic growth in Vietnam in the short term is not statistically significant, but it has a positive impact in the long term.

3. Tendency of capital flows in Vietnam and its impacts on economic growth during 1995 – 2015

3.1. Domestic capital

Domestic investment capital is formed from accumulation of internal parts of the economy, including the saving of residential areas, economic organisations, enterprises and savings of the government sector. Concrete manifestation of domestic capital flows can be divided into investment flows of the State sector and the non-state sector.

The chart below shows the change in the country's capital flows and economic growth Vietnam in the period from 1995 to 2015.

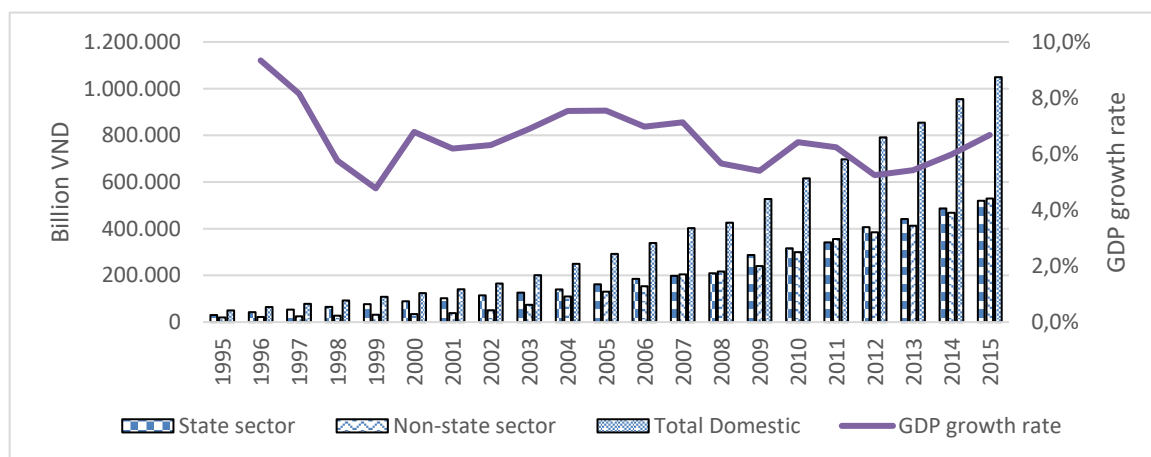


Figure 1: Changes in domestic capital and economic growth of Vietnam

(Source: GSO, 2016a, b)

Figure 1 shows that, since 1995, domestic capital flows are gradually increasing for the whole 21 years and reached 1.0491 million billion VND in 2015. The growth rate of domestic capital flows as well as the state sector have slowed in 2008 due to the impact of the global financial recession with an increase of only about 25,000 billion VND equivalent to just 5.8% compared to 2007. With the slowdown

in the rise of capital inflow in 2008 was the significant decline of economic growth rate from 7.13% Vietnam in 2007 to 5.66% in 2008. Through this, it can be concluded clearly that the role of domestic capital flows in Vietnam economic growth is significant. However, since 2009, the domestic capital flows are stabilized and increased about 16.5% annually from 1995 to 2015.

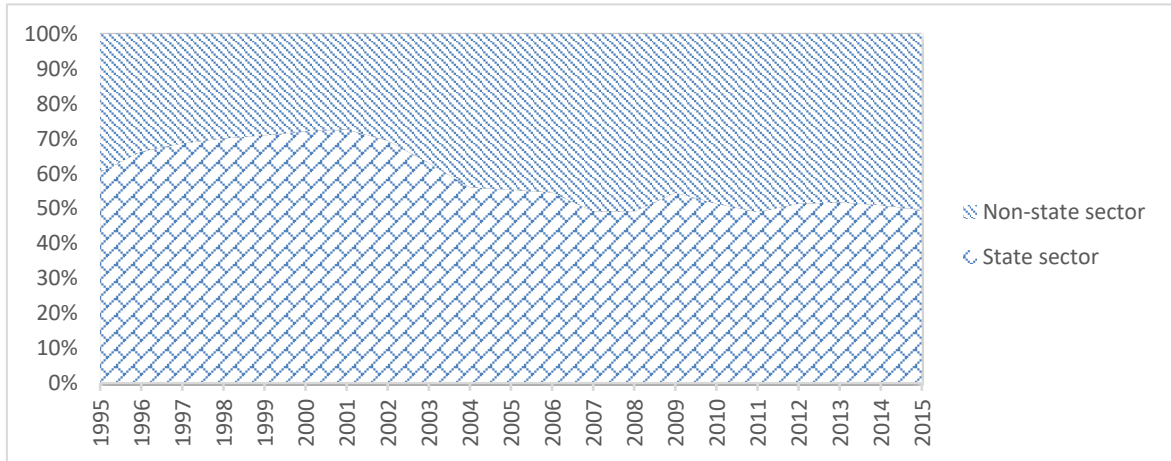


Figure 2: Proportion between State own capital and non-state own capital

(Source: GSO, 2016a, b)

Figure 2 shows, at the beginning of 21st century, the State economic sector still accounts for a high share in the structure of capital inflows in the country with a peak of 73% in 2000 and 2001. However, from 2002, it has seen the balance between the amount of capital raised from the state sector and the non-state sector. Private economic sector shows that the development is significantly fast and dynamic, this proved the importance of the capital flows in the creation of resources for economic growth.

3.2. Foreign capital

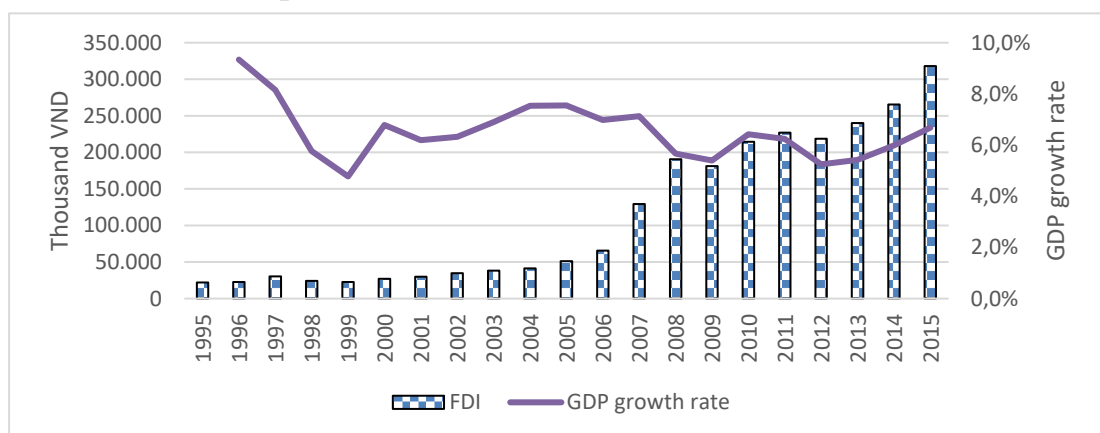


Figure 3: Changes in Foreign direct investment into Vietnam

(Source: GSO, 2016a, b)

If domestic capital is regarded as the main driver of economic growth, the foreign capital is actually an important additional source for the initial step to push the development faster. Figure 03 shows foreign investment inflows which are disbursed annually and correlated with economic growth of Vietnam in the period from 1995 to 2015.

After 2007, the foreign direct investment economic sector got a breakthrough in terms of quantity. In particular, FDI inflows in 2007 increased 97% over 2006 due to the effect when Vietnam officially became the 150th member of the World Trade Organization (WTO), which set the stage for the massive FDI flowed into Vietnam the following years. However, the economic growth rate has not been improved accordingly as it was in 1990s. This might bring a conclusion that the impacts of FDI on economic growth is reducing gradually or it just has impacts in the long run perspective. Indeed, most of the FDI inflows into Vietnam were formed as enterprises with 100% foreign capital investment, the amount of joint venture enterprises is truly limited (GSO, 2014). The FDI companies are mainly focused on the activities of processing and assembling with materials mainly imported internationally, which brings low added value to the economy, notably the automotive assembly operations, motorcycles, electric - electronics, textiles clothing and footwear.

4. Empirical research model

4.1. Research method

The methodology used in this paper is based on the ARDL bounds co-integration approach proposed by Pesaran *et al.* (2001). The choice of this methodology is based on several considerations. Firstly, given the size of sample used in this study (21 observations), the bound approach provides more reliable results than the Johansen technique. Secondly, as shown by Pesaran *et al.* (2001) and Hamuda *et al.* (2013), the ARDL model also use in several conditions of observation that are stopped or non-stopped. Therefore, ARDL approach is the reliable method for studying the co-integration relationship between variables.

According to ARDL approach, the general model can be expressed in the following form:

$$\Delta y_t = \beta_0 + \beta_1 t + \beta_2 y_{t-1} + \beta_3 x_{t-1} + \sum_{i=1}^p \beta_{4i} \Delta y_{t-1} + \sum_{i=0}^p \beta_{5i} \Delta x_{t-1} + \varepsilon_t \quad (1)$$

Following studies by Yilmaz Bayar (2014), for estimation, the economic growth can be expressed in the UECM version of the ARDL model as follows:

$$\begin{aligned} \Delta \text{LN}GDP_t = & \theta_0 + \delta_1 \text{LN}FDI_{t-1} + \delta_2 \text{LN}DC_{t-1} + \sum_{i=1}^k \gamma_{1i} \Delta \text{LN}GDP_{t-1} \\ & + \sum_{i=0}^k \gamma_{2i} \Delta \text{LN}FDI_{t-1} + \sum_{i=0}^k \gamma_{3i} \Delta \text{LN}DC_{t-1} + \varepsilon_t \quad (2) \end{aligned}$$

The procedures of the ARDL Bounds test approach include two steps. The first step is that Akaike Information Criterion (AIC) and Schwartz Criterion (SC) is used in determination of optimal lag lengths. Co-integration relationship is conducted by testing null hypothesis $H_0: \delta_1 = \delta_2 = 0$ against alternative hypothesis $H_1: \delta_1 = \delta_2 \neq 0$. If F statistic is above upper critical value, there is co-integration relationship among the time series. On the other hand, if F statistic is below the lower critical value, there is no co-integration relationship among the variables. Finally, if F statistic is between upper and lower critical values, inference would be inconclusive. The second step is to determine the existence of a long run co integrating relationship among the variables in the equation. The long run level relationship between the variables is determined using the Wald-coefficient test. Then short run relationship between variables is estimated by Error correction model as follow:

$$\Delta \text{LN}GDP_t = \alpha_2 + \sum_{i=1}^k \gamma_{1i} \Delta \text{LN}GDP_{t-1} + \sum_{i=0}^k \gamma_{2i} \Delta \text{LN}FDI_{t-1} + \sum_{i=0}^k \gamma_{3i} \Delta \text{LN}DC_{t-1} + \Psi \text{ECM}_{t-1} + \varepsilon_{1t} \quad (3)$$

Where ECT_{t-1} = error-correction term lagged one period

4.2. Research data

This study investigates the impacts of the FDI and domestic capital on the GDP growth of Vietnam by using time series data over the period 1995 – 2015. FDI, DC (domestic capital) were taken from database of General Statistic Office of Vietnam (current thousand VND), while real GDP was taken from World Development Indicators of the World Bank. LP, LI, LD were the logarithm of GDP, FDI and DC respectively. Eviews 9.0 statistical software package was used in the analysis of the dataset.

4.3. Research findings

(1) Unit root tests: To test the order of integration of the variables we use the standard tests for unit root, namely the Augmented Dickey-Fuller (ADF) tests proposed by Dickey and Fuller (1979, 1981). Results of these tests are presented in Table 01 The results indicate that all our variables are either I(0) or I(1). It show that the LD was stationary at level I(0), and LP and LI variables were stationary at the first difference, I(1).

Table 1: Results of co-integration test based on ARDL bound test approach

Level		Model	ADF	
			t-Statistic	Prob.
LP	Level	Constant	-2.086589	0.2514
	Level	Constant + Trend	-1.309414	0.8495
	First Difference	Constant	-3.572174	0.0171
	First Difference	Constant + Trend	-3.117896	0.1303
LI	Level	Constant	0.077157	0.9554
	Level	Constant + Trend	-2.152161	0.4868
	First Difference	Constant	-3.240331	0.0332
	First Difference	Constant + Trend	-3.162861	0.1211
LD	Level	Constant	-3.196898	0.0354
	Level	Constant + Trend	-0.906798	0.9352

(2) Co-integration Test Based on ARDL Bound Test Approach:

The variables had different integration levels as consequence of unit root tests. Therefore, we apply F test to the (1) numbered equation to investigate the long run relationship among the variables. The results of ARDL bound test and their critical values were presented in Table 02. The results demonstrated that there was a long run relationship among the variables.

Table 2: Results of co-integration test based on ARDL bound test approach

F-Statistic	Critical Value Bounds							
	90%		95%		97,5%		99%	
	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)
13.68315	2.63	3.35	3.1	3.87	3.55	4.38	4.13	5

AIC and SC criteria were used in the determination of optimum lag length of ARDL model and the estimation was made by taking maximum lag length as 2. ARDL (1,1,2) was selected as a common consequence of both criterion. The results were presented in Table 3:

Table 3: Optimum lag length of ARDL model

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
LP(-1)	1.208544	0.115951	10.42289	0.0000
LI	0.016536	0.007719	2.142104	0.0534
LI(-1)	-0.029254	0.007548	-3.875933	0.0022
LD	0.072225	0.033403	2.162222	0.0515
LD(-1)	-0.031948	0.050543	-0.632099	0.5392
LD(-2)	-0.109514	0.038128	-2.872258	0.0140
C	-1.934547	1.080804	-1.789915	0.0987
R-squared	0.999850	Mean dependent var		14.32781
Adjusted R-squared	0.999776	S.D. dependent var		0.349332
S.E. of regression	0.005234	Akaike info criterion		-7.389950
Sum squared resid	0.000329	Schwarz criterion		-7.041999
Log likelihood	77.20453	Hannan-Quinn criter.		-7.331063
F-statistic	13361.56	Durbin-Watson stat		2.373948
Prob(F-statistic)	0.000000			

The long run coefficients of ARDL(1,1,2) were present in Table 04.

Table 4: Long-run Coefficients of ARDL(1,1,2) model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LI	0.060984	0.030079	2.027467	0.0654
LD	0.332003	0.035449	9.365646	0.0000
C	9.276459	0.151538	61.215462	0.0000

The results demonstrated that there was a long run relationship among the variables and FDI inflows and DC have positive impact on economic growth. It showed that 1% increase in FDI inflows and DC led a 0.06% and 0.33% increase in economic growth, respectively. Therefore, DC play a significant role in Vietnam economic growth.

(3) Short run Dynamics

The short run relationship among the variables in our study was analyzed error correction model based on ARDL bound test approach. The short run coefficients of ARDL (1,1,2) model were presented in Table 05. The empirical findings demonstrated that there was short run relationship among the variables. Both FDI and DC had positive effect on economic growth in Vietnam in period 1995-2015.

Table 5: VECM results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LI)	0.016536	0.006174	2.678285	0.0201
D(LD)	0.072225	0.026342	2.741840	0.0179
D(LD(-1))	0.109514	0.021946	4.990110	0.0003
ECM(-1)	0.208544	0.025213	8.271383	0.0000

(4) Diagnostic tests:

Diagnostic tests for serial correlation, functional form, normality, heteroscedasticity, and structural stability of the model in Table 06 shows that there is no evidence of autocorrelation and the model passes all of the reported diagnostic tests.

Table 6: The Results of Diagnostic tests

No.	The Result of Tests
1	Normality test (Jarque-Bera=5.693711[0.058026])
2	Breusch-Godfrey Serial Correlation LM Test: $\chi^2 = 1.222263$ [0.2689]
3	Heteroskedasticity Test: Breusch-Pagan-Godfrey: $\chi^2 = 3.200843$ [0.7832]
4	Ramsey RESET Test: $F(1, 11) = 0.728448$ [0.4116]

Finally, the cumulative sum of recursive residuals (CUSUM) and the CUSUM of squares (CUSUMSQ) tests were applied to test for parameter constancy. Figure 04 plots the CUSUM and CUSUM of squares statistics. The results clearly indicate the absence of any instability of the coefficients during the investigated period because the plots of the two statistics are confined within the 5% critical bounds pertaining to the parameter stability.

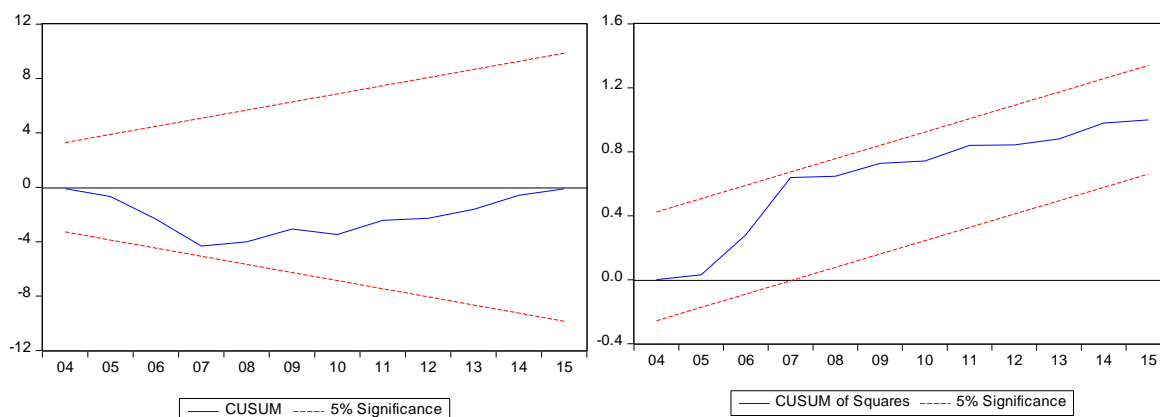


Figure 4: Plots of CUSUM and CUSUMQ statistics for coefficients Stability Tests

5. Conclusion and recommendation

Research results have shown clearly that FDI inflows and domestic capital has a positive impact on economic growth of Vietnam. Especially as the main motivation factor affecting growth, domestic investment flows showed the strongest impact. Besides, the impact of FDI inflows on economic growth tends to decrease.

Based on the results from the research findings, the authors suggest a number of policy recommendations to enhance the role of this important source of capital, aimed at sustainable growth in the coming period.

5.1. Recommendation for FDI

As research results show that although currently FDI affect positively the growth of GDP, such impact tends to reduce in the long term. The reason is that significant proportion of FDI flows into the sector adversely affect the environment, such as heavy industry, chemicals, industries dependent on foreign contractors who do not accept the transfer of technology; even the operator, constructor are majority are foreigners. This has negative impact on sustainable economic growth. In order to promote the role of foreign direct capital flows, government should pay attention to some of the following solutions:

First, continue to improve the investment environment, increase the attractiveness for foreign investors to be able to compete with other countries in the region in attracting FDI. In comparison with other countries in the region, the investment environment in Vietnam is less competitive. Therefore, improving the investment environment is truly important and necessary. The policies need to focus on two issues: (i) create a fair business environment for enterprises of all economic sectors; (ii) review the mechanism in the direction that the participants to projects must be individually responsible to the implementation of the whole project, this

could help for screening the quality of the project. Together with the licensing process is the development vision, without clear development vision, lowering standards to attract FDI will not avoid the negative impact of FDI on growth.

Second, create opportunities for spillover effects occur and increase the ability to absorb the positive spillover effects of FDI for domestic enterprises. (i) regulate to prohibit certain investment sector and allow foreign investors to invest in the remaining areas. (ii) Encourage FDI in other regions apart from the industrial centres and large urban centres, primarily to reduce the high concentration in these regions. On the one hand continue to promote decentralization as stated above, on the other hand should have policies to support the promotion of investment in the province, quickly trained manpower to meet labour demand management and skilled workers.

5.2. Recommendation for domestic capital

In order to maximize the role of domestic capital flows, the government should focus on a number of measures: (i) to develop mechanisms to open, maximum mobilization of funds of private enterprises to invest in infrastructure development projects. In this case, it is needed to encourage public-private partnership model (PPP); (ii) To properly build investment plans, particularly need to focus on medium-term investment plans.

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VIETNAM – THAILAND TRADE COOPERATION: THE CURRENT SITUATION AND PROSPECTS FOR THE FUTURE

Dr. Duong Thi Tinh

Email: tinhvinh@gmail.com

Thai Nguyen University of Economics and Business Administration

MSc. Dang Hoang Ha

Email: danghoanghavn@gmail.com

International School – Thai Nguyen University

Abstract

Vietnam and Thailand are close neighboring countries. The establishment of diplomatic relations in 1976 has paved the way for a good start to the trade relations between Thailand and Vietnam over the past 40 years. This is considered as one of the most significant factors contributing to the growth of trade value between the two countries. The relationship between the two countries continues to be successful in all aspects, and strong trade cooperation is an important cornerstone in Thailand-Vietnam relations. Both countries have gained important achievements in trading in the fields of strength such as planting, processing and export key products of the two countries. Two-way trade between Vietnam and Thailand has been steadily increasing over the years, and the two nations are aiming to increase bilateral trade to \$ 20 billion by 2020. Therefore, it is necessary to evaluate the current situation and future prospects in order to expand the cooperation between the two countries. Vietnam-Thailand friendship and comprehensive cooperation will grow stronger and stronger thanks to the joint effort of leaders and people of the two countries, which complements the development trend of the region and the world.

Keywords: *Trade, Balance, Cooperation, Prospect.*

1. Introduction

On August 6, 1976, for the first time, Vietnam and Thailand established diplomatic relations, marking the turning point which created a new direction in the development between the two countries. Over the past 40 years, the two countries have witnessed very important milestones. Establishing diplomatic relations in 1976, however, the Vietnam-Thailand relations only began to flourish after Pham Van Dong's official visit to Thailand (September 1978). After the visit, a joint

communiqué was issued which laid the foundations for bilateral relations. From 1993 up to now, the relationship between the two countries gradually improved and thrived, marked by the official visit to Thailand of General Secretary Do Muoi (October 1993). In 1995, after Vietnam joined ASEAN, Vietnam - Thailand relations have overcome many challenges, have been continuously strengthened and growing, especially when the two countries issued the Joint Declaration on the Vietnam-Thailand Cooperation Framework in the first decade of the 21st century (February 2004).

Particularly, during the visit to Thailand by General Secretary Nguyen Phu Trong (June 2013), Vietnam and Thailand became the first two ASEAN countries to officially upgrade their relationship to "Strategic Partner". Afterward, the two signed the Programme of Action for the implementation of the Vietnam-Thailand Strategic Partnership for the period of 2014 - 2018 on the occasion of the official visit to Vietnam of Thai Prime Minister Prayut Chan-ocha. (November 2014). In order to enhance the friendship and trade cooperation between the two countries, the two sides exchanged high-level delegations regularly. Through those visits, bilateral cooperation mechanisms have been adopted and operated effectively by the two countries, highlights are: 1- Vietnam - Thailand Joint Cabinet Meeting chaired by the two Prime Ministers of the two countries; 2- Joint Committee for Bilateral Cooperation between Vietnam and Thailand; 3- Political Consultation at the rank of Deputy Minister between the Ministry of Foreign Affairs of the two countries.

In 2015, the two governments have held the third Joint Cabinet Meeting. The two sides have set out common plans for bilateral relations aiming to bring the trade turnover of the two countries to 20 billion by 2020. Vietnam is fully capable of achieving that goal as the number of goods traded between the two countries is expected to increase in the coming years as the two countries move towards the implementation of the ASEAN Free Trade Agreement and other joint agreements. Vietnam is Thailand's second largest trading partner in ASEAN and Thailand is the biggest trading partner of Vietnam. In 2016, Thailand's export turnover to Vietnam was quite high, reaching \$ 1.819 billion in the first quarter, bringing the total trade turnover to nearly \$3 billion. Getting off to a good start, promising a successful year of bilateral trade cooperation.

Up till now, the two countries have signed more than 50 agreements and cooperation agreements, creating the legal basis to promote bilateral relations in many fields, especially in trade. Both countries are on mainland land with convenient transportation connections. The two countries complement each other in many aspects, the goods of this country are the preference of the people of the other country and vice versa. The two countries also have open policies, implementing many measures to reduce barriers, and facilitate the flow of goods.

It can be said, during the past 40 years, Vietnam-Thailand trade relations have seen remarkable development. In general, the relationship of the two countries has been developing, as today, the Vietnam-Thailand partnership is really tight, exchanges between people is increasing strongly. It is necessary to further evaluate the achievements and opportunities to open up the prospect of bilateral trade development between the two countries in the future.

2. Method

Methods for collecting information: Data on import-export turnover between Vietnam and Thailand were collected and aggregated from the General Statistics Office of Vietnam (GSO), Ministry of Industry and Trade, and other information related to trade relationship between the two countries.

Method for processing and synthesizing information: the collected data and information are classified, and elements and information, then, combined and linked into a frame work which reflects the research problem. At the same time, figures on trade turnover between Vietnam and Thailand are evaluated and compared between years.

Descriptive method was utilized to statistically analyze the data and depict the rise and fall of the data, and data collected in different ways. Comparative analysis method was used for the clarification of differences or comparisons between years to assess the current status of trade between the two countries as the basis for future proposals.

3. The actual situation of trade between Vietnam and Thailand in the period of 2011-2016.

Looking back over the past 40 years, it is possible to see that the friendship and multifaceted cooperation between the two countries has been continuously maintained and flourished in both depth and breadth, in many fields from politics, economics, trade, investment, culture, society, national defense, security, education and training, ect. At the moment, both sides are working hard to deepen the strategic partnership, heading towards a strengthen strategic partnership in the coming time, which is based on key products and achievements in import and export between the two countries

Thailand is an important partner of Vietnam and Vietnam, likewise, is one of Thailand's major trading partners in Asia. Two-way trade between Vietnam and Thailand has increased steadily from \$ 8.32 billion in 2011 to \$ 11.7 billion in early 2016, increased \$ 3.38 billion USD compared to 2011, accounting for a significant proportion of export turnover in Asia. In 2011, the value of Vietnam's exports to

Thailand amounted to 1 938 259 thousand USD, representing 3.8% of the total value of Vietnam's exports in Asia with 50 105 616 thousand USD, reaching 7.6%, which equivalent to 6 383 588 thousand USD in total import value of Vietnam in Asia at 84 119 863 thousand USD. In 2014, the value of Vietnam's exports to Thailand accounted for 3 473 523 thousand USD, accounting for 4.6% of Vietnam's total export turnover in the Asian region at 75 160 552 thousand USD, and account for 7.6%, which equivalent to 7 053 283 thousand USD of total import value of Vietnam in Asia at 120 428 062 thousand USD. In 2016, it is estimated that Vietnam's export value to Thailand amounted to 4 020 455 thousand USD, representing 4.8% of the total value of Vietnam's exports in Asia with 83 456 350 thousand USD, accounting for 5.9% or equal to 7 693 005 thousand USD of Vietnam's total import value in Asia at 131 241 665 thousand USD.

Table 1. Vietnam's import-export value with Asia and Thailand

Unit: \$1000

	2011	2012	2013	2014	2015	2016 (Estimated)
Asia						
Export	50,105,616	61,368,334	68,321,443	75,160,552	80,120,095	83,456,350
Import	84,119,863	91,484,052	107,230,537	120,428,062	123,775,330	131,241,665
Balance	- 34,014,247	- 30,115,718	-38,909,094	-45,267,510	-43,655,235	-47,785,315
Thailand						
Export	1,938,259	2,832,178	3,069,559	3,473,523	3,742,295	4,020,455
Import	6,383,588	5,791,898	6,283,429	7,053,283	7,532,825	7,693,005
Balance	-4,445,329	-2,959,720	-3,213,870	-3,579,759	-3,790,530	-3,672,550

(Source: General Statistics Office, Ministry of Industry and Trade)

The above figures show strong and rapid development in Vietnam-Thailand trade cooperation. The two sides have become important partners, as Vietnam becomes the ninth biggest importer, the 17th export partner of Thailand, and the fourth most important trading partner among the ASEAN countries. And Thailand, likewise, is in the 3rd position among ASEAN countries having trade relations with Vietnam.

In the two-way trade relationship, Vietnam has a trade deficit. The cause of this situation is that the product structure of the two countries are relatively similar, while some Thai products are more competitive, even in the domestic market of

Vietnam. The demand for imported raw materials from Thailand by foreign investors, including Thai investors, increases. Moreover, Thailand has a strong and effective trade promotion and a clear business strategy.

Table 2. List of Vietnamese goods exported to Thailand in 2014

No.	List of imported goods	Volume (tons)	Value (1000 USD)
1	Phones and components		688,146
2	Crude oil	663,701	493,627
3	Iron and Steel	310,395	251,042
4	Machinery, equipment, tools & spare parts		247,988
5	Other means of transport		171,936
6	Seafood		182,908
	<i>Of which: Frozen fish</i>		89,550
	<i>Frozen shrimp</i>		2,695
7	Computers, Electronic Products & Components		157,495
8	Sling, weaving		76,051
9	Car parts and accessories		69,996
10	Motorcycle and motorcycle parts and accessories		54,940
11	Chemical products		48,636
12	Products from iron and steel		48,626
13	Cashew	7,348	48,262
14	Plastic products		47,988
15	Other common metals and products		39,675
16	Plastic materials	19,824	36,667
17	Cloth fabrics, other technical fabrics		36,191
18	Vegetables		31,498
19	Petroleum	32,219	30,488
20	Raw materials of textiles, garments, leather, shoes		26,315
21	Footwear		23,178

No.	List of imported goods	Volume (tons)	Value (1000 USD)
22	Few		27,117
23	Furniture products from materials other than wood		23,073
24	Fertilizer	51,748	17,223
25	Coal	153,797	17,005
26	Electric wires, cables		16,647
27	Cake, candy & cereal products		16,350
28	Textiles		14,032
29	Products from rubber		13,109
30	Cameras, Camcorders & Parts		12,129
31	Feeds & raw materials		11,748
32	Wood		11,070
33	Handbags, purses, suitcases, hats & umbrellas		9,750
34	Paper products		8,118
35	Chemistry		5,757
36	Glass & glass products		5,433
37	Paper		4,357
38	Tin		3,143
39	Rubber	1,751	3,051
40	Wooden product		2,892
41	Other ores & minerals		1,808
42	Gemstone, Precious Metals & Products		1,666
43	Cover	1,750	1,164
44	Toy		1,162
45	Rattan, bamboo, rush, leaves		1,037
46	Boat		755
47	Meat is frozen and processed		614

No.	List of imported goods	Volume (tons)	Value (1000 USD)
48	Peanuts		369
49	Rice	540	343
50	Cassava & cassava products		182
51	Vegetable oil and grease		101
52	Bicycles and spare parts		65
53	Milk & dairy products		61
54	Carpet		46
55	Cinnamon		41

(Source: General Statistics Office Yearbook, 2014)

From the table, it can be seen that the list of Vietnamese goods exported to Thailand is very rich, diverse, and of great value. Some key items that Vietnam exports to Thailand are: the biggest value export items were Telephone & Parts with 688,146 thousand USD; followed by Crude Oil with 663,701 tonnes, equivalent to 493,627 thousand USD; Iron and Steel was 310 395 tons equivalent to 251 042 thousand USD. Some of the items with the lowest export value in 2014 were Bicycles and Spare Parts with export value of 65 thousand USD; Milk and Dairy Products reached 65 thousand USD, the lowest was Cinnamon 41 thousand USD. Although the list of commodities is abundant, Vietnam needs to continue to bring into full play its domestic advantage to ensure the quality and quantity of goods to increase annual export value to Thailand.

Table 3. List of Thai goods imported into Vietnam in 2014

No.	List of imported goods	Volume (tons)	Value (1000 USD)
1	Petroleum	857,090	688,146
2	Diesel oil	686,199	561,277
3	Flying fuel	151,165	136,236
4	Gasoline	14,500	13,358
5	Fuel	5,225	4,157
6	Plastic materials	312,816	527,474

No.	List of imported goods	Volume (tons)	Value (1000 USD)
7	Machinery, equipment, tools & spare parts		459,942
8	Car parts and accessories		378,410
9	Other electrical appliances & parts		316,350
10	Air conditioner		298,670
11	Chemistry		272,486
12	Computers, Electronic Products & Components	249	195
13	Car	14,416 piece	242,955
14	Truck	11,021 piece	201,661
15	Cars of 9 seats or less	3,251 piece	35,618
16	Other cars	144 piece	5,676
17	Fabrics of all kinds		217,249
18	Paper		209,816
19	Kraft paper		1,559
20	Chemical products		188,038
21	Plastic products		187,200
22	Vegetables		149,600
23	Raw materials for footwear		146,230
24	Products from iron and steel		142,264
25	Motorcycle parts & accessories		132,492
26	Automobile tires		128,919
27	TB machine communication		117,849
28	Feeds & raw materials		103,766
29	Silk, woven fiber (yarn)		96,599
30	Iron and Steel	60,135	83,857
31	Steel billets	1,188	2,849
32	Milk & dairy products		75,368

No.	List of imported goods	Volume (tons)	Value (1000 USD)
33	Fragrances, cosmetics and toiletries		69,942
34	Other ores & minerals		66,067
35	Rubber	40,240	64,092
36	Dong		62,981
37	Wood		62,530
38	Medicine		61,865
39	Products from rubber		60,328
40	Look	96,779	58,915
41	Wires & Cables		52,177
42	Pesticides & raw materials		49,193
43	Other products from petroleum	48	39,553
44	Other means of transport & spare parts		37,538
45	Other food preparations		36,906
46	Group		36,765
47	Garment accessories		34,660
48	Glass and glass products		33,972
49	Cake, candy & cereal products		29,833
50	Products from other common metals		29,083
51	Paper products		22,753
52	Seafood		16,733
53	Motorcycles in complete units	10,892 piece	15,598
54	Equipment, plastics		12,300
55	Other products from petroleum		12,222
56	Pharmaceutical raw materials		9,253
57	Machine and construction machine		8,537
58	Machine and machine of the machine		7,979
59	Equipment, textile and garment industry		7,726

No.	List of imported goods	Volume (tons)	Value (1000 USD)
60	Cameras, Camcorders & Parts		7,373
61	Tin		6,796
62	Asphalt		6,425
63	Grease		6,317
64	Vegetable oil and grease		6,221
65	Gemstone, Precious Metals & Products		5,586
66	Glass building		4,861
67	Fertilizer	7,752	4,460
68	NPK fertilizers	1,858	986
69	Potassium fertilizer	11	10
70	Other fertilizer types	5,883	3,464
71	Cream		2,452
72	Machine and Cement Production Machine		2,198
73	Wooden product		1,571
74	Iron and steel scrap	1,842	825
75	Just		731
76	Equipment, Paper Industry development		640
77	Frozen and processed meat		602
78	Raw materials of tobacco		417
79	Soybean	478	402
80	Ball	53	199
81	Other common metals		172
82	Equipment, development leather industry, shoes		117
83	Cashew	23	25
84	Wheat flour		18

(Source: General Statistics Office Yearbook, 2014)

Through the data, it can be seen that the list of Thai products imported into Vietnam is richer and more numerous than the list of Vietnamese items exported to

Thailand. Petroleum and Fuel products account for a very high proportion of the total import value to Vietnam, in particular Petroleum imported into Vietnam accounting for the highest value of imported goods in 2014 with 857 090 tonnes equivalent to 688 146 thousand USD, Diesel with 686 199 tonnes or 561 277 thousand USD. Low value items are Foodstuffs such as Cashew Nuts, Soybeans, and Wheat. Particularly, Soybean is 478 tons, equivalent to 402 thousand USD, Wheat is only 18 thousand USD. That proves that the main items of Thailand imported into Vietnam are mainly fuel, accessories, spare parts ...

In 2015, total imports of Thailand's Machinery, Equipment, Tools and Spare parts into Vietnam totaled \$ 796.1 million, up 25.5% from the previous year. The raw materials used in the first 11 months of 2015 were nearly 367 thousand tons, worth \$ 515 million. In 2015, the total turnover reached \$ 541.3 million, an increase of 2.7% over 2014. In this category, Thailand is the fourth largest export market in Vietnam, ranking second only to South Korea, Saudi Arabia and Taiwan. In the first 11 months of 2015, Vietnam imported 23,516 cars in complete units from Thailand, reaching USD 406.1 million. This figure outpaced that of 2014, when the whole year was only \$ 243 million with 14,416 units built. Total import value of the whole year reached \$ 440.6 million, up 81.3%.

Projecting in 2016, the total import-export turnover of the country reached over \$ 350.74 billion, up 7.1%, respectively, increased nearly \$ 23.16 billion over the same period last year. Of which, exports reached more than 176.63 billion US dollars, up 9%, respectively, up nearly 14.62 billion US dollars; Imports totaled more than \$ 174.11 billion, up 5.2%, respectively, up more than \$ 8.54 billion. Trade balance of goods in the country in 12/2016 deficit of 494 million USD, bringing the trade surplus of 2016 to more than 2.52 billion USD [3].

For the Thai market, Vietnam's commodities exported to Thailand in 2016 mainly include phones and components; Computers, electronic products and components; Means of transportation of spare parts; seafood; Machinery, equipment, tools; Iron and steel of all kinds ... In the first eight months of 2016, the highest export turnover was for all kinds of telephones and components with USD 497.26 million, accounting for 20.5% of the total export turnover, up 22, 0% over the same period last year. Computers, electronic products and components ranked second in turnover, reaching \$ 266.63 million, up 55.6% over the same period last year, accounting for 11.0% of total export turnover to the Thailand market.

Ranked third in the export category were vehicles and spare parts, export turnover reached USD 213.53 million, accounting for 8.8% of total export turnover to this market, decreased 8.6% compared for the same period in 2015, accounting for 8.8% of total export turnover to this market. It is noteworthy that the group of feed

and raw materials, although the turnover was only 34.98 million USD, compared with the same year last year was a remarkable increase of 366.2%. In addition, some commodities with high export growth in the first eight months of this year included: chemicals up 76.4%; Textiles increased 68.0%; Iron and steel products increased by 59.2%; Vegetables and fruits increased by 28.2%.

In contrast, some groups of products exported to the Thai market have decreased in value in the last 8 months compared with the same period as fertilizer of all kinds decreased 51.8%; Iron and steel of all kinds decreased by 49.8%; Rubber products decreased 35.7%. Vietnam's exports to Thailand in August 2016 totaled \$ 341.97 million, up 8.9 percent from July 2016; Bringing total exports to Thailand in the first eight months of 2016 to \$ 2.42 billion, growing 10.6% over the same period in 2015.

Petroleum is the most valuable commodity imported from Thailand into the Vietnamese market. Particularly for the Thai market, gasoline of all kinds in 2016 is mainly imported from Thailand with more than 1.5 million tons worth \$ 638 million, down 33.5% in volume and 44.9% in value. Price over the same period last year; China, with over 1.04 million tonnes, valued at \$ 451 million, down 40.3% in volume and 51% in value; The amount of petrol imported from Thailand through the end of November 2015 was 2.03 million tons, up 186%. In particular, during the first seven months of the year, Vietnam imported nearly 1 million tons of petroleum from Thailand, up 276% over the same period in 2014. This is the period with the largest growth rate in the year, In the context of petrol imports from familiar markets such as China and Taiwan are down. Imports of the whole year increased by 62%.

4. Prospects for Vietnam-Thailand trade cooperation in the future

Over the past 40 years, the Vietnam-Thailand Strategic Partnership has developed significantly. With the strengths in production and business, the main product advantages of the two countries, the consistent policy of Vietnam wants to strengthen and strengthen relations with Thailand in many fields with stability and development, especially in the field of commerce. Vietnam is fully capable of achieving its commercial development goals with Thailand as the number of goods traded between the two countries increases in the coming years, as the two countries move towards the implementation of the Free Trade Agreements of ASEAN and other common agreements. Vietnam is Thailand's second largest trading partner in ASEAN and Thailand is the first major trading partner of Vietnam. Both countries are on mainland land, with convenient transportation connections. The two countries have many points for each other, the goods of this country is the preference of the people

of the other country and vice versa. The two countries also have open policies, implementing many measures to reduce barriers, facilitate the flow of goods.

In terms of investment, many Thai businesses have invested in Vietnam with large projects such as the Vung Tau oil project, supermarket chains, cattle feeds ... Thailand is the 10th largest investor to Vietnam with nearly 500 projects worth about \$ 10 billion. In the future, Thailand will rise to become one of the largest investors in Vietnam.

Vietnam is in the process of industrialization and modernization of the country has clearly realized the great benefits in trade relations with countries in the region, especially with Thailand. In recent years, , economic and trade relations between Vietnam and Thailand have been significantly improved. In terms of trade turnover, Thailand ranks second, and third in investment among ASEAN countries doing business with Vietnam. Along with the good development of political relations between Vietnam and Thailand, the bilateral trade and economic relations have achieved remarkable achievements. The form of bilateral cooperation has changed from the form of confrontation to dialogue, competition to cooperation which shown that the trade and economic relations between the two countries have taken a new height. In that spirit, Vietnam suggested that the two sides actively implement the Joint Declaration on the Results of the Third Vietnam - Thailand Joint Cabinet Meeting and Action Program on the Implementation of the Vietnam - Thailand 2014-2018; Effectively deploy bilateral cooperation mechanisms.

To reach the target of bilateral trade turnover of 20 billion USD by 2020, the two sides should take concrete measures to effectively implement the Vietnam-Thailand Trade and Investment Action Program 2015-2015. 2020; Encouraging businesses and businesses of the two countries to increase investment and cooperation on goods that have potential and strengths and complement each other, the resources that both countries are not or not produced.

The Government of Vietnam is committed to creating favorable conditions for Thai investors and businesses to do business in Vietnam; Encouraging Thai companies to invest in oil and gas, electricity, construction of industrial zones, textiles, foodstuffs, agricultural products, chemicals, materials, tourism ... The success of Thai enterprises Lan is the success of Vietnam. Vietnam hopes the Ministries and Agencies of the two countries to strengthen cooperation, remove difficulties, and sign new trade cooperation agreements in their respective fields. Promoting Thai business investment projects in Vietnam on schedule; Strengthen the connection between the two economies; Promote co-operation in the development of the coastal road between Thailand and Cambodia and Vietnam and

open a bus service linking Thailand-Laos-Vietnam, facilitating the transshipment of goods.

Continue to carry out activities celebrating 40 years Establishing diplomatic relations of the two countries; Promoting people's exchanges and exchanges, encouraging the teaching of Thai and Vietnamese in each country. Both countries have recognized that the business community of the two countries play an important role in promoting Vietnam-Thailand relations; He expressed his hope that the time to pick up many Vietnamese businesses to invest in Thailand and the Thai Government is committed to creating favorable conditions for Vietnamese enterprises. It is the enterprises acting as a bridge for the people of the two countries to understand each other.

Thailand is also looking forward to developing relations with Vietnam in all areas, especially in trade, and working with Vietnam is one of the country's top priorities. Thailand is committed to seriously implement the agreements signed by the two parties; Efforts to find all measures to promote investment of Thai enterprises in Vietnam.

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PUBLIC DEBT IN VIETNAM AND RELATED ISSUES

Dr. Tran Hoang Long

thlong@uneti.edu.vn

University of Economics - Technology for Industries, Hanoi, Vietnam

Abstract

In Vietnam, recently, public debt has been a big matter that receives a lot of concerns from people in society. Especially, Foreign Newsletter No. 7 released by Ministry of Finance figured out some data that show off the scale of debt is rising and there is the risk of exceeding the threshold. Therefore, this article has studied on the issue of public debt in Vietnam to propose some recommendations in order to timely handle this situation.

Keywords: *Government, State budget, public debt*

1. Introduction

According to the Investigation into the objective, mobilization orientation, use of investment loan and public debt management in the period from 2016 to 2020 by National Assembly Budget and Finance Committee, in 2015 the amount of public debt in Vietnam reached 2,608 billion VND, equal to 62.2% of total GDP. Even though it was still in the safe level, the growth rate of public debt increased dramatically, reaching 18.4%/year, 3 times more than growth rate of GDP. Specially, the ratio of public debt/GDP increased from 39.3% from 2011 to 50.3% in 2015 (50% more than the accepted ceiling level). This investigation also shows that in 2016, the debt can be more than 65% if considering the amount of 14,295 billion VND issued for capital for the project of Highway 1A and Ho Chi Minh path crossing Central Highlands area following the Resolution 99/2015/QH13 of 11 November, 2015 by National Assembly. Therefore, public debt in Vietnam is reaching such an alarming level. The situation of public debt in Vietnam also suffers from a lot of disadvantages.

In recent times, Vietnam has been tightly controlling public debt and has been active in implementing solutions not to increase overspending that are gradually pulled down to ensure the safety of public debt. So far, however, the situation has continued to deteriorate and has become a factor threatening the sustainable economic growth rate of Vietnam in the upcoming years.

With the significance of researching the status of public debt in Vietnam, the articles have pointed out the inadequacies, limitations from which proposed solutions to secure public debt in Vietnam. The article focused on pointing out shortcomings of public debt in Vietnam and fully suggested a number of solutions such as:

strengthening audit of public debt, raising the capacity of public debt management, strictly tightening fiscal discipline.

2. Method

To conduct research, the author applied some methods:

- Applying systematic method, the author based on study of literatures on the public debt management in Vietnam in legal documents and international experience.
- Collecting primary data through reports of State agencies on public debt in Vietnam and related magazines.
- Based on the synthesis of research results, the author pointed out the drawback in debt situation in Vietnam.
- Using the method of in-depth interviewing some experts in the same field of study, group discussion method, combining thinking method to specify the necessary, identifying solutions to ensure the safety of public debt in Vietnam.

3. Results

The situation of public debt in Vietnam also suffers from a lot of disadvantages, which requires a suitable and urgent solution.

According to Article 1 of Law of Public debt management issued in 2009, public debt includes 3 categories: (i) Government debt; (ii) debt guaranteed by Government; (iii) Local authorities' debt. Based on the classification, the situation of public debt can be illustrated as below:

(1) Government debt: This is the debt resulted from the domestic and foreign loan which is signed or issued on the behalf of Government or Country, or the other loans which is signed, issued or authorized by Committee of Finance upon regulations. According to reports by Committee of Finance, until the end of 2015, the quantity of Government debt was 1.8 billion VND, taking up 80% of public debt and equal to 50.3% of GDP in 2015. Therefore, this is the first time Government failed to maintain the quantity of public debt under the ratio of 50% in comparison with GDP upon the Strategy of Public Debt and National foreign debt from 2011 to 2020 and the vision for 2030 issued by Decision No. 958/QĐ-TTg, dated in 27 July, 2012 (Strategy of Public debt).

(2) Debt guaranteed by Government: According to the definition in the Law of Public debt management (2009), debt guaranteed by Government is the domestic and foreign loan by corporation, financial institutions, credit institutions which is guaranteed by Government. According to the reports of Committee of Finance, until the end of 2015, the total quantity of debt guaranteed by Government reached 26 billion USD. The real quantity of debt guaranteed by Government was 21 billion

USD, taking up 81% of total quantity of debt guaranteed and equal to approximately 11% of GDP.

The most concerning factor is that among 26 billion USD of debt guaranteed by Government, the amount of foreign loan accounted for 21.8 billion USD (equal to 84%). While the huge amount of loan will drive corporations with a lot of interest risk, the huge amount of foreign loan also brings a lot of problems about exchange rate risk. In the case that the borrower can't pay the debt, the responsibility to pay will definitely be Government's.

This concern has many reasons to worry about. Taking the case of Vietnam Electricity Corporation (EVN) as an example, the quantity of public debt guaranteed by Government for EVN already accounted for 1/3 of the total quantity of debt guaranteed by Government. According to Financial statement of EVN, until the end of 2014, foreign loan by EVN already reached 162,000 billion VND, equal to 7.2 billion USD. However, the efficiency of this corporation's performance is a mystery now. According to the Independent auditor of EVN, the amount of deficit currently reaches such a very high level. In details, the amount of deficit of National Power Transmission Corporation in 2014 was 1,682.21 billion VND, Quang Ninh Thermal Power Joint Stock Company's was 1260.46 billion VND, Power Generation Corporation 3 's was 810.94 billion VND, Power Generation Corporation 1 's was 641.75 billion VND and Hai Phong Thermal Power Joint Stock Company's was 392.12 billion VND.

Moreover, the efficiency of financial performance of some projects invested by state corporations and guaranteed by Government is also such a big issue because this will be a directly heavy burden on Government. For example, it can be illustrated through the case of unperformed 12-billion-VND project or the poor performance by Ministry of Industry and Trade through the project Thai Nguyen Iron and Steel Corporation (TISCO) in the phase 2, Ninh Binh Protein Factory; Dinh Vu Hai Phong Polyester Manufacturing Factory (PVTex); Phuong Nam Long An Paper Powder Factory; Binh Phuoc Ethanol Factory..... In that context, Prime Minister decided that since 2017, the government would have stopped to do guarantee for new projects to maintain the safe level of public debt. In the special and urgent cases, Prime Minister will carefully check and implement guarantee for each specific case. This is such a good point in the policies to manage the state budget now.

(3) Local authorities' debt

Local authorities' debt results from the loan from local authorities to increase more capital for improving local infrastructures according to Section 3, Article 8 of Law of State Budget. Some cities like Hochiminh, Hanoi, Danang, Dong Nai already issued local bond. With the trend to improve the independence, the model of local bond issuance will be expanded into other areas. This will set multiple challenges for

Government when allocating the state budget and controlling debt management by local authorities (Do Thien Anh Tuan, 2015).

The report of public debt by Ministry of Finance shows that the amount of debt seems to have no serious problems. Until the end of 2015, local debt was only around 33.5 billion VND, around 1.5% of total public debt and approximately 0.9% of GDP. Clearly, if we just look at these figures, the problem of local debt is not so serious. However, according to some analysis by Do Thien Anh Tuan (2015), the total amount of local authorities hasn't been fully calculated. Over the last few years, the issues of debts in primary construction have posed a threat on the state budget and public debt management as according to the reports from National Auditing, after doing the auditing about the Program of National Strategy about rural area restructure, the amount of local debt for primary construction is 16,736 billion VND, in which the new developed town suffered from the debt of 4,448 billion VND. Even though this amount is not so huge, if every town suffered from such amount, it would be a serious problem on the whole.

Concerning problems in public debt in Vietnam

1. The deficit in state budget is on an upward trend

After Government implemented the policies to increase the demands in 2009, State budget has recently suffered from an increasing deficit. Regarding absolute value, the expense for State budget increased from 65.8 billion VND in 2011 to 263.2 billion VND in 2015. In comparison with GDP, the expense for State budget increased from the rate of 4.4% of GDP in 2011 to 6.1% of GDP in 2015 (Graph), which is 5% higher than the standard of Strategy of Public debt.

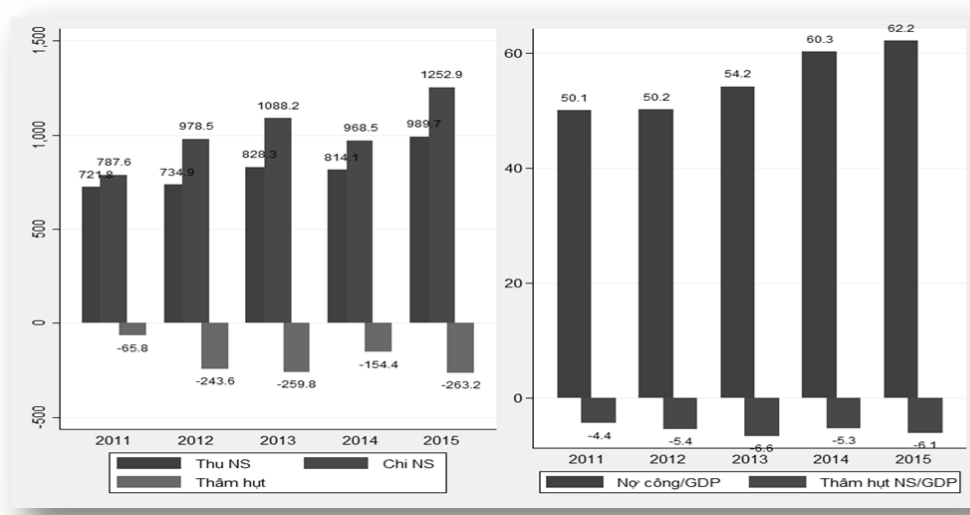


Chart 1: Receipts and payments of State budget and public debt, 2011-2015

Source: Ministry of Finance

In 2016, the situation of deficit in state budget showed no optimistic signals. According to Statistic Department, the total amount of receipts in state budget until 15 December, 2016 reached 943.3 billion VND, equaling to 93% of annual estimation, in which domestic receipts accounted for 744.9 billion VND (94,9%), receipts from raw oil accounted for 37.7 billion VND (69.2%), receipts from export-import activities reached 156.2 billion VND (90.8%). Therefore, even though the amount of domestic receipt increased by 13.4%, other important sources of receipts like raw oil or export-import activities dramatically decreased by 39.6% and 2.3% respectively in 2015.

Meanwhile, until 15 December 2016, the total amount of payments from state budget reached 1,135.5 billion VND, equaling to 89.2% of annual estimation, in which payment for development investment reached 190.5 billion VND (74.7%); payment for social-economic development, military, administration management accounted for 786 billion VND (95.4%), debt and aid payment reached 150.3 billion VND (96.9%). The ratio of payment from state budget/GDP remained such a high level. In comparison with other countries in region, that ratio in Vietnam is supposed to be the highest for over the last 10 years. Until 2016, this ratio remained the level of over 28% of GDP.

The deficit in state budget drove the public debt in 2016 to reach the ceiling of 65% of GDP. This ration currently is dramatically higher than other countries' in the region, especially since 2011. The burden to pay public debt is now on an increase when the ratio of mid-term and long-term liabilities/total receipts of budget already exceeded 25% (this ratio is estimated to be 26.3% in 2016). Moreover, the risk of public debt in Vietnam also covers other 2 elements:

(i) Corporation sector in the region has always been offered a "soft" policy from Government while it is the biggest threat to public debt. According to reports by Government, total amount of consolidated liabilities of 103 corporations in 2015 already reached 1,547,859 billion VND, equaling to 70 billion USD (35% of GDP). Therefore, if including the debt from corporations, the ratio of public debt/GDP already exceeded 100%.

(ii) The speed of the public debt is on a considerable increase while the development of the economy currently is not that good. Therefore, the unsustainable budget and high ratio of debt over total budget will be a big threat to the economy.

Table 1: Deficit in state budget and public debt

	2011	2012	2013	2014	2015	2016
Deficit in state budget (% GDP)	-4,90	-5,36	-5,45	-5,70	-6,10	- 6,0
Foreign debt (% GDP)	41,50	37,40	37,30	39,90	43,10	-
Public debt (% GDP)	54,90	50,80	54,20	60,30	62,20	64,98

Source: General Statistic Office of Vietnam

2. *The structure of receipts of state budget are unsustainable.* According to the General Statistic Office of Vietnam, the ratio of receipts of state budget/GDP in Vietnam has continuously reduced over the last few years. While in the period from 2006 to 2010, the receipts of state budget reached 28.7% of GDP, the period from 2011 to 2015, this ratio reduced to only 23.3%. In 2016, the average number is expected to be only 22.1%. This ration in comparison with other countries in the region is comparative low and even on a downward trend because of some following reasons: (1) The economy is not that optimistic, (ii) Tax is on a decrease because of the participation in some Commercial agreements; (iii) The revenue from war oil decreases because of the increase in the price and the quantity.

The receipts of budget cannot be sustainable when the payment is continuously rising and the monetary policy has not yet improved. The deficit in state budget is so huge that the Government debt is also on an increase, especially the domestic loan by issuing Treasury bond (it is estimated that in 2007, there will be 250,000 billion of Treasury bond will be issued).

The amount of regular payment still accounts for a high ratio (approximately 70%), in which, the regular payment is now higher than the receipts from tax and fee. Therefore, the methods to improve administration show no effects as the systems for payment do not have any improvement yet and recently the ability to pay regular debt is not good, which causes a big influence on the deficit in the state budget when state budget is used to pay debt, not for the development investment. The payment ratio for development investment has dramatically reduced from 28.5% (2011-2015) to 24.4% (2006-2010), 18% (2011-2015) and just 15.2% in 2016,

3. *Public debt paying obligation is on a rapid upward trend.* The obligation to pay directly by Government increased from 185.8 billion VND in 2013 to 296.2 billion in 2015. If including the debt guaranteed by government and the local authorities' debt, the amount of public debt paying obligation is much bigger which was estimated to be 418.4 billion VND in 2015. Because the speed of this increase is very fast, the ratio of payment obligation/receipts in state budget also increased rapidly. If mentioning only the direct payment obligation by Government, that ratio is 22.4% in 2013, increasing to 29.9% in 2015. The reason for this increase is that during the period from 2010 to 2012, the short-term debt by Government reached a high level, mostly through the issuance of bonds with duration from 1 to 2 years. This will be a big burden on state budget.

4. *While the amount of foreign debt is huge, the exchange risk is also very high.* Until now, the amount of foreign debt over the total Government debt is 50%. This implies a risk as the value of domestic currencies over USD has currently

dramatically reduced. High public debt is a hindrance when applying monetary and exchange rate policies to improve export. The value of VND is now considered overvalued, which makes the competition ability of Vietnamese exporters lower than other countries'.

With new policies from new President Donald Trump and his recent actions in increasing the FED interest rate, the exchange rate risk becomes more serious regarding public debt in Vietnam, especially when Vietnam's economy is at average level right now, loan from ODA becomes more difficult and less and Vietnam needs to ask for commercial loan at higher expense. In this situation, the burden will be more serious and the risk will be bigger.

5. The fiscal policy has not been seriously implemented, the regulation about public debt has not been strictly followed. The scheme for public debt management now includes Law of Public debt in 2009, Law of State Budget in 2015 and other documents. According to regulations about public debt management, National Assembly is the highest authority body to manage public debt, and has the obligation to decide the allocation of public debt, the approval of projects. In fact, the laws about public debt right now are quite sufficient. However, the implementation and the following are not strict and serious enough. This fact is illustrated through the fact that the actual figure for the payment of state budget is always much higher than the estimated one. This situation has lasted for such a long time. National Assembly has always approved all proposals by Government despite the huge difference between the actual and estimated number. For example, the Strategy of Public debt illustrated that the payment in 2015 was expected to be 4.5%, but actually this accounted for 6.2%.

Law of Public debt management in 2009 also set some regulations about the responsibility to report as well as revealing all information about public debt. However, Ministry of Finance hardly reveals any information about public debt and foreign debt and only does this mostly when required by Government or National Assembly. The information is also quite general and not detailed enough to evaluate the real level of risk of public debt in each specific duration of time.

On the other hand, while the auditing of public debt in other countries is seriously and strictly done, this process in Vietnam is so simple and incomprehensive. National auditing department has not fully done the public debt independently and separated (mostly do together with other sectors). Therefore, it is necessary to fully construct the legal scheme in public debt auditing in National Auditing Department to make sure that all the public debt management policy is smoothly implemented, which considerably contributes to the macro economy.

4. Discussion and Conclusion

Solutions to the issues of public debt in Vietnam

On 18 December, 2016, the General Secretary Nguyen Phu Trong signed the Resolution by Ministry of Politics about the solutions to restructure of state budget, public debt management to maintain the safe and sustainable level of national economy (Resolution No 07-NQ/TW). The specific objectives are that the rate of mobilization of state budget in the term from 2016 to 2020 will reach 20%-21% of total GDP and the total quantity of receipts in National state budget will be 1.65 times higher than that in the term from 2011 to 2015. In that distribution, the ratio of domestic receipts take up 84-85%, that of receipts from raw oil and exporting-importing is 14-16%; the ratio of receipts into National Budget is 60-65%. After 2020, the mobilization into National budget remains a stable level. The amount of cash outflow from national budget in the period from 2016 to 2020 will be approximately 24%-25% of GDP. In the allocation of payment from State Budget, the ratio for investment development purpose is approximately 25-25%; the ratio for frequent payment is below 64%, which is priority for debt payment and national reservation. The next objective is to maintain the national financial safety, maintain the balance of state budget, reduce the ratio of payment from State budget in 2020 to below 4% of GDP, in 2030 to below 3% GDP, which aims at the equivalence between receipts and payment. The situation for annual public debt in the period from 2016 to 2020 will be not over 65% of GDP, in which government debt will be below 55% of GDP and foreign debt will be below 50% of GDP. Until 2030, public debt will not exceed 60% of GDP, in which government debt will be not over 50% of GDP and foreign debt will be not over 45% of GDP.

The principle of public debt: Only make a loan when having ability to pay. The resolution clearly indicates that: restructure State budget and public debt management at the same time with the reallocation of the economy; bring more innovation in the development model to maintain the effectiveness, comprehensiveness and sustainability; develop all the sources. The next point of this resolution indicates the innovation in the management of state budget in line with international standards and customs, which effectively support the integration of the nation; maintain the independence and development.

Beside the above-mentioned orientation, to maintain the safety level of public debt, I would like to suggest some recommendations:

1. Tighten the regulations about fiscal policies. The amount of payment by governmental bodies must stay within the allowed estimated budget. Other cases, which exceed the estimation, should not be agreed and in that case, the head of that body needs to be responsible for the over-payment.

Besides, it is necessary to acquire the transparency about the budget. All units using state budget need to publicize all the information of receipts and payments of the budget on their website so that the citizens can check and monitor. In the cases that the information is not publicized on time and not enough, the one who is in charge of that obligation needs to be responsible. Citizens have the right to ask units using state budget to provide the information and clarify if there is any inquiry about the situation of using state budget ineffectively.

2. *Improve the public debt management.* Government should build a strong management mechanism. This requires a change which centralizes all the bodies to improve the analysis and forecasting ability and fully implement about all regulations about public debts. All the authority bodies which manage the public debt should use loans with different maturities in different time to improve the efficiency of public debt and reduce the burden on public debt to avoid the maturity risk and decrease the interest rate.

3. *Fully implement the auditing process.* This is such an important method to maintain the law of State budget. The independent audit will help to reduce the waste in state budget as well as other unnecessary amount, thus reducing public debt. Beside, the efficiency of investment can be improves through some other methods such as mid-term investment plans and choosing the projects smartly, which is an important solution to reduce the pressure in investment payment without affecting the development when there is a limit in the state budget.

Thus, it can be seen that ensuring the safety of public debt in Vietnam is a very significant issue. The matter is more urgent than ever when the situation is deteriorating. The study has pointed out the drawbacks in the public debt situation in Vietnam. These difficult challenges have posed the need to synchronously implement the above solutions.

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LITERATURE REVIEW OF ACCOUNTING IN THE CONTEXT OF VIETNAM

Assoc. Prof. Dr. Dang Ngoc Hung

hungdangngoct@yahoo.com.vn

Hanoi University of Industry, Vietnam

Dr. Hoang Thi Viet Ha

hoangthivietha@gmail.com

Hanoi University of Industry, Vietnam

Assoc. Prof. Dr. Tran Manh Dung

tmdungktoan@yahoo.com

National Economics University, Hanoi, Vietnam

Abstract

This paper is conducted for reviewing topics and methodologies employed in accounting publications. Data were collected from 192 papers issued in the Journal of Economic Development and Journal of Economics & Development for the period from 2012 to 2016. The result found that interested topics in accounting are financial statements, financial information and capital market, managerial accounting. The objects of publications are mainly from listed firms in Vietnam Stock Exchange. The popular methodology adopted is archival but interestingly experimental approach is not used in accounting researches in the context of Vietnam. Basing on the findings, some suggestions are given for diversifying topics, objects and approaches for improving quality and application in order to meet the actual management in the context of Vietnam.

Keywords: *Accounting Research, Methodology, Vietnam*

1. Introduction

In doing research, publications are viewed to be important in aspects of (i) contributions to literature, (ii) measurement of scientific value of researchers (Dinh, 2012). Through studies, researchers give some contributions to specific fields and meet requirements for lecturers in education and training universities. That is why doing research is not only compulsory for researchers in general and lecturers in particular and also is for career development (Nguyen, 2016).

The topic of methodology in accounting papers has been focussed in the world. Olalera (2010) collected publications issued in nine journals, in which one paper was published in 48 years ago, and classified and discussed approaches adopted in

accounting field. Fuelbier and Sellhorn (2008) investigated approaches to accounting research for the period from 1998 to 2008 and classified approaches and topics of papers issued in *Pacific Accounting Review*.

In Vietnam, some researchers have also investigated in the issue of methodology in accounting research. Mai *et al.* (2016) reviewed methodologies in 42 doctorate accounting theses in Vietnam and classified into quantitative, qualitative, mixture and other approaches. Pham (2016) also looked into approaches in accounting studies and also gave some recommendations mainly from experiences.

In order to have an overview in accounting researches in aspects of topics, objects and methodologies employed and their differences from the world in the same field, this paper deeply looks into these issues in famous economic journals in the context of Vietnam. Through the results, some recommendations will be given for diversifying the topic research.

This research is structured as follows. Section 2 presents topics and methodologies of accounting studies; Section 3 describes methodology employed and data collection in the conduct of the paper. Section 4 sets out a discussion of key results, while Section 5 shows some key recommendations of the study.

2. Topics and Approaches in Accounting Publications

According to Creswell (2009), there are three approaches in doing research, namely, (i) qualitative method, (ii) quantitative method; and (iii) mixture approach (combination of quantitative and qualitative method). Qualitative research is employed for describing and analyzing characteristics and behaviors of human beings from the own view of a researcher. Quantitative research is used for testing hypotheses basing on deductive approach (Ehrenberg, 1994). Aliaga and Gunderson (2002) assumed that quantitative approach is used for explaining phenomena basing on analyzing quantitative data.

Accounting researchers commonly use theories from economics, finance, psychology, sociology and others, together with accounting issues for doing research.

2.1. Topics in Accounting Studies

Two schools of accounting theories in accounting are normative and positive accounting. Normative accounting presents accounting framework and standards. It states how to recognize, measure and disclose accounting transactions. It means that normative accounting answers the question of “What are requirements should be done by financial statement preparers?”.

Positive accounting explains and predicts accounting activities in a working day. It helps to answer the question of “What are happening and why do financial report

preparers do like that and what motivations do they do?” Instead of issuing requirements done in normative accounting, positive accounting gives us a chance to discover and interpret things that have never been happened or happen but we have not observed in accounting & finance (Phan, 2010). Normally, capital market and earning management researches are commonly conducted in positive accounting.

According to Pham (2016), some controversial topics in accounting were given in accounting research such as financial accounting framework, accounting standard design, measurement of accounting, accounting & corporate governance, accounting with environment, accounting with sustainability, international accounting, accounting & capital market, accounting for small and medium enterprises, accounting responsibilities. Brennan (1998) classified ten common themes including financial accounting, financial statements, international accounting, managerial accounting, taxation, auditing, business ethics, accounting history, accounting training, gender in accounting, and accounting profession.

2.2. Methodologies Employed in Accounting Papers

There are a variety of approaches in accounting publications. According to Nguyen (2012), methodology employed in doing research such as design and measurement approach, sampling techniques, data analysis including factor analysis, correlation and others. Methodology and method design in some cases are used interchangeably. Olalere (2011) synthesized main approaches implemented in accounting publications (see appendix No. 1). Bradbury and Hooks (2013) classified methodologies into empirical and non empirical. Archival, case studies and experimental are included in the empirical method whereas analytical, essay and reviews are used in the non empirical method.

In other classification, Fulbier and Sellhorn (2008) divided methodologies into empirical archival – database or archive, empirical experimental, empirical field or case study, empirical survey, non-empirical-analytical and other designs.

3. Research Methodology and Data Collection

This study is conducted basing on empirical archival. For doing this research, accounting publications issued in five years were collected for the period from 2012 to 2016 from two leading economics journals in Vietnam, namely, Journal of Economic Development of University of Economics Hochiminh City and Journal of Economics & Development of University of National Economics. Publications issued in two journals above are rated the highest quality in economics and the maximum point of 1.0 accepted by The State Council for Professor Title of Vietnam. So it is said that publications issued in these two journals are highly appreciated in the context of Vietnam. In the future, these two journals are trying to be the member of Scopus and ISI and will be recognized in the world.

Authors only collected publications using Vietnamese language issued in volume No. 1 & 2 each month and no used articles published in the special number. From 2012 to now, these papers have been coded and easily downloaded online, so it is very convenient for readers to access these data for different purposes.

After gathering accounting publications published from two journals, eight topics including accounting & accounting standards, management accounting, financial statements, auditing, accounting information & capital market, accounting in non-profit organization, training in accounting, and other issues. Methodologies employed in accounting papers are also divided basing on the classification conducted by Olalere (2010), Fulbier & Sellhorn (2008), and Creswell (2009).

For the period from 2012 to 2016, 192 papers have been collected in which 47 from Journal of Economic Development and 145 from Journal of Economics & Development. Table 1 shows the number of papers published in Journal of Economic Development and Journal of Economics & Development for the period from 2012 to 2016.

As can be seen in the Table 1, there are 47 papers issued in Journal of Economic Development, accounting for 24.5% and 145 papers published in Journal of Economics & Development, making up 75.5%, about three times higher than the first journal. The reason is that Journal of Economic Development issues one volume monthly (volume No. 1) whereas Journal of Economics & Development issues two volumes each month (volume No. 1 & 2). On average, 38.4 articles are issued each month. The lowest volumes in 2012 with 27 studies (14.1%) and the highest volumes in 2013 with 47 articles (24.5%).

Table 1: Publications Published in the period from 2012 to 2016

Year	Journal of Economic Development		Journal of Economics & Development						Total	
	Volume 1		Volume 1		Volume 2		Subtotal			
	No of papers	%	No of papers	%	No of papers	%	No of papers	%	No of papers	%
2012	5	10.6%	3	5.9%	19	20.2%	22	15.2%	27	14.1%
2013	3	6.4%	8	15.7%	36	38.3%	44	30.3%	47	24.5%
2014	14	29.8%	10	19.6%	21	22.3%	31	21.4%	45	23.4%
2015	11	23.4%	12	23.5%	10	10.6%	22	15.2%	33	17.2%
2016	14	29.8%	18	35.3%	8	8.5%	26	17.9%	40	20.8%

Total	47	100%	51	100%	94	100%	145	100%	192	100%
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Table 2 shows the number of authors in each article for the period from 2012 to 2016. Papers with two authors have highest percentage (about 54%); followed by papers with only one writer (35%). This denotes that in order to have publication, there is a cooperation in doing research between authors.

Table 2: The Number of Authors in Each Publication

No of authors in each paper	Journal of Economic Development		Journal of Economics & Development		Total	
	No of papers	%	No of papers	%	No of papers	%
One writer	12	25.5%	55	37.9%	67	34.9%
Two writers	28	59.6%	75	51.7%	103	53.6%
Three writers	5	10.6%	9	6.2%	14	7.3%
Four writers	1	2.1%	4	2.8%	5	2.6%
Five writers	1	2.1%	2	1.4%	3	1.6%
Total	47	100%	145	100%	192	100%

Table 3 illustrates the cooperation in doing accounting research in two leading journals in economics in the context of Vietnam. The percentage of authors being lecturers in University of Economics Hochminh City is 21.3% and in University of National Economics is higher than that with 31.7%. In contrast, the percentage of mixture between authors being lecturers and authors working outside university in the first journal is 34%, higher than that in the second one (only 18.6%). The percentage of writers working outside universities in the two journals is slightly different, nearly 50%.

Table 3: Publications Issued by Authors' Organization

Authors' Working Places	Journal of Economic Development		Journal of Economics & Development		Total	
	No of papers	%	No of papers	%	No of papers	%
Working in university	10	21.3%	46	31.7%	56	29.2%
Working in & out of university	16	34.0%	27	18.6%	43	22.4%
Working outside university	21	44.7%	72	49.7%	93	48.4%

Total	47	100%	145	100%	192	100%
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4. Results and Discussion

4.1. Results

Table 4 presents the topics interested in accounting researches in the period from 2012 to 2016. The number of topics in publications is uneven, with the financial statements donating at 33.3%; followed by accounting information & capital market, management accounting, auditing, accounting & accounting standards at 23.4%, 17.2%, 15.1% and 8.3%, respectively, and accounting in non profit entity, training in accounting, others with minimal share of about 1%.

Table 4: Themes Interested in Accounting Publications

No.	Themes	Journal of Economic Development		Journal of Economics & Development		Total	
		No of papers	%	No of papers	%	No of papers	%
1	Accounting & accounting standards	2	4.3%	14	9.7%	16	8.3%
2	Management accounting	5	10.6%	28	19.3%	33	17.2%
3	Financial statements	19	40.4%	45	31.0%	64	33.3%
4	Auditing & assurance services	3	6.4%	26	17.9%	29	15.1%
5	Financial information & capital market	17	36.2%	28	19.3%	45	23.4%
6	Accounting in non profit entity	-	-	2	1.4%	2	1.0%
7	Training in accounting	-	-	2	1.4%	2	1.0%
8	Others	1	2.1%	-	-	1	0.5%
	Total	47	100%	145	100%	192	100%

Table 5 illustrates the methodologies adopted in accounting studies for the period from 2012 to 2016 in two famous journals of Vietnam. The approach of archival dominates 44.3%; followed by normative method, survey, theoretical method at 28%, 12%, 7.3%, respectively. Interestingly, experimental method is not applied in the accounting paper in the time series in two economic journals. This is because the nature in accounting field

different from other fields that need to have experimental studies such as civil engineering, chemistry for examples.

Table 5: Methodologies Implemented in Accounting Researches

No.	Approach Employed	Journal of Economic Development		Journal of Economics & Development		Total	
		No of papers	%	No of papers	%	No of papers	%
1	Archival	33	70.2%	52	35.9%	85	44.3%
2	Experimental	-	-	-	-	-	-
3	Case study	2	4.3%	8	5.5%	10	5.2%
4	Review	1	2.1%	5	3.4%	6	3.1%
5	Survey	7	14.9%	16	11.0%	23	12.0%
6	Theoretical	4	8.5%	10	6.9%	14	7.3%
7	Normative	-	-	54	37.2%	54	28.1%
	Total	47	100%	145	100%	192	100%

Table 6 shows the research strategies in two journals in the time series from 2012 to 2016. Basing on this aspect, research methodology is divided into empirical and non empirical. As can be seen from the table, the percentage of empirical archival has highest level of 48.4%; followed by others, empirical survey, empirical field or case studies at 28.6%, 14.6%, 5.2%, respectively. Analytical and theory approach have the same lowest percentage of 1.6% in accounting papers.

Table 6: Methodologies Classified by Research Strategies

No.	Research Strategy	Journal of Economic Development		Journal of Economics & Development		Total	
		No of papers	%	No of papers	%	No of papers	%
1	Empirical archival – database or archive	37	78.7%	56	38.6%	93	48.4%
2	Empirical experiment	-	-	-	-	-	-
3	Empirical survey	8	17.0%	20	13.8%	28	14.6%
4	Empirical field or case study	-	-	10	6.9%	10	5.2%
5	Non-empirical – analytical	2	4.3%	1	0.7%	3	1.6%
6	Non-empirical theory	-	-	3	2.1%	3	1.6%

7	Others	-	-	55	37.9%	55	28.6%
Total		47	100%	145	100%	192	100%

Table 7 presents the methodologies classified by observation or data description for the period from 2012 to 2016. The data show that the highest percentage of paper using quantitative method is about 60%, other methods is 35%. Using qualitative method, and combination between quantitative & qualitative approach are rarely used in accounting papers.

Table 7: Approaches Divided by Observation/data description

No.	Observation/data description	Journal of Economic Development		Journal of Economics & Development		Total	
		No of papers	%	No of papers	%	No of papers	%
1	Quantitative method	43	91.5%	72	49.7%	115	59.9%
2	Qualitative method	2	4.3%	4	2.8%	6	3.1%
3	Combination method	1	2.1%	3	2.1%	4	2.1%
4	Others	1	2.1%	66	45.5%	67	34.9%
Total		47	100%	145	100%	192	100%

4.2. Discussion

In this part, topics and methodologies that have been employed in the final sample in the two famous journals in economics are discussed.

Topics chosen

Topics selected in accounting publications in Journal of Economic Development and Journal of Economics & Development focus on financial statements, accounting information & capital market, management accounting. This finding also matches with the results shown in Bradbury & Hooks (2013), Fulbier & Sellhorn (2008), Olalere (2010). These publications investigate factors affecting financial performance, quality of information in the financial reports, financial information disclosure, corporate governance and others. Basing on findings in accounting papers, some recommendations have been proposed. Other topics are usually published in other journals with lower quality or issued in proceedings held by universities or professional bodies in Vietnam.

Almost two-third publications issued in the Journal of Economic Development and Journal of Economics & Development used data relating to listed firms in the

Vietnam Stock Exchange. This is because of convenience in accessing data and reliable audited financial statements. Data from State owned enterprises, equitized firms, small & medium firms, non profit entities are also less interested by accounting researchers, accounting for nearly 17% total sample.

Interestingly, 30 of 192 papers discussed accounting issues in general did not show the real entities. So in this case it raises the question of quality of publications in these two journals. It is also understood that the quality of the economic journals need to be upgraded in the future.

Presently, both two journals have been deployed the projects of upgrading the quality of publications. In the short term, the quality of publications will be nearly the same with publication issued in the Asian journals and in the long term will be accepted and put in the ISI and Scopus.

Approaches used

About a half publications employed the method of archival. This finding also agrees with the finding of other publications in the world, for example, 43.6% in the research of Olalere (2010), 55% in the research of Bradbury & Hooks (2013).

Experimental method has not been used in the accounting papers in the context of Vietnam and this result is also suitable with the result of Fulbier & Sellhorn (2010). Basing on the observation & descriptive analysis, quantitative methods were employed with the highest percentage of 60%; followed by other methods (about 35%). The mixture method and qualitative method were used with the minimal share. This finding is different from the finding of Mai *et al.* (2016) with the mixture method of 40.5%, quantitative method of 26.2% and no method disclosure of 33%.

5. Conclusion and Recommendation

Basing on the data collected from 192 publications issued in the most famous journals in accounting in Vietnam for the period from 2012 to 2016, the themes are much interested in as financial statements, accounting information & capital market, managerial accounting. Data gathered mostly from listed firms in the Vietnam Stock Exchange. The most methodology employed in the accounting papers is archival based method or quantitative approach, whereas experimental method is not implemented in any accounting study.

Also basing on the review of accounting papers, in order to diversify and have more articles relating to different fields on different firms, more funds should be provided for accounting researchers for collecting data from state owned enterprises, small and medium enterprises, and non profit organization.

If experimental method is employed in accounting publications, the cause and effect will be discovered. However, up to now this approach has not applied in accounting field. That is why accounting scientists should use this instrument for answering questions arisen in the reality, especially relating to accountants and auditors behaviours in doing accounting and auditing jobs.

About one-third papers published did not show the methodologies employed. This shows the limitations of knowledge and techniques in doing research from writers. This also shows that the review of these studies, to some extent, is limited and it also affects the reputation of two journals. In consequence, the process of being a member of ISI and Scopus is not easy for these two journals. Because of this signal, scientists should attend workshops, conferences for improving capabilities in doing research and these journals should improve the quality of review and contents of papers.

Authors from different agencies should have more cooperation in training, doing research. By doing this way, graduates, lecturers, scientists in some agencies with limited in researching will receive more experiences from advanced universities such as University of Economics Hochiminh City and The National Economics University.

Currently, not many journals are coded so this makes difficult for readers to have access data and publications. So regulatory bodies should promulgate digital regulations, disclosure of research results on the internet and in the future to design Vietnam Citation Index.

However, this paper also has a limitation of collecting data from two famous economics journals in sixty journals accepted by The State Council for Professor Title of Vietnam. So further research on this issue with data gathered from more journals is identified and discussed.

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Appendix 1: Classifications of Methodology in Accounting Research

Research	Main Methodologies
Buckley <i>et al.</i> (1976)	Archival/Lab. Experiment/Analytical/Field study/Case study/Opinion
Carnaghan <i>et al.</i> (1994)	General empirical/Capital market/Behavioural/Analytical & Economic modelling/Discussions
Lukka & Kasanen (1996)	Statistical/Lab. Experiment/Field experiment/Case/Case & Statistical
Searcy & Mentzer (2003)	Archival/Experiment/Internal logic/Survey/Case/Field study/Content analysis/Ethnography
Kachelmeier (2009)	Empirical – archival)/Experiment/Analytical/Field & case study/Survey
Bouillon & Ravenscroft (2010)	Archival/Experiment/Simulation/Internal logic/Surveys/Cases
Salterio (2010)	Archival/Experiment/Analytical/Empirical/Case study/Field study
Pickerd <i>et al.</i> (2011), Stephen <i>et al.</i> (2011)	Archival/Experiment/Analytical
Olalere <i>et al.</i> (2010)	Archival/Experiment/Field study/Review/Survey/Theoretical/Normative

Source: Olalere (2010)

UNDERSTANDING INSTITUTIONS TO SUCCESSFUL INSTITUTIONAL REFORM

Assoc. Prof. Dr Cao Thuy Xiem

ctxiem@gmail.com

Faculty of Economics, National Economics University, Hanoi, Vietnam

Abstract

All economists agree that institutions play an important role to economic performance and sustainable development in the long run. Appropriate institutions allow the economy to adjust toward new structure. Many efforts taken to improve institutional environment, however, achievements are moderate. With the research, we try to clarify the concept of institutions and their role to economic performance, refer the evidence of the role of institutions to prosperity of nations in the long run, examine theories of institutions. Basing on that, we discuss common understanding of the concept of institutions amongst politicians and practitioners in Vietnam: confusion the rules of the game and players, institutions and polity, dynamics of institutions and elements of institutions. Because the concept of institutions not fully understood, so the institutional reform's tasks and means determined were not harmony. Therefore, the institutional improvement's achievement is not as desirable. Really understanding institutions is necessary for successful institutional reform. We draw some policy implications. Firstly, the training curriculum in economics should include institutional economics as a subject. Secondly, development policy must create polity that secures enforcement characteristics of formal and informal constraints. Thirdly, the adaptive efficiency must be the guide to policy.

Keywords: *Economic institutions, political institutions, property right, transaction costs*

1. Introduction

Economists recognized the important role of institutions to economic performance. Appropriate institutions accommodate sustainable development in the long run. To allow economy to adjust to a new structure facilitating institutions must be in place. In recent years many efforts made to improve institutional environment, however, the achievement not as the desire of the supporters. Necessary condition for successful institutional reform is correct and full understanding institutions. In this paper, we discuss common understanding of the concept of institutions amongst politicians and practitioners in Vietnam. Basing on that, we draw some policy implications.

2. Methodology

We undertake a literature review on institutions and the role of institutions to economic prosperity to make discussion about understanding institutions among politicians and practitioners in Vietnam. Linking common understanding institutions to the consequences of the efforts made to institutional improving we try to find implications for policy design. Data used in the research is secondary, collected from printed materials and websites.

3. Results

3.1. Literature review

In the economics literature there is a consensus that the long-run determinants of economic growth are capital, labor, technology, skill, natural resources, and structural change. Sticky economic structure limits growth, and the main causes for sticky economic structure are political processes, wherever in less-developed or developed countries, that prevent the adjustment toward a new structure.

History evidenced big technical and organizational advances, which depend on evolution of institutions facilitating capital accumulations and market exchanges. The economic prosperity mainly determined by economic, civil and political freedom, and institutional frameworks accommodating mutual trust.

Neoclassical economics is useful to get abstract understanding economic process and economic behavior but less useful to get understanding what is going on. Taking institutional environment into account institutional economics provides understanding the causes of the vast differences in prosperity of nations across the world. What are institutions? How they affect economic decision-making?

North (1991) defines “Institutions are the humanly devised constraints that structure political, economic and social interaction.” The broad cluster of institutions includes many sub levels.

Economic institutions (e.g., property right, contract enforcement, etc.) shape economic incentives, contracting possibilities, and distribution.

Political institutions (e.g., form of government, constraints on politicians and elites, separation of powers, etc.) shape political incentives and distribution of political power.

The constraints or institutions are formal and informal. The *informal or internal institutions* are those understood by everyone, but not formally written down (sanctions, taboos, customs, traditions, codes of conduct, good manner, convention, internalized rule, formalized internal rule and other institutional arrangement that traders and financial investors create and adopt to facilitate their professional activities). By definition, inside institutions are evolutionary rules within a group in

the light of experience. The major part of the socio-economic life governed by internal institutions, but in the more complex society the formal institutions are needed.

The *formal or external institutions* are those written down (constitutions, laws, property rights). The external rules designed from outside and imposed on society through political action by government agencies when they excuse government protection function.

The *informal institutions* relate to use of formal institutions, to distribution of power, social norms, and equilibrium of a given game; they change with economic conditions and distribution of power, though they are typically highly persistent.

The formal institutions affect formalizing conduct in the society, especially when they are in harmony with the internal universal institutions. The external rule of conduct, purpose-specific directives aim at certain outcome or objective, while the procedural rules or meta rules are necessary for government administration to facilitate internal coordination of the government agencies.

Institutions structure “social organization”. The institutions shape political, economic, social interaction. Typically, they exclude certain behaviors and narrow the range of possible responses, thus human behavior becomes possibly predictable, therefore, they accommodate economic development. Institutions shape economic incentive, and through this, economic outcome.

The concept of institution is often confused with the concept of 'organization'. Organization, by definition, is a combination of relatively stable property rights with the factors of production under the leadership of a person to achieve certain common goals. Political organization designed and imposed by the political process, economic actors forced to interact with it. *Institutions* are the *rules* of the game, and *organizations* are *players*.

The economic organization pursues profit objective. It connects the input market and the output market. To make profit economic agents voluntarily cooperates with outsiders through contracts. In other words, the cooperation works through markets, and transaction costs incurred. When the individual makes one-off contract, the costs will be higher. Therefore, when the cooperation within the organization through the relational contract the costs will be lower and the coordination will be more sustainable. The optimal scale of the economic organization determined by the extent to which the cooperation costs within the organization are lower than the market or transaction costs. What are transaction costs?

By definition, *transaction costs* are anything that make difficult or expensive for two parties to get mutually beneficial trade. There are three categories of

transaction costs. They are *search costs*, the costs of finding trading partner; the *bargaining costs* are costs of reaching an agreement; the *enforcement costs* are costs of enforcing the agreement afterward.

In the case of standardized products, it is easy to find trading partner, so the search costs are low. While, in the case of exotic products the search costs are significant.

The bargaining costs are more sophisticated, and can come in many forms:

- asymmetric information,
- private information: trading partners don't know each other threat points,
- uncertainty: unclear property right, uncertain threat points,
- many parties: free rider problem, and
- hostility.

The enforcement costs are any costs incurred after the agreement has reached, to monitor or enforcing the deal.

All the institutionalists agree that the existence and secure of property rights, one concrete institutional element, is a major determinant of the long run economic development. In the economy, the property rights determine how resources used and owned. The property rights play an important role in economic development of the nation. At macro level, the protection of property rights will secure investors to appropriate returns on their investments in physical capital or creative activities. At micro level, property rights create incentives to take care of what you own. Owning assets allows smoothing you consumption through sale or mortgaging assets. It is obvious that clearly defined property rights lower transaction costs.

The property rights viewed as an attribute of an economic good, with four broad components, called a *bundle of rights*.

- The right to use the good
- The right to earn income from the good
- The right to transfer the good to others
- The right to enforce property rights

If the property rights clearly defined carrying out a transaction is easy, and the transaction costs are low.

Understanding institutions provides useful implications in economic policymaking process. If no or low transaction costs, the initial allocation of the rights does not matter for efficiency, while the transaction costs are significant, the initial allocation of the rights does matter for efficiency because trade may not occur (and is costly if it does). From this point of view, we see *two normative approaches to*

design property right law. The first one is to design the law to *minimize transaction costs*, and the second one is to try to *allocate the rights efficiently* to start with.

The findings of Lionel and Robbins’ research show that there are evidences of important role of institutions to various countries’ prosperity. The authors examined impact of institutions on economic growth by testing the relations of variables as enforcement of property rights, legal systems, corruption control, barrier to entry, democracy versus autocracy, constraints on politicians and political elites, electoral rule, with economic development. They also tried to answer whether institutions vary because underlying factors differ across countries. Those factors are: (1) Geography, ecology, climate, (2) Culture, (3) Perhaps other factors. They made conclusions about sources of vast differences in income are proximate and fundamental, institutions possibly determine differences in prosperity of countries.

The authors’ research provides a conclusion that there is a little evidence of the role of geography (Figure 5) and culture, and the strong evidence that institutions matter for long-run performance (Figures 1, 2, 3, and 4). In the case of South versus North Korea, big differences in economic and political institutions lead to huge differences in economic performance.

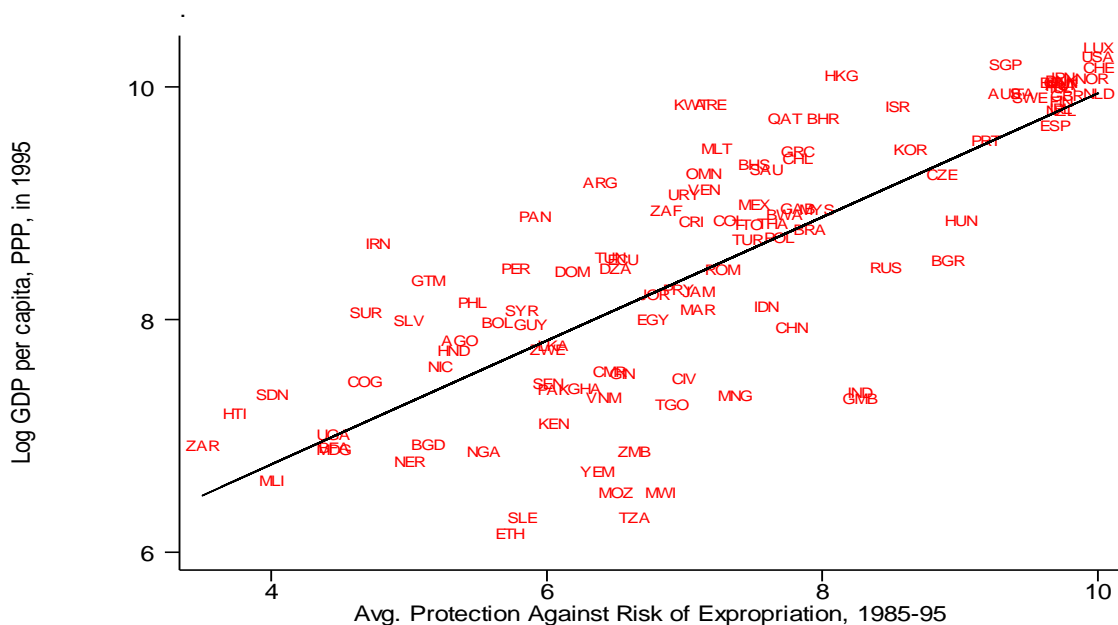


Figure 1: Economic institutions and economic performance

Source: Lionel and Robbins lectures

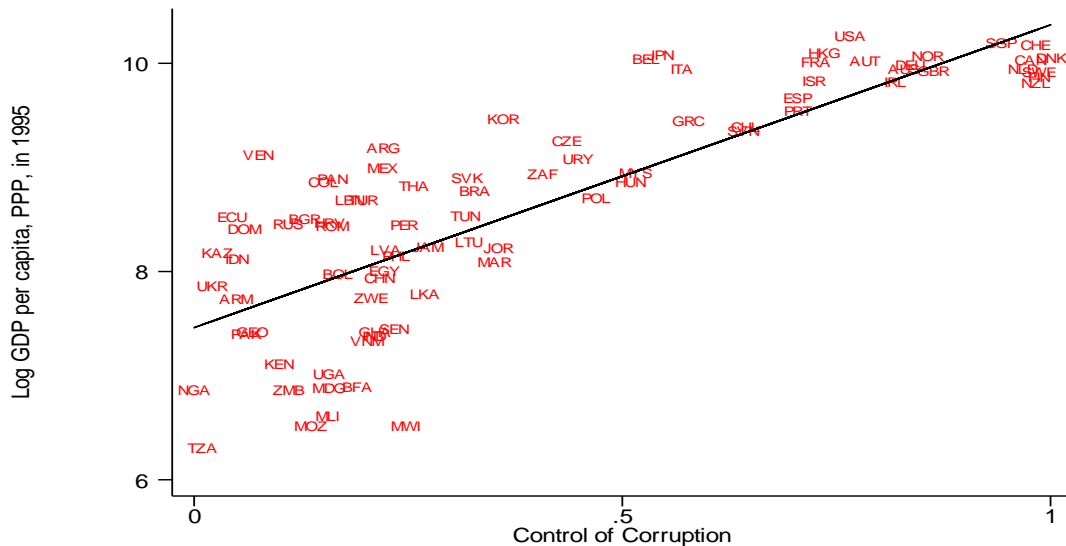


Figure 2 Economic institutions and economic performance

Source: Lionel Robbins Lectures

Culture not useful in understanding the Korean divergence - North and South were culturally homogeneous (Figure 4). The authors' research found no evidence that European values or culture played a special role. The Chinese experience is informative about the role of culture versus institutions. China, Hong Kong, Singapore and Taiwan have many cultural and ethnic similarities (Figure 6). While China adopted state planning and communist political institutions, Hong Kong, Singapore and Taiwan followed a capitalist path with relatively well-enforced property rights. While Hong Kong, Singapore and Taiwan prospered, China stagnated. After 1978 reform, changes in economic incentives in China lead to rapid growth rate.

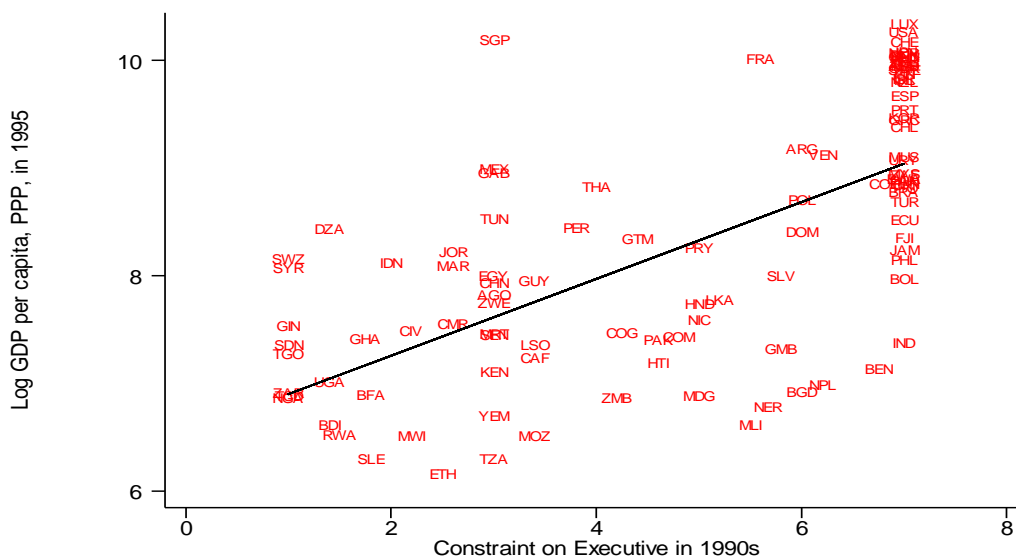


Figure 3 - Political institutions and economic performance

Source: Lionel Robbins Lectures

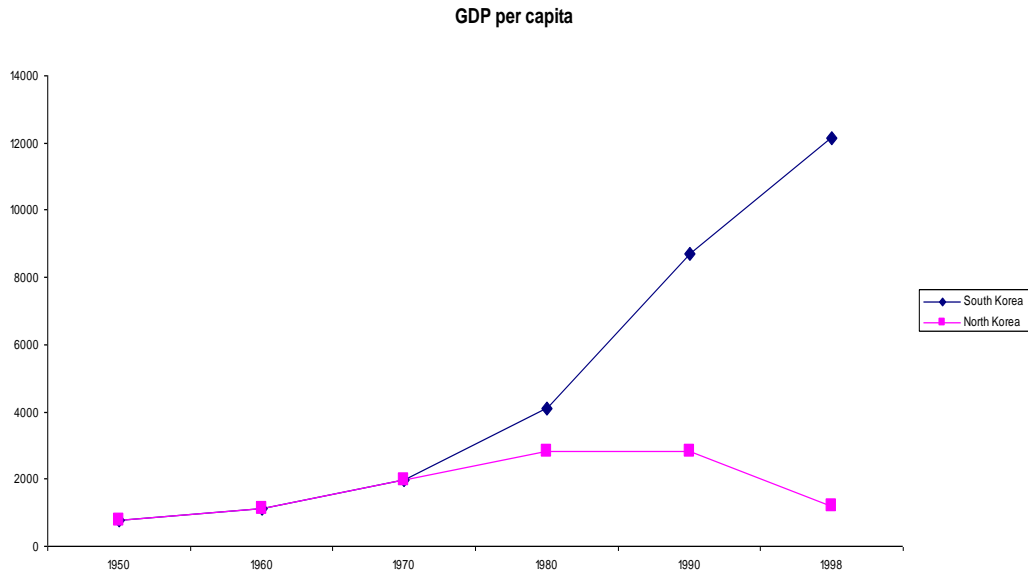


Figure 4 - North and South Korea

Source: Lionel Robbins Lectures

In the research four meta-theories of institutions tested: *efficiency, ideology, history, social conflict*. Conclusions made are (1) although ideology and history influence institutions, in many cases institutions emerge because of their distributional consequences, (2) although the more efficient institutions more likely to arise there will typically be major social conflict over institutions. Then, the choices benefiting politically powerful groups, not the society as a whole, more likely to emerge.

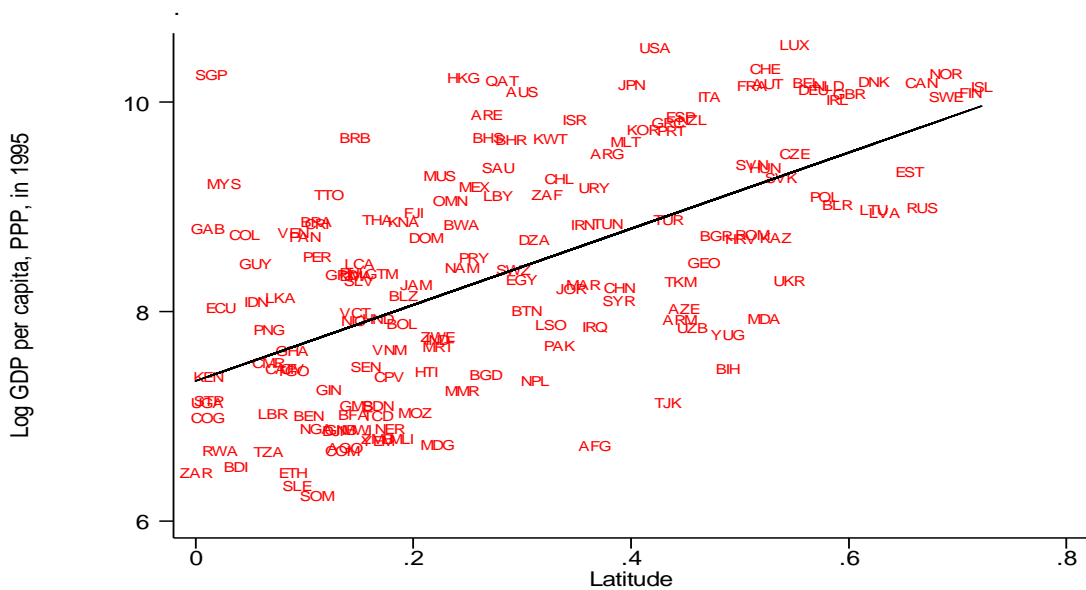


Figure 5 - The montesquiu's stoty

Source: Lionel Robbins Lectures

GDP per capita in China, Taiwan, and Hong Kong, 1950-2001

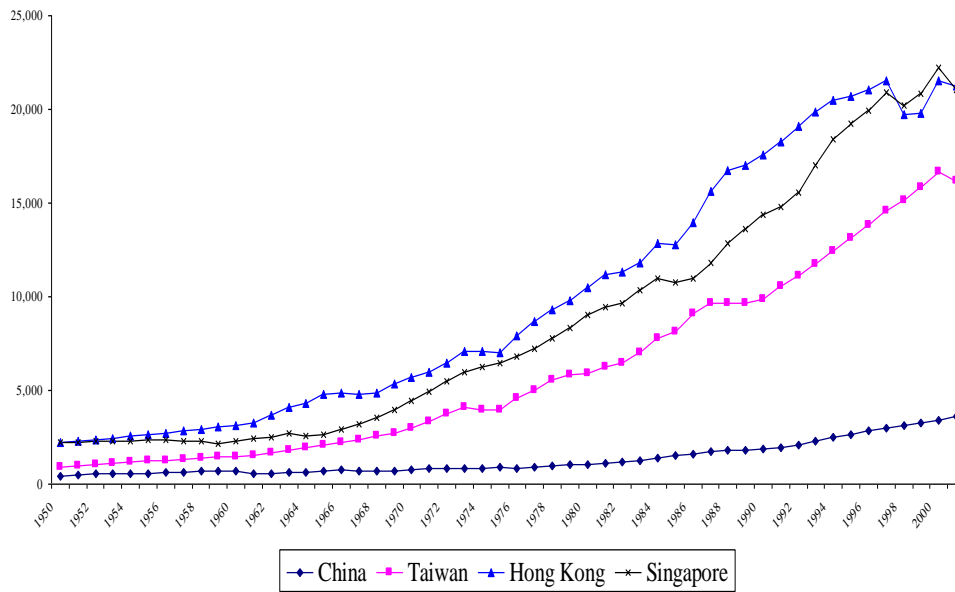


Figure 6 - The role of culture

Source: Lionel Robbins Lectures

3.2 Discussion about understanding institutions amongst politicians and practitioners in Vietnam

Nowadays, researchers and practitioners pay more and more attention to the role of institutions to economic performance. Many seminars organized to find solutions for improving institutional environment. However, it is necessary to make further discussion about the concept of institutions theoretically and practically. Some seminars on what does the concept of institutions mean, others on institutional environment to development of businesses.

Institutions made up of formal and informal constraints and the enforcement characteristics of both. Economic performance determined by the mixture of formal, informal constraints, and enforcement characteristics. It seems that attention paid on the formal rules only. Even though, the attention not paid on enforcement characteristics. The great concern was about introducing more and more formal rules. This is because of the fact that the concept of institutions not fully and correctly understood.

In the seminar on *Building socialism oriented market economy in Vietnam* organized by HoChiMinh National Politics Academy, October 2004, it is agreed that the concept of institutions as "the laws, rules, regulations, customs, etc., which are universally acknowledged, and economic and political bodies with their institutions and cultural elements practically created". According to this point of view, the economic and political organizations viewed as elements of institutions, whereas they

are not. The concept of organization is confused with the concept of institutions. Institutions are the rules of the game, while organizations are players. This confusion makes policies inefficient.

The research group of Institute of Financial Sciences (2006) defines economic institutions as specific forms of modes, methods, rules to organizing and operating economy in a certain social and economic system. By this definition, institutions understood as a concept of an economic system.

Dinh Van An and Le Xuan Ba define institutions as a set of rules, participants, and enforcement mechanisms. In this point of view participants as players, are confused with the rules of the game.

The players of the game of society are organizations. They are groups of individuals with a common purpose to achieve objectives. Organizations include political bodies (political parties, the senate, a city council, a regulatory agencies); economic bodies (firms, trade unions, family farm, cooperatives); social bodies (churches, clubs, athletic associations); and educational bodies (schools, colleges, vocational training centres).

The continuous interaction of institutions and organizations is the key to institutional change. Institutions structure individual behavior and the individuals' behavior determine institutions. That is the dynamics of institutions. Thus, in the mentioned above definition there is no distinction between static and dynamic concept.

The document of Vietnam communist party' resolution *on further improving the socialist-oriented market economy* also revealed terminological confusions. "... Improving institutions, raising leading role of the Party, effectiveness and efficiency of state governance to economy, enhancing participation of politic-social organizations, social organizations, vocational organizations and public in the socio-economic development". Such a document is a challenge to people to grasp.

Moreover, the document reported "...corruptions, bureaucracy, waste are serious". The causes are pointed out "... limitations derived from the fact that building socialism oriented market economy in Vietnam is entirely new there is no precedent in history. Knowledge on socialism oriented market economy and socialism oriented market economy institutions are limited". This is the evidence of misunderstanding what would have constructed.

Le Dang Doanh wrote in his discussion paper "... *institutional reform in our country is too slow compared to economic reform*". How can we understand institutions and political system? He writes "... *participation of the public is heavily formalistic...*" It is clear that the understanding ability of actors is not taken into account when create formal rules. He reported "... *interest groups manipulating the banking and finance sector, real estate, land expropriation emerged, became richer*

with incomparable contributions to society". The causes of those practices are lack of enforced constraints on politicians and elite groups. He also considered "... *the public knowledge increased while politicians' knowledge did not keep up with, and solutions, policies show that problems are slowly detected to find appropriate solutions*". With this fact we may think institutions emerged because of their distributional consequences, not because of the good for society. In his opinion, "... *institutional structure contains serious defects which make errors are not detected and corrected in time*". All this shows that politicians have big *de facto* power, lack of separation of power, and lack of transparency.

Regarding dynamics of institutions, economic actors are players whose behavior shaped by institutions, and individuals' behavior affects institutions. Most of researchers and practitioners in Vietnam view those interactions as an element of institutions, while they are the key to institutional evolution.

Although formal institutions improved (regulations amended), poor enforcement lead to moderate contribution to development, at the same time good manners gradually disappeared because those who have badly behave may take advantage compared to that with good behavior.

The public administration performance improved, transparency increased. However, there still are negative points in the enforcement of formal institutions, such as complicated regulatory systems and bureaucracy. In 2014-2016 there is no sign of decrease of corruption, 66 per cent of enterprises paid bribes, this number is 12 - 15 percentage points higher than the average of 5 previous years.

Inspection is the burden to enterprises. More than 1,500 FDI enterprises surveyed complain about inspection, especially related to taxation. 7 enterprises were inspected more than 20 times, 1 company was inspected 50 times in 2016.

In short, the concept of institutions is confused with economic actors, and attentions paid on formal rules rather than informal norms and enforcement of both. This led to inefficient policy.

4. Conclusions and implications

The role of institutions to economic prosperity is the key to interpret the differences across countries all over the world. The awareness of importance of institutions increases in Vietnam. However, institutions not fully and correctly understood. Correct understanding institutions is the necessary condition for creation of appropriate institutions facilitating growth. Therefore, we propose some suggestions.

Firstly, institutional economics should be included as a subject in the training curriculum in economics. This will provide staff equipped with good knowledge to serve designing appropriate institutions for the country development.

Secondly, pay special attention to enforcement characteristics of formal rules. If the good formal rules not enforced, they will be useless. Politicians abuse political power in many cases, which make trust eroded. In general, the lack of trust makes exploitation of one's specific knowledge or seeking new knowledge is difficult, therefore, numerous useful actions will never take place. The abuse of political power gradually destroys social norms. The degradation of institutions system will occur. This in turn negatively affects development.

We know that *de jure* power (political institutions) and *de facto* power in the present period determine political power in that one. The political power in the present period determines economic institutions and policies in the present period, and political institutions in the next period. If we do not thoroughly resolve the abuse of the political power there will be a vicious circle preventing growth. Presently, under the governance of the building government many bright spots appear. However, we cannot expect success to come in the short run, because formal institutions can change overnight, informal institutions only gradually change so revolutionary change of institutions cannot be revolutionary. Therefore, it is necessary to formalize informal rules to raise people sense of internal institutions compliance. In fact, the more volatile are the rules, the more difficult to grasp, the less effective regulating human behavior is. Thus, rules must be stable. The appropriate institutions lower coordination costs, especially in the complex systems, prevent and solve conflicts amongst people, and secure personal freedom. To serve those objectives, the institutions must have concrete characteristics: certainty, generality, openness, in short, universality. The rules designed to achieve certain objectives, without the universality, would often fail to fulfill the functions of coordination and formalization, and impose excessive intellectual burdens on the rule-maker. Moreover, they possibly exceed the cognitive abilities of the people whom regulated, in simple language, people cannot understand and obey thousands of complex rules and regulations and specific regulations on the case-to-case basis.

Thirdly, the guide to policy should be adaptive rather than allocative efficiency. The allocative efficiency is static concept with a given set of institutions. To ensure continuing good economic performance a flexible institutional matrix needed. In the context of an open economy, the creation of a stable polity with contemporary norms is an essential characteristic that allows adjustment to technological and demographical changes.

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THE INDUSTRIAL REVOLUTION 4.0 AND THE PERCEPTION OF VIETNAM'S ENTREPRENEUR

Dr. Nguyen Dinh Trung

trungnd@neu.edu.vn

Department of Training Facilities, National Economics University, Hanoi, Vietnam

Abstract

The Industrial Revolution 4.0 has been being established since 2000 all over the world. It makes basic change of all spheres of the production, consummation and business governance. Its positive and negative impacts on the development of the business are clear but upon it the perception of Vietnam's entrepreneur has been still limited. Hence, his/her inefficient response to the Industrial Revolution 4.0 is inevitable. The paper would analyze the nature of the Industrial Revolution 4.0, the perception of Vietnam's entrepreneur on it and propose the solutions to take its advantage to serve the development of the business community as a whole.

Keywords:

Entrepreneur, Industrial Revolution 4.0, perception, Vietnam.

1. Introduction

The history of the mankind witnessed the surprised change of the development process in all fields under the impact of the Industrial Revolution 1, 2 and 3 on the way of the interaction between the human being with the rest of the spiritual and material world. The main changes made by Industrial Revolution 4.0 (IR4.0) are infinite and unlimited, but the emerging ones are the increased magnitude of investment, the productivity growth and the improvement of the standard of living (Cat, 2017). Furthermore, IR4.0 might be able to open an opportunity for a new philosophy of development to be built to substitute the present business philosophies.

The entrepreneur is, possibly, called as the force of the value creation for the economy as a whole and of the likelihood ensuring for employees. In the context of high competition in the market, the technological progress decides the enterprise's position and its profitability, hence, IR4.0 becomes a sharp tool to make its sound foothold in the market and to realize its business purpose. However, all activities of the enterprise are managed by the entrepreneur and such these are subject to his/her

perception on the role of IR 4.0 on the business. Logically, the right perception of the entrepreneur will lead to his/her right actions (Galen and Kurt, 2008).

Regarding to IR4.0, up till now, there have been some researches viewed from different points of view on it. One of them focuses on the way of the universities to respond to the wave of IR4.0 (Hoa, Dong, 2016) including the building the clear strategy for education, applying the appropriate education index, encouraging the universities to much invest into developing the research and development, and innovating the curriculum related to information engineering within nearly unlimited framework of the impact of IR4.0. Alistair (2016), based on the analysis of the next production revolution- a different name of IR 4.0, provides some implications for Vietnam's policy to take advantages of IR4.0 like good policy designing specifically that on the diffusion of new technological progress, focusing on the education and training, and long-term exchanging between government, academia and business. It can be used as the instrument to make simulation-based optimization of the production process (Dunke Nickel, 2015) and by the way, all of the wastes in time, cost and other resources are minimized. The simulation techniques can be used in the process of operation management (Trung, 2014) or supply chain management (NEU, 2015). Besides, there are some sources giving the general information about the nature and the role of IR4.0 for the mankind (Wikipedia). This says about the shortage of the paper dealing with the perception of Vietnam's entrepreneur on IR4.0.

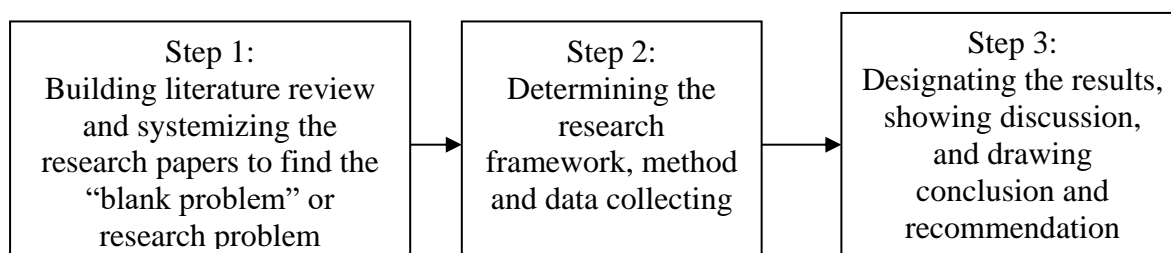
2. Method

The paper would concentrate on the making clear the perception of Vietnam's entrepreneur on IR4.0. Departed from a developing country of low level of development including the low level of technological base, the perception of Vietnam's entrepreneur on IR4.0 is relatively limited that constraints the rational actions to effectively receive the positive impact of IR4.0. The perception on IR4.0 contains 4 dimensions (VET, 2017) as (1) the level of attention paying to IR 4.0 and (2) its reason, (3) the knowledge on its impact on Vietnam's economy, and (4) the enterprise's strategy to approach to IR4.0. Then perception can be understood as a concept belonging to the cognitive science (Galen and Kurt, 2008).

In order to achieve the purpose of study, the paper would use the quantitative method and secondary data-based approach. That means it bases on the data randomly surveyed on 400,000 members of the e-Newspaper "VnEconomy" at the first months of 2017. The data are processed by simple statistical techniques of Excel in accordance with the above mentioned dimensions.

The process of the method of research can be illustrated in 3 steps in Figure 1.

Figure 1: The 3-step process



• *Source: Author*

Step 1: The paper tries to build the literature review by systemizing the research papers to find the “blank problem”. The research problem is to precisely identify the perception of Vietnam’s entrepreneur on IR4.0. It is an important foundation to launch the appropriate analysis on the perception.

Step 2: The research framework is established by 4 dimensions, the source of data and the method of data processing. The paper takes advantage of the data collected from the survey of the e- Newspaper “VnEconomy” on 400,000 members. The majority of them are Vietnam’s entrepreneur. Some foreigners working in the enterprises with foreign invested capital in Vietnam belongs to the respondents of the survey. According to the statistical figure of Vietnam Department for Enterprise, up to 2016, there are around 500,000 enterprises in Vietnam, therefore, the random surveyed sample ensures its reliability to provide the sound evidence for the research.

Step 3: The research results are systemized and discussed to make analysis deeper and wider for the entrepreneur. Based on the scientific and practical evidence, the conclusion is drawn to provide the recommendations.

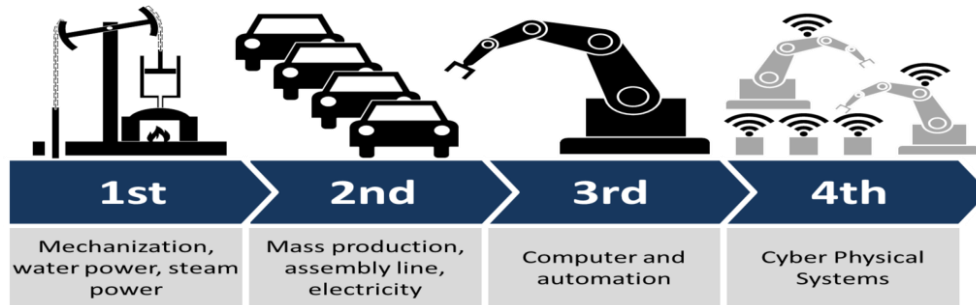
3. Results

3.1. The Industrial Revolution 4.0 Provides The Unprecedented Energy-Artificial Brain Of Internet Of Things

The IR4.0 is the fourth generation of the industrial development of the mankind from the beginning of the 20th century although the IR 1, 2 and 3 were placed from the end of the 19th century. Differed from the previous IR 1, 2 and 3, IR 4.0 built on the digital platform focuses on the cyber physical system while the 1st, the 2nd and 3rd one launched the mechanization, mass production and automation respectively (Figure 2). However, according to the author, the core value of IR is to make change of energy sources for all of the mankind activities both in material and spiritual world. If the main sources of energy of previous IRs are steam power, electricity and

information processing, that of IR4.0 is the artificial brain integrated by Internet of Things or the mankind brain as a whole. By such a greatest brain, the people can produce all of things they want or they can overcome their limitations. As a result, the artificial brain-based changes would make the surprized step of development for the mankind.

Figure 2: Illustration of Industrial Revolution 4.0



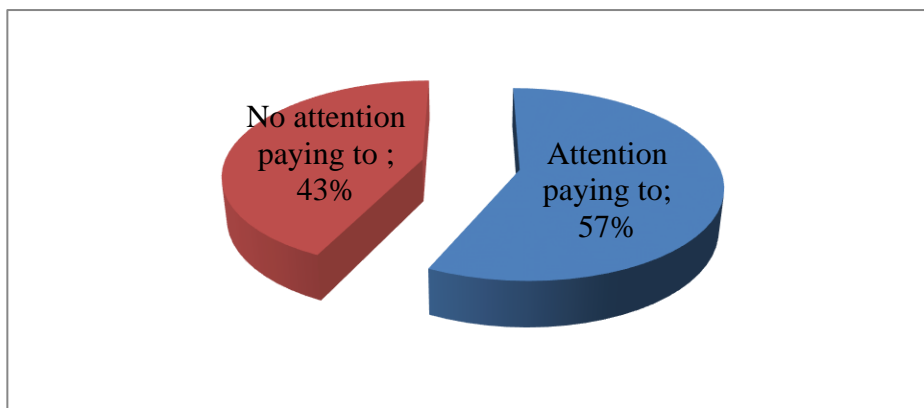
• Source: Wikipedia

3.2 The Results Of Perception Of Vietnam’s Entrepreneur On IR 4.0

All of four dimensions of the perception on IR4.0 are examined by the survey. For conducting the survey by internet, the feedback from the questionnaires is perfect excluding the case of no one. The results are as follows:

- For the number of people paying attention to IR4.0, the portion of the people interested in IR4.0 is 57% among 400,000 respondents, the remaining portion of 43% of the whole sample is for the people having no attention paying to IR4.0 (Figure 3). In other words, the portion of the people interested in IR4.0 is greater than the other. The tendency on having attention paying to IR4.0 is revealing in Vietnam.

Figure 3: The level of attention paying to IR4.0

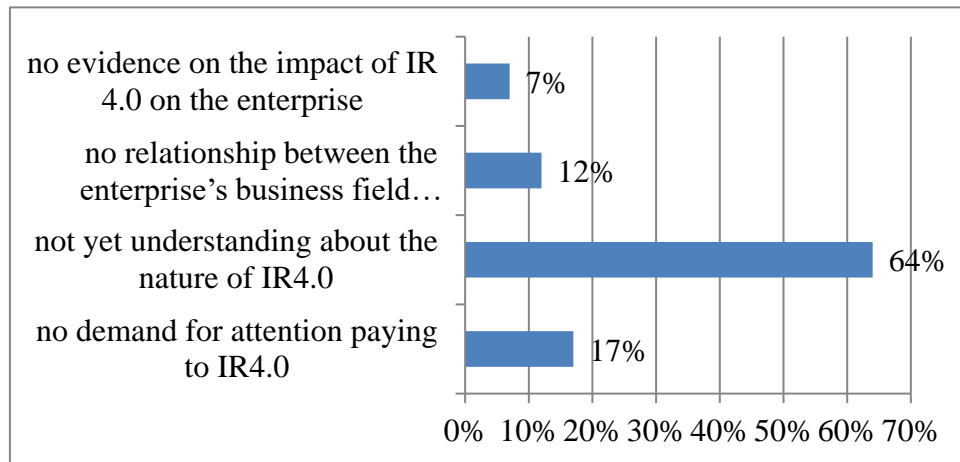


• Source: VnEconomy (2017)

- For the reason why having no attention paying to IR4.0, there are 4 sub-dimensions to be examined. They are “no demand for attention paying to IR4.0”, “not

yet understanding about the nature of IR4.0”, “no relationship between the enterprise’s business field with IR4.0” and “no evidence on the impact of IR 4.0 on the enterprise”. The surveyed results are 17%, 64%, 12% and 7% respectively (Figure 4)

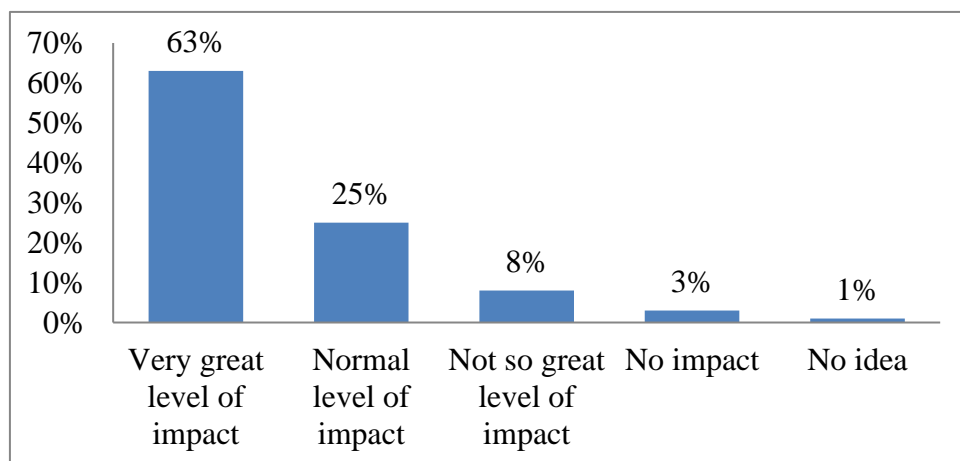
Figure 4: The reason on having no attention paying to IR4.0



• Source: VnEconomy (2017)

- For the knowledge on IR4.0’s impact on Vietnam’s economy, there are 63% of total responded people answering to “very great level of impact”, 25% evaluating at “normal level of impact”, and the remaining ones said “have no impact of IR4.0” and “have no ideas on that” (Figure 5).

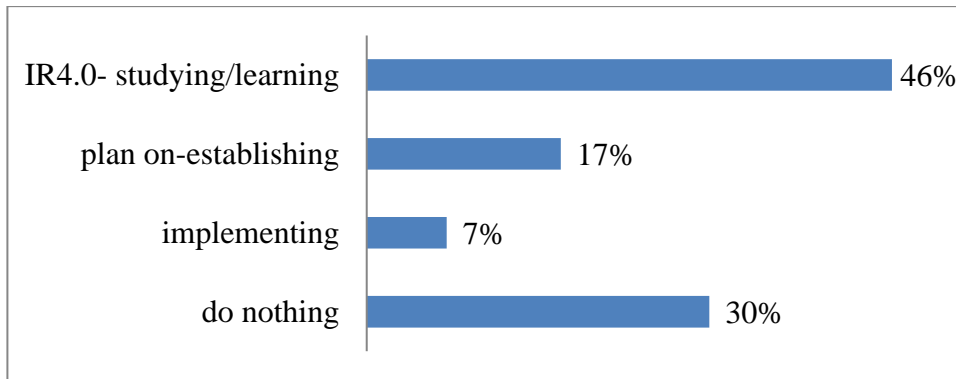
Figure 5: Evaluating the impact of IR4.0 on Vietnam’s economy



• Source: VnEconomy (2017)

- For the enterprise’s strategy to approach to IR4.0, there are 30% of responded people of “do nothing”, 7% of “implementing”, 17% of “plan on-establishing” and remaining 46% of “IR4.0- studying/learning” (Figure 6).

Figure 6: The enterprise’s strategy to approach to IR4.0



• Source: VnEconomy (2017)

3.3. The Awareness Of The Government Goes Ahead Of The Entrepreneur's One

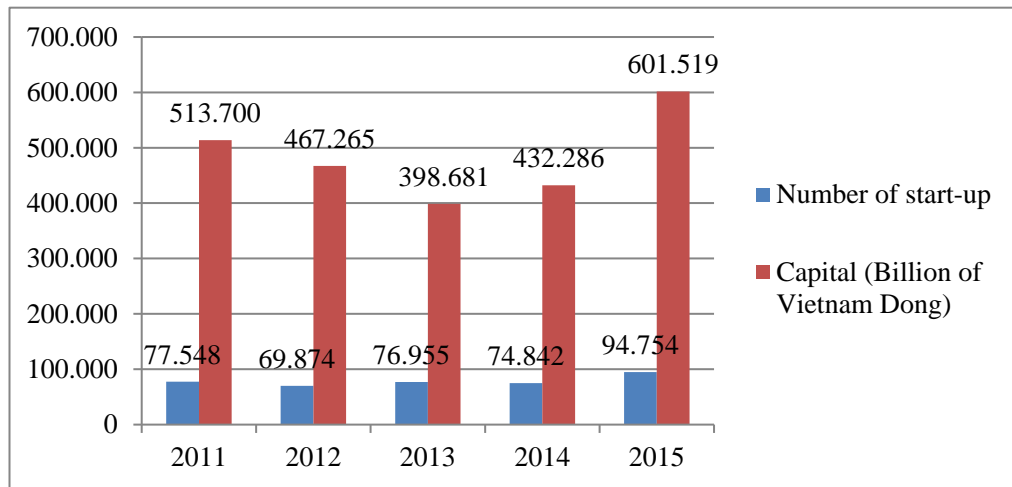
The Head of Germany's government has informed about IR4.0 since 2010 and repeated it in the World Economic Forum (WEF) in 2015. In Vietnam, in 2016, the Government told about IR4.0 and at the beginning of 2017, Government gave nationwide guideline that it is needed to take advantage of the opportunities and to minimize the challenges of IR4.0. All of the government agencies, firstly the Ministry of Science and Technology, Ministry of Information and telecommunication, press agencies, the co-operations, general companies must do good communication, improve the awareness of entire society on IR4.0 to help everyone, enterprise, government agencies and organizations fully understand about opportunities and challenges of IR4.0 (VET, 2017). Many conferences on IR4.0 have been organized as well a lot of articles on it have been published (Ho, 2016; Nam, 2017). However, the efforts of the government have made the short-term response to the impacts of IR4.0 that can be explained in the shortage of the scientific and practical evidence for the strategy or policy in regard of the impacts of IR4.0.

3.4 The Huge Amount Of The Start-Ups Is The Main Force Of Receiving The Impact Of IR4.0

According to VNERP, in 2000, there were 14,482 start-ups but in 2016, the number of start-ups increased to 110,100. In the period 2011-2015, the number of start-ups increased from 77,548 in 2011 to 94,754 and the total registered capital increased from VND513,700 Billion to VND601,519 Billion (Figure 7). However, on average, the capital of each enterprise ranges from VND4 Billion to VND 6.5 Billion. That means, the majority of start-ups of Vietnam is small and medium-sized, so they are easy to be closed under strong competition. Clearly, the number of start-ups and their total capital are the main force to receive the impacts of IR4.0. If such

the force applied the new technologies to their business, they would make a huge amount of new value and jobs.

Figure 7: The start-ups and their total capital in the period 2011-2015



• *Source: VNERP (2017)*

Besides, under the evaluation of some international economists, Vietnam has been being an industrializing country at the sixth generation with the biggest weakness of the “left-behind” situation (Tho, 2016). IR4.0 may be considered as the most effective tool to catch up with the world tendency. For author, the success of the course of the industrialization, modernization of Vietnam to basically shift Vietnam from a developing country at low level of development towards an industrial country with orientation of socialism ideology by year 2020 (Communist Party, 2016) much depends on the mobilization of the impacts of IR4.0.

4. Discussion and Conclusion

4.1. Discussion

The IR4.0 provides a new momentum for development of enterprises of Vietnam and its impacts on every enterprise, even the household, the individual and the economy as a whole, are very strong and in different ways. The first impact of IR4.0 is on the entrepreneur’s perception to lead to their actions. Some believe that the change in the perception of the entrepreneur cannot make direct influence on his/her perception but by the conception (Galen and Kurt, 2008). The paper, by conducting the online survey on random sample of the members of the business community, has described clear results on the perception of Vietnam’s entrepreneur on IR4.0 in 4 specific dimensions.

There are two main extreme tendencies of evaluating the impacts of IR4.0 on Vietnam’s economy. On the one hand, IR4.0 can be viewed as the threat on Vietnam’s

economy in general and the community of enterprise in particular; on the other hand, it can be viewed as the opportunity for them. Indeed, IR4.0 brings both opportunities and threats for the enterprises. And Vietnam's entrepreneur has responded in passive way to both the opportunities and threats of IR4.0 due to the lack of the careful preparation in term of perception and action.

It is very important for the entrepreneur to clearly understand about the nature of IR4.0 and their possible impacts on the business in the short-term and long-term point of view. Played the pioneering role in front of the business community, the government should build a think tank group to study carefully about IR4.0 in term of the nature, its forms and impacts on the business activities. Upon completion on the studying IR4.0, the group should prepare the materials or any appropriate source of information of high quality about IR4.0 to deliver them to the entrepreneur, organization, household or individual and entire society. Besides, a wide propaganda on IR4.0 should be organized in big scale to improve the awareness on IR4.0 by taking usage of public media, press, radio, conference, workshop and other suitable forms. Simultaneously, the entrepreneurs are familiar with IR4.0 or Vietnam's experts on it that should be on priority exploited to help them develop their abilities. In addition, the foreign experts on IR4.0 in every kind of new technology are one of the most important sources that can be used to educate the entrepreneur in Vietnam or Vietnamese entrepreneur in foreign countries. The propaganda campaign conducted by the government agencies and the enterprise, finally, must fully improve the awareness of entire society on IR4.0 including the perception of the entrepreneur.

The government should build and approve a clear national strategy to take advantage of IR4.0 as one of the strongest motivations to serve the long-term development of the enterprise and the economy as whole instead of providing some pieces of a guidance or of making some ad hoc decisions. Moreover, it is necessary to eliminate all of the constraints against the application of IR4.0 to the business doing of the enterprises. Such the systemic way of the actions of the government grants the stable and foreseeable framework for the entrepreneur to mobilize all of their efforts on the exploitation of IR4.0. More than that, the government also ensures the condition to realize the entrepreneur's perception into specific plan of the actions.

4.2. Conclusion

The Industrial Revolution 4.0 may make strong impacts on all of the aspects of the production, allocation and consummation as well as the perception of Vietnam's entrepreneur. According to the author's point of view, IR4.0 has much

impact on the change of the energy for movement of material and spiritual world. Up till now, there have not been many papers or researches on impacts of IR4.0 on the entrepreneur's perception and, hopefully, it is one of the first papers in Vietnam in regard of IR4.0 dealing with the entrepreneur.

By conducting the survey on the random sample of 400,000 members of e-Newspaper "VnEconomy", in which, the majority of them are entrepreneurs, the results represents the shortage of Vietnam's perception of the entrepreneur on the impacts of IR4.0 on the economy in general and the enterprise in particular. There are 4 main dimensions constructing the content of the entrepreneur's perception on IT4.0. In every dimension, there are some sub-dimensions that make clear the general dimension as a whole. The result of paper has pointed out the shortage of the perception of Vietnam's entrepreneur on IR4.0.

The government and the enterprise should accompany together to effectively utilize the impacts of IR4.0 in every step of action. The first step is to enhance the propaganda campaign on IR4.0 at both nationwide and enterprise levels. The second one is to build the national strategy on exploitation of all impact of IR4.0 on the perception by the Government and to make the policy for the enterprise by the entrepreneur. The next step is to combination of both efforts to make greater synergy in the realization of the both purposes of development in any time and any place with the needed conditions.

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DEVELOPMENT OF INDUSTRIAL RESOURCES IN VINH PHUC PROVINCE TO MEET THE REQUIREMENTS OF INTERNATIONAL INTEGRATION

Dr. Dinh Thi Kim Xuyen

dtkxuyen@uneti.edu.vn

Dr. Pham Thi Lua

ptlua@uneti.edu.vn

Faculty of Accounting, University of Economics and Technology, Hanoi, Vietnam

Summary

Vinh Phuc is a province with a strong industrial development, with a relatively high proportion of yearly GDP (over 50%). To maintain its strength, Vinh Phuc has focused on developing industrial human resources to meet the increasing requirements of the industry in the context of deep integration of the country today.

Keywords: *Human Resources, Industry, Vinh Phuc province*

1. Introduction

Over the 20 years since the re-establishment of the province (1997), the industry of VinhPhuc province has grown steadily, playing an important key in the province's economy, contributing to the economic growth rate of the province, creating jobs, improving the living standard of local citizens.

From an agricultural province, starting with a low economic base and poor infrastructure, VinhPhuc has basically met the criteria of industrial provinceafter 20 years. Currently, to meet the development needs of the sector, especially in the context of deep integration of the country. Therefore, it's necessary to have a high

2. Method

Research using integrated methods of data collection, synthesis, analysis and evaluation. Data is collected by the author through the systematization, research reports of Vinh Phuc Statistical Office, scientific research works of authors and other relevant documents. With the data collected, the article analyzes and assesses the current state of human resources in Vinh Phuc province's industry and proposes measures to improve the quality of human resources. The strength of the industry meets the integration requirements quality human resources of VinhPhuc province.

3. Results

When the province was re-established in 1997, the size of VinhPhuc's industry was rather small just over 18% of GDP. There were not many large industrial establishments in the area, the craft villages were scattered. The whole province had the only 50 ha industrial park and 136 small and medium enterprises, contributing a few percent of the province's total budget revenue.

However, after 20 years of re-establishment, by 2016, VinhPhuc has 19 industrial parks on the list of development priorities to 2020 approved by the Prime Minister with an area of 5,540 ha. Among them, 12 investment projects on building industrial park infrastructure have been granted investment certificate with 11 industrial zones, which attracted 856 investment projects. Some key industries and industries have the advantages of VinhPhuc province, such as automobiles, motorbikes, electronic components, wall tiles and garment ... with high competitiveness and increasing market share in the country as well as in the region and world. The supporting industries initially have developed fast. The activities of enterprises have contributed to create jobs for hundreds of thousands of local workers; contributed over 90% of total state budget revenue in the province. Also, it has contributed to the economic restructuring of the province in a positive direction, making industry become a key economic industry and forming support industries to construct VinhPhuc becoming the motorbike production center in the 20s of the 21st century.

During the past years, VinhPhuc has paid special attention to human resources development and considered it a decisive factor for sustainable development. The province has built and implemented the Project of Human Resource Development in VinhPhuc province to 2020; promulgated and implemented a number of policies on vocational training supporting and job creation; increased investment resources for the development of the network of vocational training institutions. Up to now, there are 3 universities and 53 vocational training centers in the province.

The quality of the human resources of the province has gradually increased, the education level and technical expertise of workers is higher and higher, the production has been improved specially and professionally. According to Bac Ninh Statistical Office in 2015, the trained workers rates was about 66%, in which the trained job worker the rate reached 49%. The quality of mass education and target are kept and stabilize at a high level. Contents, methods of education, teaching and vocational training initially innovated. Vocational training has evolved positively in the direction of labor market-based training, and many vocational training institutions have sought to reach out to students attending their institutions through training contracts. So that 80% graduate students had job after school. Facilities and teaching

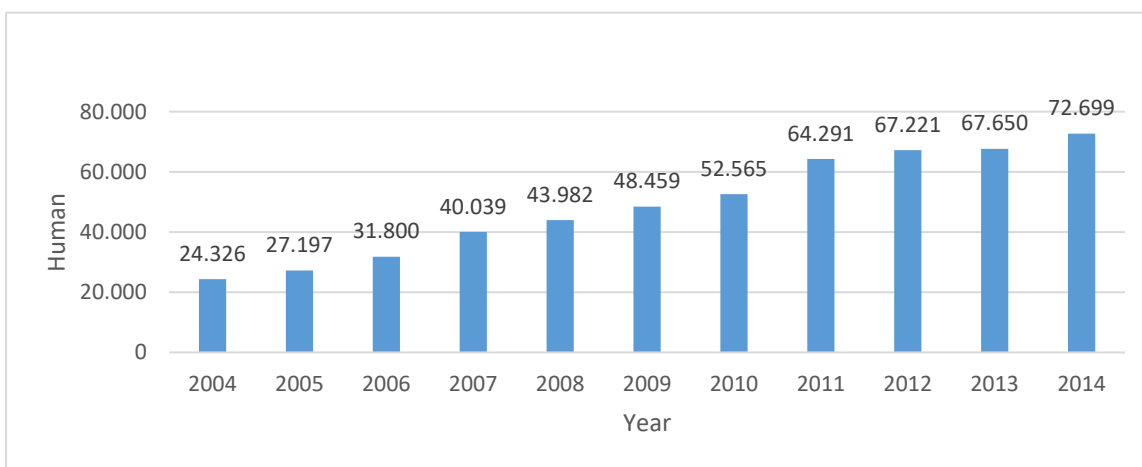
equipment are invested. The development of the labor market associated with job creation and employment labor has been satisfactory.

As a result, the human resources of VinhPhuc's industry has made significant progress with the following aspects:

The size of human resources in VinhPhuc industry

According to VinhPhuc Statistical Office in 2004, the number of employees in industrial enterprises was only 24,326 but it had reached 72,699 in 2014 nearly 3 times bigger; the average annual growth rate for this decade was 11.81% (Chart 1).

Chart 1: Growth rate of industrial human resources in VinhPhuc province, period 2004-2014



Source: Vinh Phuc Statistical Office

The human resources structure of the industry

The proportion of female workers in foreign-invested enterprises is 47.8%, higher than that of state enterprises (43.8%) and non-state enterprises (36.2%). In foreign-invested enterprises, the younger age group (below 25 years old, 25-34 years old) accounted for 15.7% and 55.1%, respectively, higher than the same proportion state and non-state enterprises. In state and non-state enterprises, the predominant age group is 25-34, 35-44 and 45-54, with decreasing rates as the age group increases (Table 1).

Table 1: Structure of human resources in industrial enterprises by sex and ownership

Business type	Women labor rate	Percentage for age group				
	%	<25	25-34	35-44	45-54	>54
State Bussiness	43,8	6,5	29,3	26,9	24	13,3
Non - state Bussiness	36,2	11,8	42,7	26,7	16,9	1,9
Bussiness FDI	47,8	15,7	55,1	21,2	7,4	0,6

Source: 2014 Labor Force and Employment Survey, VinhPhuc Statistical Office

The respond of human resources industry

Study by author Doan Quang Thang (2015) based on a survey of 322 industrial enterprises opinions, 322 manpower, 80 comments of the state management of labor in VinhPhuc province during the period from August to December 2014 shown that:

On the level of human resource response to industry: When asked about "the level of human resource response to industry," 322/322 (100%) of businesses and 80/80 (All government officials believe that VinhPhuc province's human resources are adequate.

On the suitable level of human resource structure for the industry: According to survey results, there are still 52% of businesses saying that there is no reasonable structure of human resources. For state managers and workers with the same viewpoint with businesses, but with a higher rate is nearly 5%.

The results of in-depth interviews on the causes of this situation by Doan Quang Thang (2015) show that irrationality derives from two basic causes:

(i) Due to both shortage and over-abundance of human resources, there is a shortage of skilled technicians, lack of skilled human resources, redundancy of unskilled, inexperienced labor).

(ii) Many industries are over-exploiting such as the mining industry, while the processing industry especially the high-tech industry is lack of human resources seriously.

The results of the study are similar to those of real industrial parks in VinhPhuc province. Statistics of VinhPhuc Industrial Zones Authority show that by the year 2015, there are 37,981 laborers in the province, mainly distributed in Khai Quang Industrial Zones (29,979 laborers) BinhXuyen Industrial Park (7,350 employees), Ba Thien Industrial Zone (652 employees). Of which, the local citizens occupy 85% (32,378 labors). According to the employers' opinions, labor resources in the province are plentiful, industrious, highly aware of compliance with the rules of business and law of current Labor Law

However, the capacity and qualifications of the labor force are still limited in general. The number of skilled workers is low, mostly unskilled workers. Therefore, in order touse up the local labor force, enterprises often recruit laborers and then retrain them in specific fields, which make the enterprises spend a lot of finance and time.

Implemented solutions

Through research, in the future VinhPhuc industry is not worried about the quantity of human resources, but it is necessary to develop the quality of human resources to meet

the increasing demands of enterprises especially FDI businesses. This is a difficult task, requiring synchronized implementation of the following solutions:

Firstly, it is necessary to improve the vocational training policy for human resources in VinhPhuc industrial enterprises

Developing and improving the quality of human resources in all aspects (for examples: health, intellectual standards, knowledge, professional skills, industrial behaviors, discipline, law observance ...) is both a long-term and urgent requirement. Since then, education, training and vocational training are the key steps and one step ahead in the strategic orientation of human resource development and labor market development in VinhPhuc province.

Accordingly, the policy of VinhPhuc on training to improve professional qualification and technical skills for human resources in industrial enterprises in the area in the coming time must continue to be renovated and improved.

In particularly, diversification of training and vocational training institutions, especially the importance of training and vocational training in industrial enterprises, especially large industrial enterprises, foreign investment enterprises and associations between training establishments, vocational training and business is necessary. It's necessary to plan a network of training and job-training establishments, ensuring to supply enough professional and technical laborers for the industrial enterprises.

Especially in the field of vocational training, VinhPhuc (according to its competence) should focus on supplementing and perfecting the following local policies:

- Promulgate policies to encourage the private sector, enterprises to participate in vocational training (land, tax, teacher training, investment ...).

- Continue to implement policies for youth, job-training establishments and enterprises to borrow preferential loans for vocational training and vocational training; tuition discount policy and scholarships (full and partial) for vocational students.

- Implement incentive policies for vocational trainers, tradesmen (on wages, advanced training, career honors ...).

- Increase investment from local budget to ensure quality of vocational training (content of the program, training of vocational trainers, building material facilities, especially for practicing; testing, evaluating quality of vocational training ...).

- Transfer public job-training establishments to public-service-providing units, self-control, self-responsibility and self-finance.

Secondly, industrial enterprises in the province need to develop human resource training strategy

It's necessary for the enterprises in VinhPhuc province to develop strategies for training human resources of enterprises in the overall strategy of human resource development and competitiveness strategy, sustainable development strategy of enterprise with the item targeted to 2020 and foresight is the basis for identifying the demand for human resources through training, thereby deploying training programs that meet the strategic needs of the business. So it should be noted:

- Training human resources of enterprises must be associated with attractive business environment, proper evaluation, effective use, reasonable remuneration and opportunities for human resources development career (promotion) throughout the working life.

- Training human resources of enterprises needs to transfer from the purely traditional training to regular learning of human resources.

- Apart from equipping, developing knowledge, technical and professional skills, it is necessary to focus on developing the capacities of modern manpower and necessary soft skills (especially thinking skills, creative work, ability to adapt new technology, foreign language availability, computer skills, teamwork skills, multicultural environment, professional culture...).

- Creating a favorable environment for human resources after being trained to perform tasks and work by encouraging people to apply what they have learned in their work.

Third, improve the quality of training institutions

Accordingly, it is necessary to orient the development of the system of training human resources for industry in VinhPhuc province in the relationship between supply and demand in the labor market as follows:

- Human resource training centers for industrial enterprises are developed on the basis of uniform quality assurance standards, must meet national standards, gradually reach regional standards and reach the standards and international standards. Especially, vocational training establishments must be equipped with machines and equipment according to the training trades suitable to the techniques and technologies being applied in production. It is even necessary to equip some vocational training establishments in the enterprise with some modern machines and equipment that will be applied in enterprises for pre-training.

- Ensure a rational structure of human resource training centers for industrial enterprises to meet the requirements of training according to the training systems and levels of education (colleges, high schools and elementary schools), according to sectors and occupations that enterprises and labor markets in VinhPhuc province

require. However, the training of human resources facilities for industrial enterprises should prioritize to long-term and high-level training, to train high-tech laborers for key economic fields, industrial, industrial clusters and for labor export.

- Establish a linkage system between the external vocational training institution and the enterprises in appropriate forms (vocational training by address, teaching theory in vocational schools and practice in enterprises; support the theory for human resources in enterprises to organize the issuance of certificates and diplomas for them ...).

- Build the Mekong International Training Center, a multi-disciplinary international-level technical training institution built with the Japanese financial and technical support for training to supply advanced techniques laborers for VinhPhuc province, Northern provinces and sub-Mekong region.

In addition, in order to have a good training environment, it is necessary to upgrade, synchronize and modernize the existing technical and vocational colleges, to ensure the training of highly qualified vocational training, college workers. In the near future, we will focus on upgrading key schools such as: the College of Economics and Technology, VinhPhuc Vocational College to train high quality technical workers to meet the demand for high quality human resources for the development of Province in general, for industry in particular.

4. Discussion and conclusion

In conclusion, it can be seen that the quality of the industrial human resources of Vinh Phuc province has gradually increased. However, the capacity and professional level of the labor force are still limited in general. To meet the development needs of the industry in the context of deepening integration of the country, Vinh Phuc province needs to coordinate with all levels and sectors to synchronously implement these solutions. It is hoped that the quality of human resources of the provincial industry will gradually overcome the constraints and meet the requirements of integration in the upcoming time.

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ASEAN SOCIO-CULTURAL COMMUNITY WITHIN VIETNAM NATIONAL ECONOMICS UNIVERSITY

Dr. Dang Quy Duong

Email: dangquyduongts@gmail.com

University of Economics and Business, Vietnam National University

Msc. Santisouk Phummavong (Lao PDR)

Email: santisouk.2016@gmail.com

Assoc. Prof. Nguyen Thuong Lang

Email: langnguyen2200@gmail.com

National Economics University

Abstract

ASEAN Socio-Cultural Community (ASCC) is one of the three pillars of ASEAN Community as a whole that will be completed in 2025. It aims to build the unified community with one identity and the healthy spiritual life in parallel with the process of establishing the ASEAN Political- Security Community (APSC), and ASEAN Economic Community (AEC). The system of values of ASCC is the cultural interaction and harmonization among member countries. For some decades, Vietnam National Economics University (NEU) has been being the place of visiting, staying, studying and research doing by the students from some ASEAN countries like Laos, Cambodia, Thailand, Malaysia, the Philippines, Indonesia and Singapore. Besides, some students and lecturers from NEU have been being in other ASEAN countries for their travelling or studying, and they have brought the cultural identity from such those countries to NEU. In additions, the scientific conference, research paper, subject “ASEAN economies” delivered the undergraduates majoring in economics and the kind of simulation exercise related to ASEAN. Therefore, NEU as the biggest public educational institution in term of economics and business in Vietnam becomes the place of diversity of cultures of almost ASEAN countries. In other words, NEU contains the characteristics of ASEAN Socio- Cultural Community.

Key words: *ASEAN Socio-Cultural Community, Vietnam, National Economics University.*

1. Introduction

Building ASEAN Socio- Cultural Community (ASCC) is one of the basic goals of the formulation of the ASEAN Community. The cultural identity of the community is the core system of values of combining the values of all of the member

countries within the community and it covers the social aspect of the community. On the surface, the cultural identity is reflected in the specific forms of cultural exchange activities among agents and the social issues are the concerns of the stakeholders including the educational institutions like Vietnam National Economics University (NEU). To the year 2017, there have been 8 conferences organized by both universities in NEU.

For the fact that there have been a lot of students and lecturers from different ASEAN countries coming to NEU to enjoy the service and a lot of students and lecturers have come from NEU to other ASEAN countries to do their studies and researches, NEU is the place of concentration of cultural identities from ASEAN member countries as the kind of cross-culture within ASEAN. The cultural interactions and integrations would enforce the common system of the values of all member countries. The ASEAN cultural identity may be established in NEU by such the cultural interaction and exchange. It is the system of new facts and figures of the small of ASCC within NEU.

The ASCC Blueprint was adopted by the ASEAN Leaders at the 14th ASEAN Summit on 1 March 2009 in Cha-am/ Hua Hin, Thailand. Since 2016, ASCC has had some changes in its content from the reviewing the progress of ASCC. They have been made with the expectation to realize ASCC from 2025. Up till now, there have been some researches on the ASCC (Hoa, 2009; European Parliament, 2014) but lack of ones on the forms of ASCC from NEU perspective from 2016. The paper would give the first glance about ASCC by taking the example of NEU and furthermore, it provides an in- depth analysis on ASCC. By analyzing the NEU as the case study to refer to ASCC, the paper would also forecast the in-reality future success of ASCC in the process of completing ASEAN Community by 2025.

The paper would use the case study and evidence-based method to solve the research problem. The observations on ASCC from the example of NEU by author in more than 30 years of studying and working in NEU are the important data for the paper. The 2016- version ASCC Blueprint would be used as the framework of reference to analyze the case of NEU as a small ASCC.

2. The research question

The paper would provide the answer to the following questions:

1. What are ASCC and its role to the development of ASEAN as a whole?
2. Whether does NEU consider as the small ASCC or not?
3. How does ASCC like in the future from the example of NEU?

3. Framework of analysis

Main elements of ASCC as the framework of reference

ASCC is the mechanism being in the movement from a simple and comprehensive level to more specific one that has been passed by the Leaders of ASEAN members. The change of the content of ASCC Blueprint can be divided into 2 periods with the year 2016. Before 2016, the main elements of ASCC are very comprehensive or the system of general values. From 2016, ASCC focuses on the main issues of ASCC as engaging and benefiting the people, inclusive, sustainable, resilient and dynamic ones or ASCC goes to a system of more specific values. (Table 1) Such the change represents the improved awareness of the ASCC on the tendency of movement of the socio-cultural values of ASEAN.

ASCC plays an important role for the development of ASEAN as a whole. It ensures the socio-cultural aspects of the development of ASEAN Community to preserve and develop the ASEAN identity and therefore, provides the sound foundation for close linkage among countries not only in political-security, economic but also in socio-cultural term. ASCC increases the core values as the base of trust building among ASEAN countries.

Table 1: ASCC Blueprint

2009-2015	From 2016
Human development	Engages and benefits the people
Social welfare and protection	Inclusive
Social justice and rights	Sustainable
Ensuring environmental sustainability	Resilient
Building ASEAN identity	Dynamic
Narrowing the development gap	

Source: ASEAN (2016)

Within the dynamic content of ASCC, there is an approach to higher education, incorporating academics, community service, regional placement, and entrepreneurship incubation and support. It encourages regional cooperation in the areas of education, training and research, and strengthen ASEAN's role in regional and global research network by promoting initiatives and providing incentives and support for research and development, including research publications. Besides, it promotes the free flow of ideas, knowledge, expertise, and skills to inject dynamism within the region. Furthermore, it strengthens curricula and system of education in science, technology and creative disciplines and promotes equitable opportunities to

quality education and access to information with priority given to the advancement of universal access to education. Such these issues provide the framework for understanding and realizing the ASCC from small size to large size (Figure 1).

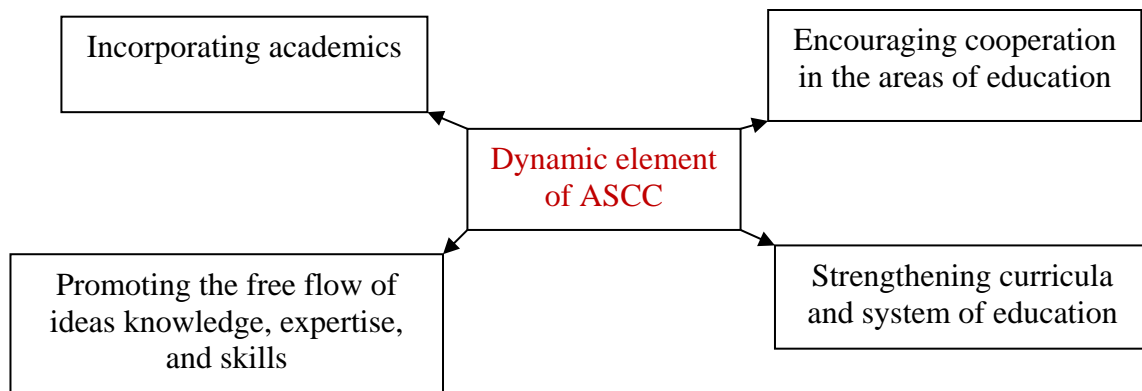


Figure 1: Framework for dynamic element of ASCC

Source: ASEAN (2016)

NEU- a small ASCC

NEU is one of the biggest public universities in educating and doing research in the field of economics, management and business administration in Vietnam. It has been establishing since 1956 and up till now, it has more than 60 years of history of its development. The total number of students of different types of education provided by NEU is recorded about 50,000 in 2016. The number of teaching staff in NEU is about 800 people including 30 full professors and 150 associate professors, almost remaining teaching staff has the master and Ph.D. degrees, NEU has a great potential of qualified human resource to be a region-class educational institution. At present, NEU has had most specializations in the field of economics, management and business administration.

The types of education provided by NEU are full-time, learning and working, the second degree, graduates and post-graduates. Many students graduated from NEU have been promoted to the high positions in the management system of central and local authorities and agencies. Besides, a lot of students are the successful managers. Under the centrally planned economy, NEU is the reliable institution to provide good advices for improving the policies related to the economic and business fields for Vietnam's government and enterprises. Under the market economy towards socialist, NEU is still the pioneer in Vietnam's education system to approach to market economic knowledge and skills. Due to its high reputation in Vietnam education system, a lot of foreign students from Laos, Cambodia and China come to NEU to be educated in the specialty of economics, management and business administration, and commercial Vietnamese language. Some foreign students graduated from NEU have

been promoted to the important positions of their government's authorities or agencies. Besides, there are several staffs from ASEAN countries like Thailand, Malaysia, Singapore, the Philippines, Indonesia, Laos, and Cambodia to do the academic exchange at NEU.

In the period of 2015-2017, NEU has been chosen by Vietnam's government as one of 7 public educational institutions to realize the "pilot" autonomy in term of academic, financial and personnel issues. At the greater extent of autonomy, the flexibility and creativity of NEU may be improved to fast respond to the changes of the labor market both domestically and internationally. Since 2016, NEU has been developing in line with the orientation of the mode of university by research that is in connection with the Law of Higher Education of Vietnam. All sources of development of NEU will be effectively mobilized to serve its missions and visions.

4. Research results

Based on the framework of analysis, the data from NEU and the observations by author's more than 30 years of studying and working in NEU, the paper has achieved the main results as follows:

The incorporating academics: Some materials in economics and business have been brought to NEU from some universities of ASEAN countries. For example, during the period 1995-1998, some textbooks in economics and business had been gifted to NEU from Songkla University and Thammasat University in Thailand. Some students and lecturers from NEU have completed their Ph.D. degree's dissertations in Thailand. With the Asian monetary and financial crisis occurred in 1997, some professors from NEU sent their papers to and made their presentations in the conference organized in Thammasat University. By such these actions and educational exchange delivered by students and professors, Thai's culture on research, working principle has had some influence on the perception of these students. Besides, the Faculty of Urban and Environment Economics of NEU have established the strategic partnership with the Faculty of Humanities and Social Science (Khon Kaen University, Thailand) since 2013. Every year, in the Summer and Winter, both faculties organize the international conference with the active participation of the lecturers and professors in NEU and Khon Kaen University respectively. The scientific papers are presented and discussed in the conference to improve the comprehensive understanding of both sides about each other. The academic staff has the opportunities to mutually understand about the commonly interested issues. In additions, some lecturers from NEU have been to universities of Singapore to get educated and some scientific conferences have been organized to share their knowledge and experiences to each other. Some NEU professors have

been to Malaysia to take part in the conference in labor productivity, economics and business administration. Some experts from Indonesia have been invited to train the quantitative method for NEU teaching staff in 1990s. NEU professor has been to the Philippines to exchange the experience on the model building on calculating the insurance fees in the aging society.

The encouraging cooperation in the areas of education: NEU organized some courses to grant the master degrees for Lao students in Laos National University. Besides, NEU has equipped the teaching materials for Lao universities and trained the managers for Laos. All actions have done by NEU for Cambodia's university in the same way. In NEU, every school year there are some dozens of Lao and Cambodia's students come to study to get bachelor, master and Ph.D. degrees funded by Vietnam's government or by themselves. The international students stayed and studied in NEU bring the culture from their countries to NEU by the proliferating their life styles, costumes, customs and traditions. As a result, they shift NEU to a culturally diversified institution specifically the center of condensed ASEAN identity.

The promoting the free flow of ideas: NEU organizes the window in the portal of Graduate School at the box "information and searching" as the forum for all students and the interested people can post their ideas on all of the issues in the field of economics, management and business administration. That means all people can have great number of opportunities to express their ideas in the legal framework. The differences in the perception on all of the economics, management and business administration within ASEAN countries can be minimized. Moreover, in the increasingly globalized world and region, the range of the interested issues in economics, management, business administration and other related ones is wide that is the vast background for free flow ideas exchanged among scholars of ASEAN universities including NEU.

The strengthening curricula and system of education: At present, NEU has basically improved the curricula and system of education to meet the standards of the research-oriented university. NEU also follows the model of high autonomy in public education in accordance with the government regulation. The curricula and system of education of NEU are being changed to serve the goal of increasing the autonomy. Some curricula and system of education of universities from Thailand, Singapore and other ASEAN countries have been collected and studied to draw the lessons for NEU. Simultaneously, the models of establishing the system of education in economics, management and business administration from high-ranking universities in ASEAN have been learnt by NEU. In the list of subjects provided students majoring in economics in NEU there is a subject "Economies of Southeast Asia" (Table 2)

containing the history of ASEAN development, the characteristics and the development policy of every ASEAN member's economy, its structure, co-operation within ASEAN region and the integration of ASEAN with the rest of the world.

Table 2: The subject “Economies of Southeast Asia” with 2 credits in the major of International Economics

Order	Code of major	Name of Major	Name of subject	English name	Number of credits	Type of education	Prerequisite	Order	Summary	In detail
49	420	...								
51	420	KINH TẾ QUỐC TẾ (International Economics Major)	Kinh tế ASEAN	Economies of Southeast Asia	2	Kiến thức bắt buộc của chuyên ngành (Compulsory)	Hội nhập Kinh tế quốc tế (International economic integration)	35	<u>Xem tóm tắt</u> (See summary)	<u>Xem chi tiết</u> (See in detail)
52	420	...								

Source: NEU, Syllabus “Economies of Southeast Asia”

In additions, all of students registered to this subject have been experimented by the simulation exercise of role playing as the real citizen of ASEAN countries. Such these actions provide NEU students opportunities to study, imitate and do the actions in accordance with the cultural identities and the way of thinking of each ASEAN country. From the experiments by role playing by students of NEU, there are the cross- cultural intersections between Vietnamese culture and that of other ASEAN countries. In other words, the ASEAN colorfully cultural nuclear has been being established in NEU (Figure 2).

Figure 2: Simulation exercise of ASEAN Economy



Source: Anh, M, My, K., Diep, Q., Anh, N., (2013)

From the evidence above, it can be seen that NEU has the wide network with universities within ASEAN in all of aspects of the dynamic dimension. Such the evidence proves that NEU contains the main characteristics of ASCC or in other

words NEU is a kind of a small ASCC. All relationships and interactions undertaken and developed between NEU and other partners are in line with the tendency of movement of ASCC. NEU becomes the intermediate step to complete ASCC as a whole by 2025. Clearly, ASCC has the bright future due to its good performance and effective support from member countries

5. Conclusion and recommendations

ASCC is a system of core values of all ASEAN countries and it plays as the role to accelerate the completion of ASEAN Community as a whole by 2025. NEU can be seen as a small ASCC because it has a lot of similarities with ASCC especially in the dynamic dimension. Furthermore, the content of ASCC is nearly the same to the content of international co-operation of NEU within ASEAN. ASCC, for its important role for the development of ASEAN Community, has the bright future as the future of ASEAN Community. Possibly speaking, the case of NEU is a very persuasible evidence to prove the success of ASCC establishment.

NEU, despite of a small education institution, partially supports the establishment and completion of ASCC. The success of NEU in the past may not be compatible with the potential and the strategy of development of NEU in the future. By 2020, NEU sets the strategic goal of ranking on the top 1,000 universities in the world. At present, NEU has been only ranked at around 4,900 universities in the world. As the small ASCC, NEU should promote all of the possible capabilities to catch up with the requirements of the labor market for the quality of service provided by NEU. The proactive integration of NEU into ASCC in particular and in ASEAN Community in general becomes the strategic option for NEU.

In order to enhance the spillover effect of NEU as a small ASCC, that in turn, supports the development of NEU, the following recommendations should be taken into consideration.

First, it is needed to take advantage of the framework of dynamic element of ASCC to develop NEU's international co-operation strategy with the education institutions within ASEAN countries. The aspects of the dynamic element of ASCC can be used as the main sub-elements of the international co-operation strategy of NEU. They contain the incorporating academics, encouraging cooperation in the areas of education, promoting the free flow of ideas and strengthening curricula and system of education. It is very economical to build the international co-operation strategy for NEU by referring to the ASCC. Such the action avoids the future adjustments in the international co-operation strategy for that it fits with ASCC at the beginning step.

Second, continuing develop the relationships between NEU and universities of other ASEAN countries in all of interested areas. To realize the possibilities of development, it should evaluate all of the advantages of NEU in its integration into ASEAN by appropriate methods. The comparative advantages of NEU over others should be determined in specific relationship with the partner and the forms of development of the relationships between NEU with the rest of ASEAN should be built.

Third, improving the perception on the missions of NEU by adding to its traditional functions including the educating and doing research towards by the news of role of the sub-elements of ASCC framework like incorporating academics, encouraging cooperation in the areas of education, promoting the free flow of ideas, strengthening curricula and system of education. The workshop, seminar, forum and other kinds of idea exchange among education institutions including NEU should be utilized to make clear the meanings of the ASCC. The roles and functions of all departments, staff, lecturers and students should promote their roles in developing the identity of NEU to all of ASEAN countries, especially the missions of the communication system of NEU in bringing the image of NEU to the public should be taken into much consideration.

Fourth, it is essential to gradually expand the areas of co-operation by enhancing bilateral relationships between NEU with its partners from ASEAN countries. Each partner has its characteristics and it needs to be treated in the specific way. The collecting the information about the partners to build the international co-operation strategy being suitable with each of them is needed.

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PENETRATION OF FOREIGN LIFE INSURERS IN VIETNAM'S LIFE INSURANCE MARKET

Nguyen Thi Hai Duong

duongnh@neu.edu.vn

Faculty of Insurance, National Economics University, Vietnam

Abstract:

The process of globalization with the investment and penetration of foreign insurers has strong impact to the emerging insurance markets, including Vietnam. The article concentrates on analysis the effects of investment and penetration of foreign insurers on the Vietnam's life insurance market. The hypothesis of the research is that there is a strong reflexive relationship between investment and penetration of foreign insurers and the development of Vietnam's life insurance market. The research methodologies applied in the research are statistical analyses and synthesis methods. The research results proved relationship between Investment and penetration of foreign insurers with an expansion and new trends of the market, product diversification, and concentration into the economy.

Keywords: *Foreign life insurers, International financial group, life insurance market, penetration.*

1. Overview of Vietnam's Life Insurance Market

Vietnam is assessed as one of the most potential markets for life insurance. With high population and low insurance penetration rate at around 5-6 percent of the population, a rise in the volume of middle class individuals, public awareness of life insurance is being enhanced, clients seeking insurance products as financial solutions for themselves and their families are increased year by year. Premium revenue grew average at more than 20%/year since 2000. Especially, during 2015 - 2016, despite impacts of international financial crisis and domestic economic recession during 2009-2013, Vietnam's life insurance market is remarked as one of highest growing markets in collected premium revenue and sum of insured. Premium growth rate was 34.4% in 2015 and 29.8% in 2016 (ISA, 2015, 2016).

According to ISA (2017), in 2016, total new policies reached 1,617,402 policies (main products), increased 14.46% against the same in 2015; Products are diversified with all types of life insurance, such as term life, endowment life, permanent life, annuity; New premium revenue was VND 16,753 billion and

increased by 26.3% in compared with 2015; Premium per policy was VND 10.4 million, increased 8.3% in compared with 2016; Number of policies in force were 6,833,677 policies, increased 17.6% in compared with 2015.

All life insurance companies are in good financial status in 2016, total property of life insurance companies is VND 171,828 billion, increased by 19.96% in compared with 2015; Total owned capital of life insurance companies was VND 29,153 billion, increased 22.9% in compared with 2015; Payment capacity margin of life insurance companies is higher than minimum requirement payment capacity. Reserves of life insurance companies was VND 125,858 billion, increased 21,18% in compared with 2015, shared 75% of market's reserves.

Investment of life insurance companies into the economy was VND 152.123 billion in 2016, increased 19.02% in compared with 2015, in which investment in government bonds was 65.1%, investment in deposit was 17%, investment in guaranteed bond was 5.4%, and others in enterprises' bond, security, provinces' bond.

The success of Vietnam's life insurance market is supported by investment and penetration of various international financial group and life insurers since early 2000s up to now. They had been concentrating to improve and develop Vietnam's life insurance market.

2. Penetration of Foreign Insurers in Vietnam's life Insurance Market

According to Insurance Supervisory Authority, Ministry of Finance (ISA, 2017), recently there are 18 life insurance companies in Vietnam's life insurance market, therein 1 Vietnamese life insurer, 5 joint-stock life insurance companies, and 11 foreign life insurance companies. It could be seen that the Vietnam's life insurance market is dominated by foreign insurance companies, this is much different in comparison with Vietnam's non-life insurance market, which is dominated by domestic insurance companies.

Table 1. Life Insurance Companies in Vietnam, 2017

Unit: Billion VND

No.	Life Insurance Companies	Foreign partner/Foreign investors	Established	Legal Capital
1	Bao Viet Life Insurance	Sumitomo Life (Japan) (HSBC*)	2004	1,500
2	Prudential Vietnam	Prudential Group (UK)	1999	1,136
3	Manulife Insurance	Manulife Financial (Canada)	1999	1820
4	AIA Vietnam	Prudential Group (UK) (AIG*)	2000	1,244

No.	Life Insurance Companies	Foreign partner/Foreign investors	Established	Legal Capital
5	Chubb Life (ACE Life)	Chubb Corporation (US)	2005	1,165
6	Prévoir Vietnam	Prévoir Group (France)	2005	710
7	Dai-ichi Vietnam (Bao Minh - CMG)	Dai-ichi Life Japan	1999	1,767
8	Cathay Vietnam	Cathay Finance Group (Taiwan)	2007	3,342
9	FWD Vietnam (Great Eastern Vietnam)	FWD Group (in Asian countries)	2007	940
10	Hanwha Vietnam	Hanwha Group (Korea) (Korea Life*)	2008	960
11	Vietcombank - Cardif	BNP PARIBAS CARDIF	2008	600
12	Fubon Life	Fubon Financial (Taiwan)	2010	800
13	Generali Vietnam	Assicurazioni Generali Austro-Italice (Italia)	2011	2182
14	Vietinbank - Aviva	Aviva International (UK)	2011	800
15	Sun Life (PVI - Sun Life)	Sun Life Financial (Canada)	2013	1,000
16	Phu Hung Life	CX Technology (Taiwan)	2013	683
17	BIDV - Met Life	MetLife Limited (US)	2014	1,000
18	BM - Ageas Life	Ageas Insurance International (Belgium) & Muang Thai Life Assurance Public Co.ltd	2017	1,100

Source: ISA (2016, 2017)

Most of investors in Vietnam's life insurance market are international financial groups with long history in life and multinational business. They are top insurers in their countries and regions such as Europe, Asia, North America. More than a half of international financial groups established their life limited company in Vietnam (include Prudential, Manulife, Dai-ichi life, Chubb life, AIA, Hanwha, FWD life, Cathay life, Fubon, Prévoir life, Generali, etc.), some of them are leaders in Vietnam's life insurance market, such as Prudential, Manulife, Dai-ichi life, AIA life (these life insurers were established before 2007). Some other international financial groups invest into Vietnam's life insurance market through cooperating with state domestic banks to establish bancassurer in form of joint-venture life insurance company - they penetrate domestic faster with advantages of state domestic banks.

M&A trend also makes changing Vietnam's life insurance market. Started by case of Dai-ichi life, Japanese Dai-ichi life purchased Bao Minh CMG to establish Dai-ichi Life Vietnam in 2007. With this decision, Dai-ichi life penetrated Vietnam's

life insurance market by fastest way: they inherited position, market share, and distribution network of Bao Minh - CMG (GBS, 2017). The company has been very successful, with nearly 9 percent of the market share in 2016, at the fifth position in Vietnam's life insurance market.

The case of Bao Viet - HSBH in 2007 was a chance for both Bao Viet and HSBC. With Bao Viet, when deciding on M&A with HSBC, they set a very clear goal that the foreign partner must have business experience and have similar business strategies, as well as committing to long-term investment and technical support. In 2013, HSBC sell their share holder in Bao Viet for Sumitomo Life (Bao Viet Life, 2013). This also was evaluated as success of both Bao Viet and Sumitomo life. Technical and capital support are factors to improve business of Bao Viet life, in 2016, Bao Viet life is the first life insurer in the market.

Some other M&A were Hanwha purchased Vietnam Korea Life, FWD life purchased Great Eastern Vietnam, these are chances for FWD life and Hanwha, but also is factor sustains stability for Vietnam's life insurance market. With FWD, after M&A, their business has got improved with a higher growth rate and market share.

Some M&A happened in abroad, including British Prudential purchased AIA, ACE group purchased Chubb life, both group have subsidiaries in Vietnam. These did not effect to the domestic life market.

It is clear that investment and penetration of international financial groups in Vietnam's life insurance market has been pushing up the market.

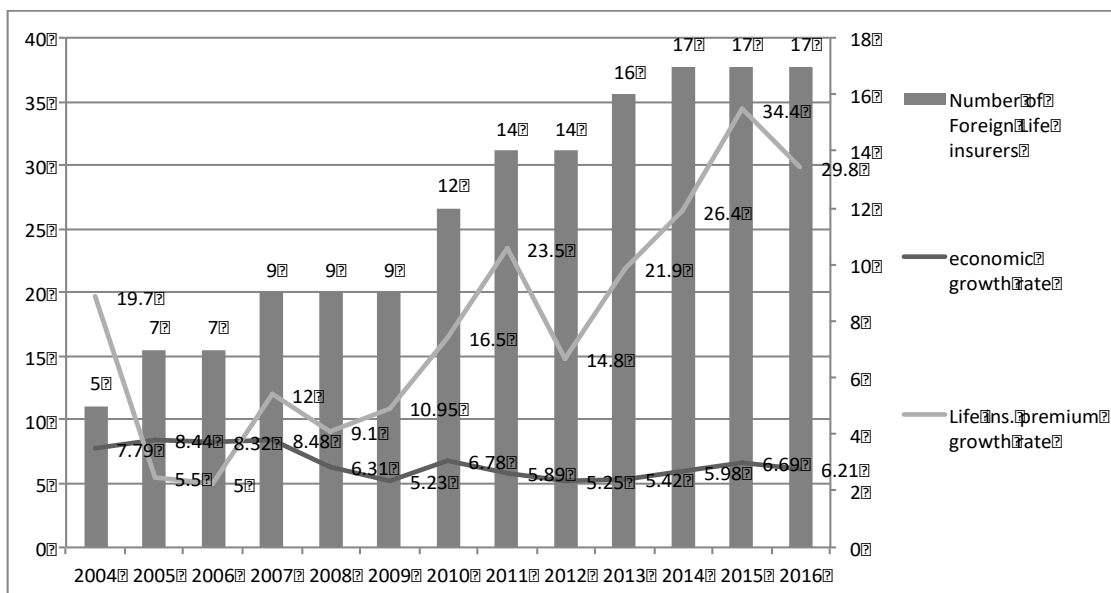


Chart 1. Relationship among economic growth rate, collected premium growth rate and number of insurance companies in Vietnam's life insurance market

Source: collected from ISA's annual statistical books (2005-2016)

Chart 1 shows that with an increase of foreign life insurance companies, collective premium revenue of life insurance got high growth rate during 2009 - 2016. Especially, since Vietnam became participant of WTO in 2007, the number of life insurers was doubled, growth rate of collected premium revenue increased by 2.5 times, despite effects of international financial crisis and domestic economic recession.

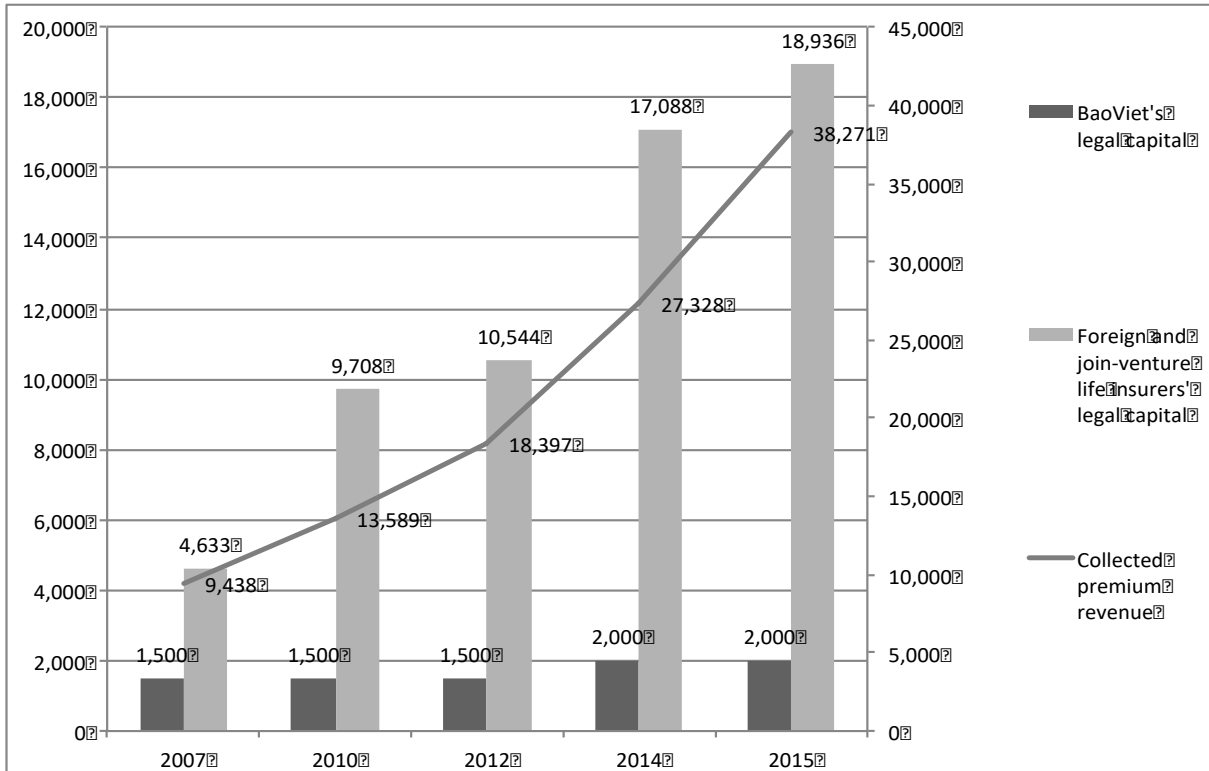


Chart 2. Relationship among collected premium revenue, domestic and foreign insurers' capital.

Source: collected from ISA's statistical books (2008-2016)

Chart 2 shows more clearly about the relationship between an increase in foreign life insurance companies' capital and premium revenue. Bao Viet Life's legal capital was sustained since 2007 and increased in 2014, but foreign life insurers' legal capital increased year by year. In 2007, Vietnam joined WTO, the foreign life insurers' capital was only VND 4,633 billion, it was VND 18,936 billion in 2016. And with an increased in foreign life insurers' legal capital, collected premium revenue was increased from VND 9,438 billion in 2007 to VND 38,271 billion, by nearly 4 times during the period.

In addition, before 2007, life insurance products in Vietnam mainly were traditional forms, such as term life, endowment life and whole life. In 2016, life insurance products in Vietnam were diversified with all forms of life insurance

products including term life, endowment life, whole life, annuities, universal life, variable life and variable and universal life. The premium revenue and policies of advanced products such as annuities, universal life, variable life and variable and universal life was increased and nearly equal these of traditional products.

It is clearly that investment and penetration of international life and financial groups has been creating for high growing and expanding of the life market, they rise life insurance market's capability, bring product diversification, advanced risk management technical, and administrative experiences. Foreign life insurers also create competitive market which push the development of Vietnam's life insurance market.

3. Obstacles for the Development of Vietnam's Life Insurance Market

Vietnam is evaluated as a one of most rapidly expanding insurance markets, average GDP growth rate is expected at around 7%/year, GDP per capita is expected from USD 3,200 to USD 3,500 during 2015-2020 (Government, 2015). Further more, with population is at more than 90 million people, the ratio of insured over population is under 5%, people, low and limited benefits from social insurance, Vietnam's life insurance market has a high development potential in the next years. However, the market is facing obstacles.

Firstly, with a rapidly expanding of life insurance market, the insurers are facing a lack of skill labour, including actuary, risk managers, underwriting and claim managers, and etc. The movement of labour from other sectors to life insurance sector is one of reasons lead to unqualified services. They have not got knowledge in life insurance, provide services and act such as they do in other sectors. These make miss or wrong understand from buyers, insureds and give obstacle for the development of the life insurance market in long-term.

Secondly, M&A of life insurers may are reason effecting to the believe from buyer, especially in the emerging markets, including Vietnam.

Thirdly, regulations on life insurance sector in Vietnam are not completed. Vietnam has only Insurance Business Law, which regulates both life and non-life sectors. Regulations on life insurance contract, products, agent, are lacked.

So that, to support for the development of Vietnam's life insurance market, regulators and insurers need to improve or have solutions to handle obstacles of the market.

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BASEL II: FROM THE WORLD APPROACH TO VIETNAM PRACTICE

Dr. Doan Phuong Thao

doanphuongthao.neu@gmail.com

MSc. Phan Thu Trang

trangpt912@gmail.com

Institute of Banking - Finance, National Economics University, VietNam

Abstract

Although Vietnam is not a member of the Basel Committee, it isn't under pressure to use its regulations, but the need to apply international standards in the operation of commercial banks in Vietnam under the Treaty of Basel over the years has always been a topical issue. This is an urgent requirement for the commercial banking system to develop sustainably in the context of deep international economic integration. Thus, the paper focuses on the Basel approach in countries around the world and then it analyzes the practical application of Basel II to the commercial banking system in Vietnam. Thereby, we propose some recommendations to promote the implementation of Basel II of the commercial banking system in Vietnam effectively.

Key words: *Basel II, Commercial banks, Central banks*

1. Introduction

The collapse of the Bretton Woods system come along with the end of the 1973 exchange rate regime, led to losses in foreign exchange transactions and rising signs of unhealthy competition between commercial banks all over the world. In response to strengthen the operations and create a fair competition mechanism in banking system, G10 countries' central bank governors met in Basel, Switzerland to establish a Committee on Banking Regulation and Control Practice at the end of 1974, later renamed the Basel Committee on Banking Supervision (BCBS). The committee works upon two basic tenets: (1) No foreign bank has been set up but escaped supervision; (2) The supervision is commensurate. The Basel Committee on Banking Supervision was designed as a forum for regular cooperation among member countries for the purpose of strengthening financial stability by setting minimum standards for regulation on banking supervision; sharing monitoring issues and improve cross-border cooperation; exchanging information on development in the field of banking and

finance to help identify existing or emerging global risks and narrow the international monitoring gap. In 1988 and 2003 the banking management rules were introduced in Basel I, II. Since the global financial crisis of 2007-2008, the requirements for regulating commercial banks have become more stringent, a new agreement called Basel III has been reached and implemented by many countries around the world, marking the basis of a new financial order.

In Vietnam, for the period 2010-2014, commercial banking system includes 02 policy banks, 05 state-owned commercial banks, 33 joint stock commercial banks, 14 wholly foreign-owned banks and branches, 6 joint venture banks. This is a huge number compared to the size of Vietnam market. However, the number and size of operations of banks are not accompanied with quality. Many commercial banks have lax management, which causes many inadequacies and financial risks. On March 1, 2012, the Government issued Decision No. 254 / QD-TTg approving the "Restructuring Plan for Credit Institutions 2011-2015" aimed at developing a safe and effective development of financial system as well as healthy and market standardization. Together with the efforts of commercial banks in applying international standards in banking, the State Bank of Vietnam (SBV) has put forward a roadmap for the application of Basel II, piloted by 10 banks starting in February 2016 and by 2018 widely applied to the whole commercial banking system.

2. Methodology

Articles using synthetic methods, theory and experience applying Basel in countries around the world, published in the papers, scientific journals, archives and announcements of prestige organizations in the field of banking and finance. From which, there are descriptions, analysis and comparison of practical application of Basel II in Vietnam. In addition, the research team collected data, aggregated research data from reliable sources to better illustrate the research issue.

3. Literature review and empirical results

3.1. The implementation of Basel II all over the world

In July 1988, the Basel Capital Accord (1988 Accord) was introduced with a capital adequacy ratio (CAR) of 8%. Initially, the BCBS applied to banks operating worldwide, then implemented in the banking system of over 100 countries. In the course of development, revisions have always been made to create stronger standards. With Basel I's weaknesses, BCBS proposed a new management framework in June 1999. After three consultations in 1999, 2001 and 2003, Basel II was launched in late 2004 with the goal of stabilizing and developing the system of international commercial banks; promoting appropriate and rigorous risk management practices; and creating a level playing field for active banks (BCBS, 2015). Basel II introduces the

new measurement framework with "3 pillars", namely: Minimum Capital Requirement; Supervisor Review Process; and Market Discipline. It is a fact that, even before the occurrence of 2007-2008 crisis and the collapse of Lehman Brothers as a major shock to the global economy, the urgent need for strict controls had been paid attention at. The Basel Committee on Banking Supervision was summoned to consolidate the monitoring requirements in Basel II in 2009, 2010 and 2011. In the late 2011, at BCBS meeting of G20 leaders held in Seoul, South Korea, the demand for issuing of a new treaty came into existence and by 2012, Basel III is officially introduced. In the controlling scope of Basel III, the main issues had been set: (1) Improving capital quality; (2) Raising capital of high-quality and the minimum leverage ratio of 3%; (3) Introducing macro-supervision approach and identifying the dependence of banks; and (4) Setting the standards of liquidity standard to all banks.

In developed countries, the application of Basel is not mandatory. By 2013, the implementation of Basel II has been applied even if only partially. Statistics of the BCBS (Table 1) below is to assess the implementation of Basel II in accordance with the level of application code: (i) Level 1: The draft regulation has not yet announced; (ii) Level 2: Draft regulation published; (iii) Level 3: Published rules for completion; (iv) Level 4: The validation rule goes into effect.

Table 1: Basel II application assessment

Country	Level	Operation
China	4	
France	4	
Germany	4	
Russia	1.4	(1) Pillar 2 will be implemented no earlier than 2014. Pillar 3 will be implemented no earlier than 2013. (4) Simple standardized assessment for credit risk, simplified approach to evaluate market risk and basic indicator approach for operational risk.
Japan	4	
Great Britain	4	
United State of America	4	Parallel implementation - Commercial banks applying Basel II are required to implement advanced methods for credit risk and operational risk. As a result, banks have made considerable progress and have to report CAR in both Basel I and Basel II quarterly
EU Countries	4	

Sources: BCBS (2012)

Some non-Basel Committee jurisdictions that adopt and implement the Basel II and Basel III tend to increase. In July 2014, the Financial Stability Institute (FSI - established by the Basel Committee) based on the study of 109 jurisdictions made significant progress in their efforts to apply the Basel Accords in which 94 countries have applied or are in the process of applying Basel II and 89 countries have applied or are implementing Basel III (BCBS, 2014).

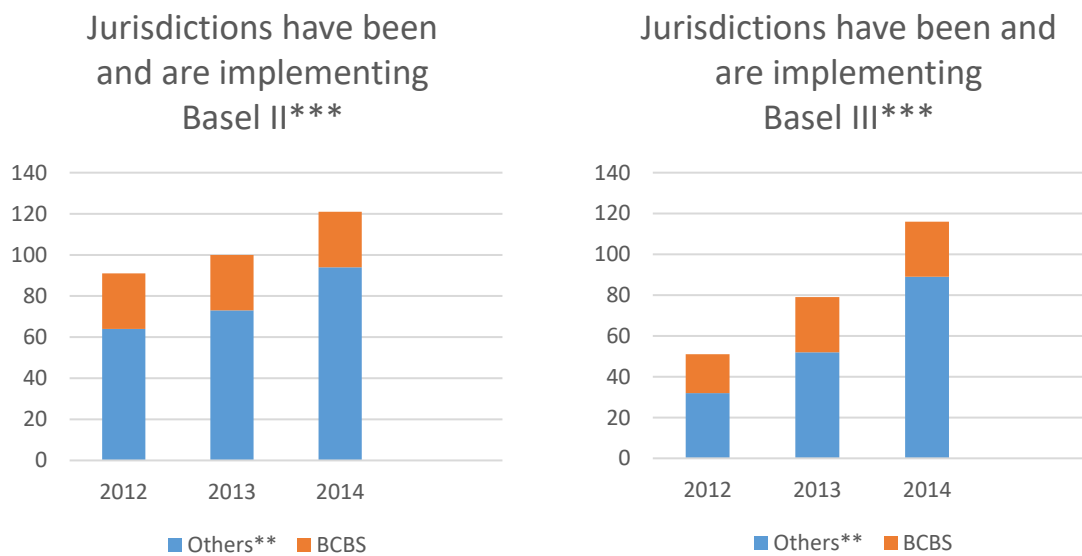


Chart 1: The implementation of Basel II and III in some jurisdictions

** : Jurisdictions that are in neither EU nor BCBS Committee

*** : Jurisdictions that implement Basel II and III partially

Source: BCBS, FSI (2014)

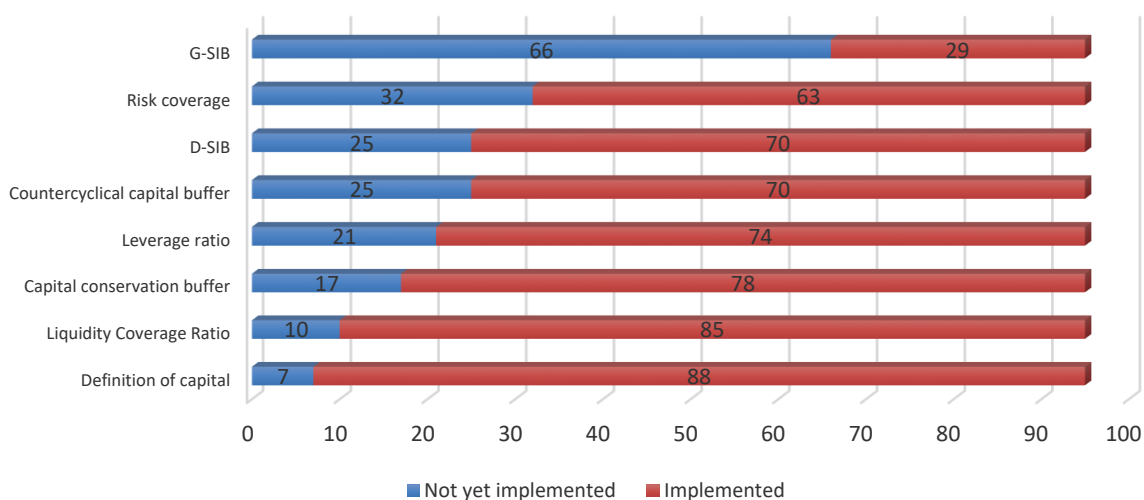


Chart 2: Rules applied as per Basel III

Source: BCBS (2015)

By 2015, developed countries have implemented Basel III in a deeper framework (BCBS, 2014). Chart 2 shows the rules applied as per Basel III in the area has been applied the accord.

In developing countries, the Basel III has already begun, but many countries are still implementing Basel II and many are in trouble. Currently 140 countries (Barth et al., 2008), claiming to have applied Basel I, 100 countries intending to implement Basel II (FSI, 2006) and the actual number of countries implementing Basel III remains relatively limited (Table 2). Countries are divided into groups based on the evaluation of Basel II performance levels (Cho, 2013 and FSI, 2012): (i) early-comprehensive adopters: implementing 3 pillars of Basel II over time regulated by the Basel Committee (Group 1); (ii) gradual-comprehensive adopters: countries implementing Basel II in a long-term process and in line with the Basel II standard (Group 2); (iii) late-comprehensive adopters: those countries that are late adopters of Basel II but implementing both basic and advanced procedures in Basel II (Group 3); (iv) late-partial adopters: countries that are slow to adopt and select methods to implement (Group 4); (v) early-partial adopters: those countries that have taken the basic approach to Pillar 1 or Pillar 2 and 3 in accordance with Basel II but do not undertake advanced approach (Group 5); (vi) non-implementers: those countries that have not implemented or applied at very low levels, may be drafted but not implemented (Group 6).

Table 2: Countries implemented Basel II

Group 1	Group 2	Group 3	Group 6	
EU27	Brazil	Bangladesh	30 countries in	Jordan
Australia	India	Central African	Africa	Kazakhstan
Canada	Indonesia	Rep.	Afghanistan	Kosovo
Croatia	Israel	Chad	Albania	Kyrgyz Rep.
Gilbrata	Malaysia	Chile	Antigua and Barbuda	Macao, china
Guernsey	Mexico	Egypt, Arab Rep.	Armenia	Moldova
Hong kong	Pakistan	Macedonia, FYR	Bahamas	Mongolia
Iceland	Phillipines	Nigeria	Barbados	Montenegro
Isle of Man	Saudi	Peru	Belarus	Montserrat
Japan	Arabia	Russian	Belize	Netherlands
Jersey	Sri Lanka	Federation	Bhutan	Antilles
Korea, Rep.	Thailand	Turkey	Bolivia	Nicaragua
Liechtenstein			Bosnia &	Palestine
New Zealand			Herzegovina	Panama

Group 1	Group 2	Group 3	Group 6	
Norway			British Virgin Islands	Papua new guinea
Singapore				St. Kitts and Nevis
South Africa			Brunei	St. Lucia
Switzerland			Cambodia	St. Vincent
Taiwan			Columbia	Syrian Arab Republic
Group 4		Group 5	Cook islands	Tajikistan
Argentina		Bahrain	Costa rica	Trinidad and Tobago
Aruba		Kuwait	Dominica	Ukraine
Bermuda		Mauritius	Elsavaldor	Uruguay
Cayman Islands		Moroco	Fiji	Vanuatu
China		Nepal	Grenada	Venezuela
Ghana		Oman	Guatemala	Vietnam
Lebanon		Qatar	Guvana	
Maldives		UAE	Honduras	
United States				

Sources: FSI (2012), Cho (2013)

Low-income countries (LICs) tend to be very cautious when approaching to Basel II (Ricardo et al., 2006). Firstly, they will explore Basel II through Basel II's operations and effects to the system, or have completed Basel I well before making the transition towards further capital agreements of BCBS. In fact, the International Monetary Fund (IMF) and the BCBS share this concern and do not force them to do so, but in the context of world development in general, as well as the rising pressure from international consulting firms, credit rating agencies and increasing global competitiveness, the pressure to move towards a new capital benchmark has made these economies more difficult. The challenge of building a reliable and long-lasting database, risk modeling with increasing complexity, capacity to monitor and evaluate implementation; development of science and technology; competition of domestic and foreign banks; capital access to small and medium enterprises, etc., remains a problem for LICs.

3.2. Empirical results of implementation of Basel II in Vietnam

Vietnamese commercial banks are currently piloting Basel II under Decree No.1601/NHNN-TTGSNH issued by the State Bank of Vietnam on March 17, 2014 (Table 3).

Table 3: Vietnamese commercial banks that implementing Basel II

Vietcombank	Vietcombank has been studied the rules of Basel II since 2012 and started to implement on July 15, 2015	Cooperate with Ernst&Young (EY) to build a roadmap to implement Basel II within 3 – 5 years.
BIDV	September 15, 2014: Management Unit for implementation of Basel II established.	Cooperate with PricewaterhouseCoopers (PwC) to build a roadmap to implement Basel II within 5 – 7 years.
Vietinbank	12/2013	Cooperate with PricewaterhouseCoopers (PwC) to build a roadmap to implement Basel II within 3 – 5 years.
Maritime Bank	2015	Build a roadmap to fully implement Basel II at 2018.
Techcombank	2015	Roadmap to implement as per regulated.
ACB	2014	Build a roadmap to fully implement Basel II at 2018.
VPBank	2015	Build a roadmap to fully implement Basel II at 2018.
Sacombank	2015	Cooperate with Ernst&Young (EY) to build a roadmap to fully implement Basel II in 2018.
VIB	2017	Build a roadmap to fully implement Basel II at 2018.
MBBank	2014	Cooperate with Ernst&Young (EY) Singapore to build a roadmap to implement Basel II in 2018.

Sources: The bank's annual reports

Some issues in the operation of the commercial banking system (10 commercial banks implementing Basel II) when implementing Basel II are specified as follows:

First, Capital Adequacy Ratio (CAR) is still low. According to Basel II, the CAR should remain at a minimum of 8%, while the rate in Vietnam is 9% (as per Circular 13/2010/TT-NHNN), calculated as: $CAR = (Tier\ 1 + Tier\ 2\ capital) / Total\ risky\ assets$. Of which: Tier 1 capital includes stock capital, free reserve, intangible assets, etc.; Tier 2 capital includes unsecured loans, loss reserves, debt instruments, etc. Tier 2 capital must not exceed 100% of Tier 1 capital. The adjustments in Circular 36/2014/TT-NHNN determines minimum CAR, more specifically rules regulated Tier 1, Tier 2 capital, Standard NPLs, Liquidity Guarantees, etc. Circular 06/2016/TT-NHNN dated May 27, 2016 regulates the risk-weighted conversion of receivables for real estate business up to 200% on January 1, 2017; reducing the rate of use of short-term loans for medium and long term to 40% from January 1, 2018; increasing the percentage of buying and investing of government bonds compared to the average of the previous month's average short-term capital of credit institutions. In the period of 2011-2016, commercial banks' CAR are higher than those set by the State Bank of Vietnam (Chart 3) but are still much lower than many commercial banks in the world such as Indonesia (19,8%), Philippines (17%), Singapore (16,4%), Thailand (15,6%), United States (14,4%) (Hong Phuc, 2015).

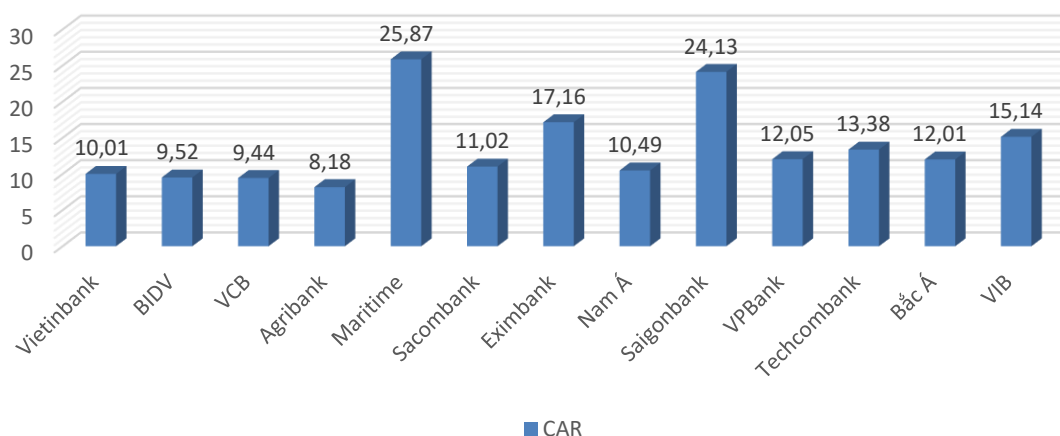


Chart 3: Vietnamese commercial banks' CAR*

* The information archived as of Q3/2016

Sources: The banks' financial reports

Second, credit risk and bad debt exceed safety limits. The credit growth rate as of 21/11/2016 of the whole industry only reached 13.95% and showed signs of slowdown compared to the same period in 2015 at 14.5% (VCBS, 2016). This

may be explained by the fact that banks are still in the process of piloting Basel II indicators along with adjustments under Circular 06 or some banks are still in the process of restructuring and restriction for borrowing on the context of a slowdown in economic growth and instability in the international financial market, as exacerbated by the changes in economic policy from the US presidential election or Brexit.

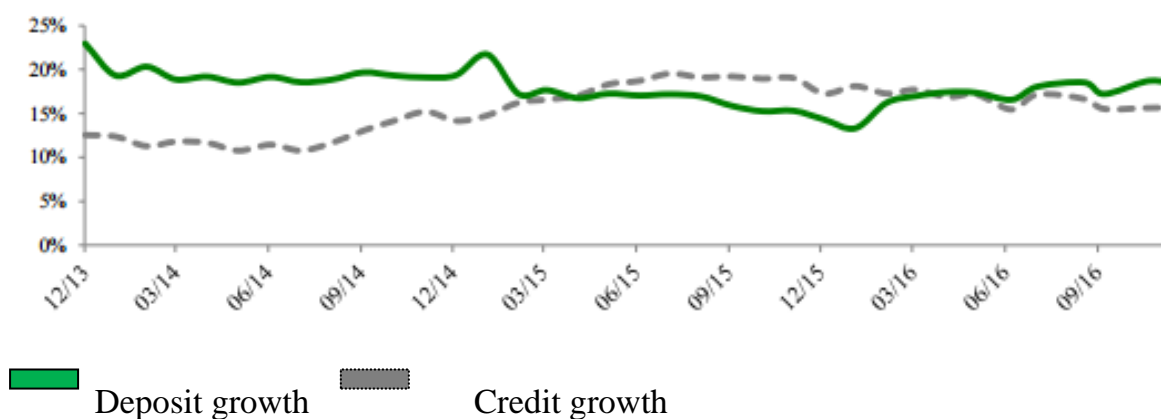


Chart 4: Credit and Deposit growth of Vietnam's banking sector

Source: VCBS (2016)

LDR rates at commercial banks are always high, proving that credit is still a major lucrative activity for banks. However, it is worrying that this activity is still concentrated in the areas, the economic sector has many potential risks.

Table 4: The ratio of assets to the total assets of some commercial banks

Unit: %

%	ACB	BIDV	CTG	STB	VCB
2011					
Deposits & loans to other credit institutions	28.9	14.2	14.2	6.8	28.6
Loans to customers	36.2	71.0	63.0	56.4	55.7
Securities	9.3	7.8	14.6	17.2	8.0
Other assets	18.3	2.3	3.1	5.9	1.7
Q4/2016					
Deposits & loans to other credit institutions	3.5	6.2	10.0	0.8	19.3
Loans to customers	69.2	70.9	69.1	58.9	57.4
Securities	18.3	14.3	14.1	19.5	16.6
Other assets	3.4	1.9	3.1	13.6	1.5

Other assets					
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Source: Commercial banks' financial reports

Bad debts of banks' on-balance-sheet have been below 3% in the past 3 years, but the actual figure is more than 3% as banks use measures to hide bad debts by debt restructuring, debt reversal or debt transfer to off-balance-sheet to reduce bad debt ratio.

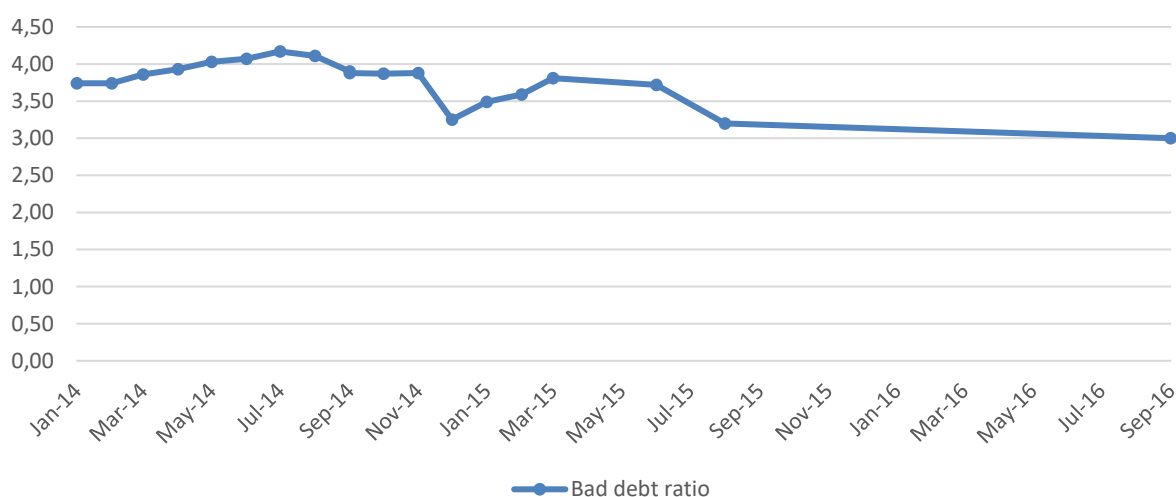


Chart 5: Bad debt of Vietnam's banking system

Source: State Bank of Vietnam

In July 2013, Vietnam Asset Management Company (VAMC) was established as an attempt to deal with bad debts of the commercial banking system. In the course of implementation, VAMC has actively bought bad debts of commercial banks. However, the efficiency is modest.

Table 5: VAMC and bad debt management

Unit: billion VND

	2013	2014	2015	From 01/01/2016 to 30/9/2016	Gross from 2013 to 30/9/2016
Bad debt sold to VAMC	37,218	93,975	109,767	20,913	261,873
Special bond value	30,947	77,197	99,244	20,300	227,688
Debt recovered	145	4,875	17,139	15,031	37,190

Source: VAMC

Third, safety management is still limited. Issues on liquidity risk management, credit risk, interest rate risk, operational risk have been put into consideration. The process of deploying Basel II at commercial banks faces two major constraints: the high cost of implementation and lack of historical data. At present, 80% of banks are aware of the fact that the State Bank of Vietnam plans to implement the monitoring framework under the Basel II. However, 57% of the respondents said that risk management was the most important (KPMG, 2013). Many banks are implementing risk management in their initial step, such as researching process setups, developing operational risk management documents, monitoring risks and alerts, etc. On the basis of risk capital calculation, 64% of banks will use the standard method to calculate capital, while 14% of banks use the base index method and 21% have not yet decided. At VietinBank, the board of directors and the board touted operational risk appetite, deploying three basic tools of operational risk: enhancing the quality of the loss database (LDC); deploying risk critical self-assessment tools (RCSAs); complete the framework of key risk indicators (KRI) to effectively monitor the volatility of operational risk. At Vietcombank, risk management works effectively through the development of risk appetite, human resource policy, and special emphasis on risk culture. However, operational risk management has many gaps, serious developments, causing loss of particularly large properties. In the first six months of 2016, 8,631 cases were found guilty of economic crime (an increase of 16.04% over the same period in 2015 respectively) (Xuan Hai, 2016) with many tricks fraud and sophisticated fraud to take money in the account of the customer. The reason is because the operational risk management model of banks is unclear, overlapping functions and duties. The three rounds of control at the banks are quite new so they have not been implemented effectively as expected. In addition, the approach to implementing the operational risk management framework is mainly dependent on the specialized function. Operational risk also often occurs in retail operations, especially with banks stressing their determination to increase their market share, pressure on business targets, and rapid product launches. Risk management as well as the quality of management personnel have not kept pace.

Fourth, there are many loopholes in inspection and surveillance activities. The SBV's previous inspection and supervision mainly followed the method of compliance inspection using a combination of two remote monitoring and on-the-spot inspections. From 2011 onwards, the banking inspection and supervision activities have initially made positive changes in the monitoring contents. However, the monitoring contents are still not comprehensive. Moreover, commercial banks are often not self-conscious, carrying out coping with inspection activities. Besides, the information management and data management system of commercial banks

themselves is not complete and inconsistent so the inspection and supervision is very difficult. Therefore, the monitoring of the SBV has not yet guided commercial banks to set up risk management systems. To overcome these difficulties, the State Bank has issued Circular No.02/2013 /TT-NHNN, Circular No.09/2014/TT-NHNN on classifying assets, the provision and use of risk provisions, Circular No.36/2014/TT-NHNN on safety ratios in credit institutions, Circular 06/2016/TT-NHNN to revise Circular 36 to standard The new safety margin is higher, more in line with Basel II standards.

Fifth, transparency of information is limited. The disclosure and transparency requirements in Pillar 3 of Basel II have broad range of regulation. Studies indicate that this requirement is better suited to developed countries and question whether the market for developing countries is available with such transparency requirements. The lack of transparency in the formulation and reporting process hinders the ability of competent authorities to grasp the actual situation. In Vietnam, the system of standards such as accounting and auditing has not yet been completed, creating a common standard leading to the disclosure of information on the market is not transparent, resulting in difficulties in management.

Sixth, information technology is still under development. The application of technology in banking offers the opportunity for cost cutting, simplification of procedures and paperwork, and the competitiveness of commercial banks. In recent years, the number of information technology staff, IT infrastructure for banking has been constantly improved, encrypted database and better support in ensuring information for the planning and implementation of policies. The core banking system is applied in risk management, accounting, payment operations, etc. at most commercial banks. However, the process of collecting, screening and processing data (KPMG, 2013) has always been the lack of database, accounting for 78% of the difficulties that commercial banks face. The core banking systems at many banks have several systems being invested together such as Flexcube (Oracle) or T24 (Temedos). The fragmentation of data management leads to lack of standardization and fail to meet standard requirements. This also led to an increase in the cost of implementing Basel II.

4. Recommendations and conclusions

Basel II is now widely recognized in developed countries. From the above analysis, the requirement to comply with Basel II regulations must be considered as a mandatory task to ensure that Vietnam's banking system develops sustainably in the context of integration. Therefore, the basic recommendations necessary for commercial banks, the State Bank and VAMC for this issue will be:

- **Improving the aggressiveness of commercial banks in solving the problem of capital adequacy and bad debt.** At present, capital size of commercial banks is still small compared to the scale of banks around the world. As per findings from a previous study, the relationship between capital adequacy, risk and profitability is statistically significant (Dao & Ankenbrand, 2015). In the future, banks will have to make roadmap on raising capital as an urgent need. Banks, therefore, need to develop strategies to increase capital with reasonable use of capital. The capital increase plan should be based on the business plan and market conditions; consider measures to increase capital. International integration allows banks to offer a variety of options such as selling shares to foreign partners, issuing convertible bonds, and so on. Any choice will have to be based on the principle of banks' interest and long-term objectives. Furthermore, to ensure capital adequacy when business conditions do not remain static, banks must simultaneously improve the quality of their assets through actively manage bad debt. The most effective problem solving bad debt is still from the bank itself, and the principle here is that bad debt causes where it must be dealt with. Starting from the practical lessons, commercial banks need to: Resolve at the outset to eliminate bad debt loans as "designated" loans; tighten loans to high risk businesses such as real estate; adhere to the handling of bad debts from the provision of risk in accordance with regulations of SBV and the equity of commercial banks as well as to maintain the debt ratio of overdue debt to less than 3%; strengthen the relationship with borrowers in order to minimize the misuse of capital as well as the ability to provide technical support and market information in order to ensure the efficiency of production and business activities like most foreign banks are applying; stop debt restructure through debt rescheduling or debt reversal for customers to improve the statistics, causing difficulties in managing and even creating moral hazards and losses, errors leading to risky use; create a strict penalty mechanism with credit officers to ensure the interests of the bank; reinforce and enhance professional as well as professional ethics of credit officers.

- **The development of information technology of commercial banks must be seen as a crucial condition.** The information technology platform is an important element in implementing Basel II. Therefore, commercial banks must identify and allocate financial resources for modernizing information technology. In addition to the requirement to learn from experience, commercial banks should intensify exchanges, technical cooperation with international, take advantage of financial support, advanced techniques to achieve high efficiency in the banking operations.

- **Strengthening the leadership role of SBV.** The State Bank should be more active in managing the operation of the banking system in line with international standards instead of administrative order. This is very important because the direction

will determine the specific actions of commercial banks in complying with the operating regulations. To ensure more effective implementation, timely prevent potential risks, systemic risk, the State Bank should also strengthen the inspection and supervision and must strictly deal with the violation of commercial banks. SBV should regularly review and perfect legal documents in line with international standards, limit the inconsistency, overlap and ensure legal effect as well as the compliance of commercial banks.

- **Review the effectiveness of VAMC's operations.** It is necessary to strengthen and improve VAMC's activities in a positive, proactive and effective manner. In addition, bad debts need to be securitized for broad trading, rather than just issue special bonds, no interest and discount loans at the State Bank. With the bad debt securitization, VAMC should carry out the valuation at market price and sell to new investors, especially attract and create conditions for foreign investors to deal with bad debt. To be effective, VAMC should learn from experience in many countries, especially the experience of the US and Japan in dealing with bad debt.

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OPPORTUNITIES AND CHALLENGES TO DEVELOP VIETNAM – UKRAINE TRADE RELATIONS

Dr. Duong Thi Tinh

Email: tinhvinh@gmail.com

*Faculty of Economics, University of Economics and Business Administration –
Thai Nguyen University, Thai Nguyen, Vietnam*

Abstract

Globalization has significantly increased the interdependence of countries around the world in various forms, including Vietnam and Ukraine. Vietnam and Ukraine have had more than 50 years of traditional friendship based on established relationships. In the field of trade, the positive impacts of globalization have been very clear. The more the two countries have been involved in this process, the more opportunities they have had to access cheap development resources. Since the establishment of external relations, the import-export turnover between the two countries has accomplished many significant achievements. However, the trade interests of the two countries are not automatic or evenly distributed. If the competitiveness is limited, one country will not be able to access the other's market, and it even gets risks of being lost on its home ground. Thus, how to develop Vietnam - Ukraine trade relations in the future? It is necessary to evaluate in detail the opportunities and challenges in the bilateral co-operation relationship between the two countries as a basis for solutions to and strategies of trade relation development into a new level.

Key words: *bilateral co-operation, diplomatic relations, trade relations.*

1. Introduction

Vietnam and Ukraine have had more than 50 years of traditional friendship based on relationships from the 1950s in the USSR period. The people of Ukraine, the USSR and Vietnam were shoulder to shoulder in the struggle for national liberation and national construction. During the USSR period, Vietnam provided Ukraine with tropical agricultural products, and Vietnam received technical assistance from the USSR for the effective cultivation of these products. After Ukraine declared its independence and separated from the USSR in August 1991, the two countries soon established diplomatic relations on January 23, 1992 and opened

embassies in their respective capitals. Legal bases were also set up to continue to develop socio-economic relations and trade co-operation [4].

From 2005 to 2009, due to the unstable internal political situation in Ukraine, the bilateral diplomatic relations between the two countries did not really develop and were governed by many difficulties. However, in 2010, when President V. Yanukovich came to power, Ukraine really appreciated importance and wished to enhance the co-operation to develop bilateral trade relations between the two countries. This was made when the President of Ukraine actively proposed to meet President Nguyen Minh Triet on the sidelines of the UN summit in September 2010. The President of the Ukrainian Parliament V. Litvin also paid an official visit to Vietnam in December 2010 and the President of Ukraine visited Vietnam in March 2011. After 2010, the economic and political situation in Ukraine was systematically stabilized. The Ukrainian President carried out reforms in many fields, attaching importance to the development of outward relations with other countries, bringing Ukraine to the further integration into the world. This is a good opportunity for both Vietnam and Ukraine to strengthen the co-operation in economic development in general and trade relation development in particular.

Since the establishment of diplomatic relations between Vietnam and Ukraine on January 23rd, 1992, the import-export turnover between the two countries has accomplished remarkable achievements. Year 2008 was a period of prosperity when the total foreign trade turnover between the two countries increased significantly compared to previous years despite the impact of global economic crisis. However, the two countries have also met many challenges such as modest trade turnover and limited investment. In order to develop stable and sustainable trade relations between the two countries in the future, it is important to grasp opportunities and solve challenges as a basis for development solutions in the future.

2. Method

To analyze the issue, the author used the method of collecting secondary data through documents and data on trade activities of Vietnam and Ukraine published by the General Statistics Office, Ministry of Industry and Trade, General Department of Vietnam Customs. The method of data synthesis by year was employed for the period 2010-2016 by the value of export - import turnover. The statistic and comparative methods were used for statistical data on trade activities, comparison among years to assess the achievements, limitations, opportunities and challenges in trade relations between Vietnam and Ukraine. In addition, the author employed the forecasting method of trade prospects between the two countries in the future.

3. Results

The current status of trade results between Vietnam and Ukraine in the period 2010-2016

From 2010, the relationship between the Ukrainian government and the Vietnamese government increased significantly. Ukraine recognized that the closest road to the EU was through the development of mutually beneficial economic relations with the growth centers of the world, including Vietnam. The Ukrainian government paid much attention to promulgating the contents in its policy of foreign trade support to Vietnam through the Ukrainian-Vietnamese Intergovernmental Committee on Economic, Trade, Scientific and Technical Co-operation. The Commission played a key role in the foreign trade development with Vietnam. This organization has become an important lever for promoting the economic co-operation between the two countries from the early years of the Ukrainian independent state to the present day.

The 11th session of the Ukrainian-Vietnamese Intergovernmental Committee taking place in Hanoi in December 2010 set out specific directions of co-operation to promote mutually beneficial co-operation between the two countries in the coming time. The both sides studied the possibility of negotiating a free trade agreement, and continued to perfect the legal bases for bilateral co-operation. Since the beginning of 2011, the political and diplomatic relations between the two countries have improved significantly. The exchange of delegations at all levels was carried out regularly by the two sides. Specifically, the President of Ukraine visited Vietnam in March 2011; Prime Minister Nguyen Tan Dung visited Ukraine in October 2011; First Secretary of the Ukrainian Communist Party Simonhenko visited Vietnam in October 2011; the delegation of Ministry of Finance paid a working visit to Ukraine in September 2011; Ukrainian Foreign Minister Grishenko paid a visit to Vietnam in March 2012; Ukrainian Prime Minister Mykola Azarov visited and worked in Vietnam in November 2012; Deputy Prime Minister Hoang Trung Hai visited Ukraine in December 2012. In 2014 and 2015, from the view of Ms. Yulia I. Kovali, the First Deputy Minister of Economic Development and Trade of Ukraine, the co-president of the Ukrainian-Vietnamese Intergovernmental Committee, on the current economic situation of this country as well as the prospect of co-operation between the two countries, year 2014 was a difficult year for Ukraine because the world's situation, the conflict in the East and that Crimea merged with Russia had a negative impact on the Ukrainian economy. Year 2015 was regarded to be a stable year of macroeconomy. Ukraine signed a free trade agreement (FTA) with Europe, which was a big boost for not only exports but also for investment and fully reformed

many Ukrainian economic areas. On the co-operation between Ukraine and Vietnam, Ms. Kovaliv said, "In 2015, the trade turnover between Ukraine and Vietnam reached US\$340 million, declined in comparison to year 2014. We believe that the relationship has strategic importance for both countries. The meeting of the Intergovernmental Committee is scheduled this year, and regular contacts with the Vietnamese side, in our opinion, will bring certain results to the trade and investment between the two countries in the future ... "

The exchange of goods between the two countries was systematically growing. The structure of imports and exports between Vietnam and Ukraine were quite stable and mutually complement. This is an advantage in trade relations between the two countries. Vietnam mainly exported such commodities as rice, tea, coffee, natural rubber, seafood, textiles, footwear, oriental medicine, household goods ..., and imported fertilizer, machinery, chemicals, specialized cars, energy equipment from Ukraine. Ukraine granted Vietnam the most favored nation status in the export of seafood to Ukraine.

Table 1. The values of exports/ imports of Vietnam to and from Ukraine

Unit: US\$1000

	2010	2011	2012	2013	2014	2015	The first six months of 2016
Exports	115.700	115.729	194.524	256.526	229.360	226.726	88.582
Imports	140.000	140.016	105.171	145.992	116.389	113.274	68.834
Trade structure	-24.300	- 24.288	89.353	110.534	112.971	340.000	19.748

(Source: Yearbook of General Office of Statistics, Ministry of Industry and Commerce, General Department of Vietnam Customs)

Through this table, it can be seen that the value of exports/imports of Vietnam with Ukraine increased over the years. In 2010, Vietnam's value of exports to Ukraine reached US\$115.700 thousand; the value of imports reached US\$140.000 thousand. In this year, Vietnam had a trade deficit value of US\$24.300 thousand. Vietnam's goods exporting to Ukraine such as rice, rubber, textiles got the largest value. The imports from Ukraine mainly included raw materials, machinery, spare parts, fertilizer, iron and steel, electrical equipment, wheat, etc.

Table 2. Vietnam's goods importing from Ukraine in 2010

No.	Items	Value (usd)
1	Copper	228.664
2	Plastic materials	902.216
3	Electric wires and cables	285.792
4	Wood and Wood products	2.082.528
5	Chemicals	642.169
6	Motor accessories	1.124.990
7	Machinery and spare parts	20.022.725
8	Wheat	55.697.872
9	Computers, electronic products and components	1.026.652
10	Raw steel	6.997.139
11	Steel products	1.812.559
12	Steel of different types	5.866.055
13	Food stuffs and materials for cattle	4.430.254

(Source: General Department of Vietnam Customs)

In 2011, the Ministry of Industry and Trade also conducted consultations with Ukraine on the possibility of negotiating the signing of bilateral FTA. Accordingly, the two countries agreed to establish a common study group on prospects for signing the Vietnam-Ukraine FTA and agreed to begin the first meeting in the first quarter of year 2013. The above measures, together with the enterprises' activeness, from 2011, Vietnam - Ukraine bilateral trade tended to rise again. The total import-export turnover between the two countries in 2011 reached US\$255,745 thousand, up 17.1% compared with year 2010. Of which, Vietnam's export value reached US\$115,729 thousand, the export of Ukraine's export value reached US\$140,016 thousand.

Vietnam and Ukraine further enhanced the bilateral trade co-operation in late 2011. **In 2012**, the bilateral export - import turnover reached US\$299,695 thousand, up 17.2% over the same period in 2011. In which, Vietnam's exports reached US\$194,524 thousand, up 68.1% over the same period; Ukrainian exports reached US\$105,171 thousand, down 25% over the same period. **In 2013**, the bilateral export turnover reached US\$402,518 thousand; Vietnam's exports reached US\$256,526 thousand, much higher than Ukraine's exports with US\$145,992 thousand. **In 2014**, the bilateral export turnover reached US\$ 345,749 thousand; the Vietnam's export value was still higher than the import value from Ukraine. In the years 2012-2015, Vietnam's trade balance with Ukraine regularly surpassed.

Vietnam mainly exported such things to Ukraine: aquatic products, textiles, mobile phones, footwear, vegetables, cashew nuts, pepper, rice, plastic products, rubber and steel of different types. Imports from Ukraine included wheat, chemicals, fertilizer, iron and steel, steel products, machinery - equipment - spare parts, vehicles.

Ukraine was considered as a potential export market for a wide range of Vietnamese goods such as rubber, footwear, aquatic products, textiles, agricultural products. Many enterprises step by step approached this market to increase export turnover. However, the export of goods to Ukraine had many difficulties such as lack of information about Ukrainian goods, partners, mechanisms and export policies. Besides, the legal corridors of the two countries were lack of synchronism; the transaction process and payment were complicated. Ukrainian market had a big demand for many agricultural products from Vietnam. At present, many enterprises are concentrating on collecting cassava, rice, coconut, aquatic products, etc. to export to Ukraine. However, most of the agricultural products exported to Ukraine have been raw materials. To increase the export turnover of agricultural products, Vietnam's enterprises need to limit the export of raw materials and increase the export of processed products.

In 2015, Vietnam - Ukraine trade turnover reached US\$340 million, US\$226,726 thousand of which was Vietnam's export value to Ukraine. This result was significantly lower than that of the years 2013 and 2014. Talking to a reporter of Industry and Trade Magazine, Mr. Ho Trung Thanh affirmed that Vietnam-Ukraine trade turnover decreased sharply due to the volatile political and economic situation in Ukraine. Ukraine's economic growth plummeted; the domestic currency depreciated by half, reducing its purchasing power, leading to a decline in this country's ability to consume Vietnam's goods. *"It is not only Vietnam's goods but also Ukraine's import turnover with goods from major trading partners like the US and EU have decreased or even dropped at a deeper rate than Vietnam,"* stressed Ho Trung Thanh [6].

However, the Vietnam Trade Office in Ukraine said that the opportunities for trade between Vietnam and Ukraine were huge, because Vietnam and Ukraine had a long history of co-operation. The two countries also signed a comprehensive partnership agreement in various fields. The relations between Vietnam and Ukraine developed quite well in the fields of trade, investment and industry, prominent of which were shipbuilding and oil and gas exploitation.

According to Mr. Ho Trung Thanh, the Ukrainian government was very interested in Asian market, namely Southeast Asia, including Vietnam. In 2016 Intergovernmental Committee meeting would be able to be held to promote economic development. Ukrainian enterprises also highly appreciated and considered Vietnamese enterprises as potential and reliable partners, wishing to tighten trade and investment relations, especially in the fields of processing agricultural products and

foodstuffs. "In Ukraine, more than 100 Vietnamese enterprises are operating, with about 10,000 Vietnamese people living and working. This is a great opportunity for Vietnamese exports to Ukraine," said Ho Trung Thanh.

In the first six months of 2016, Vietnam exported 11 items to Ukraine, including phones and components with the highest turnover of US\$49.7 million, accounting for 56% of the total turnover, up 56.43% over the same period. The second ranking item was aquatic products, with US\$ 6.6 million, up 83.94%, followed by pepper, with 828 tonnes, worth US\$ 5.4 million. However, the export speed of this goods to Ukraine for the first six months of this year decreased both in volume and value over the same period of year 2015, down 6.86% and 26.73% respectively. Of the group of products exported to Ukraine, agricultural products accounted for 55%, but this group lacked rubber compared to the same period in 2015. In general, in the first six months of this year, exports to Ukraine were at a positive growth rate, accounting for 63.6%, of which steel exports increased the most, rising by 12.324.5%. in contrast, the group with a negative growth rate accounted for 36.3% and footwear exports decreased by 96.94%. the preliminary statistics of the General Department of Vietnam Customs on the export to Ukraine in the first six months of year 2016 was as in Table 3.

Table 3. Vietnam's exports to Ukraine in the first six months of 2016

Items	The first six months of year 2016		Compared to the same period of year 2015	
	Amount	Value (USD)	Value	%
Total		88,582,452		26.53
Phones and components		49,770,323		56.43
Aquatic products		6,667,749		83.94
Pepper	828	5,435,450	-6.86	-26.73
Footwear		3,442,197		-96.94
Textiles		2,348,410		48.77
Plastic products		1,202,401		12.05
tea	381	583,429	-58.94	-58.53
Cahsew nuts	84	569,317	12.00	33.02
Rice	1110	477,737	-82.23	-81.14
Vegetables		341,644		-21.78
Iron and steel	23	60,495	-92.53	12.33

(Source: General Department of Vietnam Customs)

Mr. Ho Trung Thanh - Vietnam Trade Counselor in Ukraine said, “*Ukraine is the largest exporter of agricultural products to European countries. This is a great opportunity for Vietnamese enterprises to enter the European market through Ukraine. Trade opportunities between Vietnam and Ukraine are very big.*” However, Mr. Thanh noted that Vietnamese enterprises who intended to do business with Ukrainian enterprises should carefully study the socio-economic situation and update Ukrainian government’s new policies. He also stressed the importance of thoroughly exploring partners, to avoid risks. In particular, Ukraine was strongly integrating with European countries, so in order to export to this market, Vietnamese enterprises needed to comply fully with the regulations on standards of goods.

Recently, the Vietnam Trade Office in Ukraine has received many requests from Ukrainian government agencies, organizations and enterprises to provide them with information on Vietnamese markets and products. Accordingly, the Trade Office also successfully promoted Ukrainian enterprises to connect their operations in Vietnam. In the near future, the Vietnam Trade Office in Ukraine will continue to promote activities of providing information on the economic situation and market information in Ukraine to Vietnamese enterprises; regularly organize exhibitions and seminars while introducing the potentials and advantages of Vietnamese products to Ukrainian enterprises in order to boost trade relations between the two countries.

4. Discussion and Conclusion on opportunities and challenges in the trade relations between Vietnam and Ukraine

4.1. Opportunities

- The two countries have great potentials: *Ukraine* is located in the central Eastern Europe, at the intersection of trade routes between Europe and Asia. Among the countries of the former USSR, Ukraine ranks second after Russia in industrial, agricultural, scientific and technical potentials. The Ukrainian economy has very favorable natural conditions, fertile soil, favorable conditions for domestic and international trade, abundant natural resources and high scientific - technical labor. In addition, Ukraine owns many of the world's mineral resources and occupies Europe's leading position in non-mineral ore deposits, with a strong potential for iron ore and mining. Ukraine also spearheads key economic sectors such as metallurgy, machinery, electronics, food processing, chemical technology and petroleum, mining and aviation industry. The economic sectors that have prospects for good cooperation with Vietnam and other countries in the world include: machinery and automobile manufacture, agriculture and processing industry, informatics and high

technology, transportation, communications, aviation industry and aircraft repair - manufacture[4].

Vietnam is located in Southeast Asia, the monsoon tropical region. After the War ended in 1975, from a declining economy, Vietnam has now become one of the most dynamic and promising economies in Southeast Asia. Vietnam is a major concern for the economic co-operation of many countries including Ukraine. Many investors are interested in the investment environment in Vietnam. Vietnam is also a country with abundant resources of natural resources, fertile land resources, mineral and forest resources, tourism resources, vast marine resources of 3,260 km of coastline and a large sea territorial of 226,000 km², many seaports with great volume of imports and exports transportation with other countries and Ukraine. In addition, Vietnam has the advantage of labor force and the nature of industriousness, significantly settling in the trade relations with foreign countries. Vietnam's mineral resources are located between the two major mineral belts of the Pacific and the Mediterranean, with various minerals such as mineral coal, petroleum, uranium, bauxite and apatite.

- The two countries have important economic and political positions, which are favorable conditions for Vietnam and Ukraine to cooperate in trade activities through imports and exports between the two countries. Vietnam is a bridge for Ukrainian goods to enter the ASEAN market; Vice versa, Vietnam's trade will be extended to Europe, especially when Ukraine joins the EU. Ukraine is located in central Eastern Europe, at the intersection of trade routes between Europe and Asia, between Scandinavia and Mediterranean 95, in the temperate zone of 604,000 km² and a population of 46 million people. Of the countries of the former USSR, Ukraine ranks second after Russia in terms of industrial, agricultural, and scientific and technical potentials. The Ukrainian economy has special advantages: favorable geographic location, fertile soil, abundant natural resources and labor resources with high qualification of science and technology. This is an important condition for the Ukrainian economy to grow at a higher rate than the former USSR. The economic sectors promising to cooperate include machinery and automobile manufacture, agriculture and processing industry, informatics and high technology, transportation, communications, aviation industry and manufacture and repair of aircrafts.

Vietnam is a major concern for the economic co-operation of many countries, including Ukraine. Many investors are interested in the investment environment in Vietnam. Vietnam is also a country with abundant natural resources, including: land resources, water resources, marine resources, forest resources, biological resources, mineral resources and tourism resources. Vietnam also has many seaports and in the future they will be upgraded and expand the capacity of loading and unloading of

large ships. Through these ports, Ukrainian goods can be diverted deep into Southeast Asia. Vietnam is located between the two great mineral belts of the world, the Pacific and Mediterranean, with more than 60 different minerals, typical of which include Petroleum, Mineral coal, Uranium, Bauxite, Apatite. In addition, Viet Nam is known as a nation of skilled young workers, increasingly asserting its place in the international labor market. According to the forecast by the Ministry of Labor, Invalids and Social Affairs, Viet Nam's workforce will have increased by nearly 57 million by 2020.

- The two countries has entered the market economy, and they can share experiences with each other. Vietnam entered the market economy in 1986, and now it has integrated deeply into the global economy, joining the common playing field while the potentials are still weak. Ukraine has turned to a fast, western-oriented market economy. Both processes have had advantages and disadvantages. In Vietnam, the achievements in human development, poverty reduction and social stability have been clearly recognized. In spite of their higher development, Ukraine has faced difficulties in terms of social justice and stability, poverty reduction and sustainable development. The two sides can share experiences on international integration and sustainable development with each other [4].

- The markets of both sides are large and potential: Both Ukraine and Vietnam are big emerging markets with large purchasing power and diverse needs. Ukraine, with a population of 45.4 million, and potentials to develop science, technology and economics can create opportunities for foreign enterprises to seek profits. Vietnam, with a double population, is considered as a potential market in the world. With the promotion of liberalization and integration into the world economy, enterprises of the two countries have a lot of opportunities to penetrate and expand their influence in the mutual market. International trade of the both countries has developed in the direction of opening up. Therefore, the two countries are reaching the signing of the Ukraine-Vietnam free trade agreement in the shortest time. In order to accelerate the process of signing a trade agreement between the two countries, the Ministry of Trade and Industry of Ukraine set up the of Ukraine - Vietnam Trade and Industry Association, based in KICOTRANS Building No. 46 Bach Dang Street, Ward 2, Tan Binh District, Ho Chi Minh City to organize activities of trade promotion, trade exchange with organizations and enterprises of the two countries.

- The international and domestic contexts are favorable for Vietnam and Ukraine to develop trade relations. The international co-operation continues to be maintained and developed, opening up many development opportunities for many countries. The European politics has recently facilitated the stability of Ukraine. In Asia-Pacific, the associations and regional links have been expanded, and Vietnam has

had more opportunities for co-operation efforts. The domestic context of Vietnam have advocated to synchronously, comprehensively and effectively deploy external activities on all bilateral and multilateral channels, based on the close external co-operation between the Party, the State, the Parliament and the people; constantly maintain a peaceful and stable and conducive environment for the development, bring important external relations into depth, effectively, so that external relations can have positive contributions into the implementation of the goals of economic and social development. Ukraine's domestic context has also conducted market reforms, constantly opened up its integration into the region and the world, paying more attention to Asian region. It can be seen that the traditional foundations and strengths of the two countries will be best promoted to improve bilateral relations.

Co-operation in labor exchange between the two countries: In contrast to Vietnam, Ukraine has faced a demographic crisis. Ukraine had a population of about 45 million in 2011. In the future, this country will face a shortage of human resources, and foreseen trend of decline of population. Ukraine's population is expected to be only 43.8 million people by 2020. Meanwhile, Vietnam is known for its potential labor market. That fact will promote opportunities for co-operation and exchanges of labor between Vietnam and Ukraine in order to supplement resources between the two countries.

4.2. Challenges

- Fluctuations of the global economy: Unstable fluctuations of the global economy has great impacts on the national economy as well as on developing economies. According to the International Monetary Fund (IMF)'s forecast, the global economic growth for year 2016 was expected to reach only 3.1% (not yet due to instability since the British decided to leave the European Union (Brexit), 3.2% lower than the growth rate of year 2015. The US, the world's largest economy, lost growth momentum in the second quarter as GDP rose only 1.1 percent compared to a 1.6 percent increase in the first quarter of 2016 and the third quarter of 2016 returned to a growth rate of 1.6% compared to 2.6% in 2015. It has also affected Vietnam and Ukraine because the two countries have depended heavily on the world economy.

- The public debt crisis in Europe is a sign that threatens the existence of the euro and a major challenge to regional links and integration. This reveals gaps in the system and internal weaknesses of the economy that should be very "healthy" before. Clearly, the public debt crisis has made the region severely affected, making the EU take into account the trend of restructuring its system. It is expected that in the short coming time, the expansion of the EU or the European common currency with new

members is rare. Ukraine's integration into the EU will be more difficult and thus Ukraine's bridging role helping Vietnam to access to the EU will hardly materialize.

- Influence from China: China, the world's second largest economy, is not out of the economic downturn, but it still maintains a better economic growth than the United States. In the first three quarters of year 2016, China's economic growth reached 6.7% and the economic growth in the fourth quarter was expected to reach 6.7%. As a major economy contributing 23% of global economic growth, China has huge impacts on the world economy. Thus, the decline or growth of the world's second largest economy will surely have direct and powerful impacts on Vietnam and Ukraine's economies.

Forecasting the unpredictability of China's economy, BIDV's Research Center developed an assessment study on its impacts on Vietnam. According to this study, China's declining or increasing economic growth have both direct and indirect, both positive and negative impacts on the Vietnamese and Ukrainian economies.

On the negative side: When the Chinese economy grows slowly, it can first affect Vietnam - China trade in the direction of reducing Vietnam's exports while increasing imports from China. Not to mention, when the aggregate demand is weak, China's production capacity continues to be surplus, so this country has to find ways to protect the domestic market from imports, including those imported from Vietnam. On the negative side, when China's economy grows rapidly, its products are highly competitive and dominate the world's large markets. The rapid development of China will encroach on the Ukrainian market for Vietnamese enterprises and encroach on the Vietnamese market for Ukrainian enterprises. Due to the competitiveness, Vietnamese goods is difficult to compete with Chinese goods in the Ukrainian market. In addition, the overseas Chinese community in Ukraine is also very large, and they have built more channels for the exchange of goods than the overseas Vietnamese in Ukraine.

- The possibility of international integration of Vietnam and Ukraine. Both countries exist in the general context of international integration, while the two countries' potentials are still limited, which will make a large integration pressure. Ukraine may be delayed in the Vietnamese market due to the penetration of many other strong partners in the Vietnamese market and vice versa. Challenges and difficulties arise when the two countries want to develop mutual relationships when the environment is fierce competition. In the common playground, no relationship is in priority. Vietnamese enterprises may fail before Chinese or Russian enterprises on the Ukrainian market. Ukrainian enterprises also find it difficult to attract the

Vietnamese market while the competitiveness of Chinese, South Korean, Japanese, American, etc. products in Vietnam is very high.

Trade relations between Vietnam and Ukraine have achieved certain successes, despite the strong impacts of international and regional factors. In the future, the potentials for trade relations between the two countries will be very high and bilateral promotion is needed to make a positive contribution to the prosperity of each country.

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FEMALE OR MALE MIGRANTS WHO BRING THE ECONOMIC SECURITY TO THE HOUSEHOLD: A CASE OF INTERNATIONAL MIGRANT HOUSEHOLDS IN THE NORTHEAST, THAILAND.

*Dusadee Ayuwat**

dusayu@kku.ac.th

*Department of Sociology and Anthropology, Labour and International Migration Service Center, Faculty of Humanities and Social Sciences, Khon Kaen University, Thailand; *corresponding author*

Piyapong Boonwong²

tong_boon2529@hotmail.com

Department of Sociology and Anthropology, Faculty of Humanities and Social Sciences, Khon Kaen University, Thailand

Abstract

This research focused both on studying the economic security levels of the international migrant households in the Northeast of Thailand, and compare the differences of economic security level by gender of the migrants. The research used the quantitative methodology. Samples of the research were random from the households engaging in international migrants within the recent five-year period in three provinces are Udonthani Province Khon Kaen Province and Chaiyaphum Province – the three Provinces in the region with the highest international migrant of 428 households. The research instrument, the interview schedule, was reliable at 0.87 level. The data were collected from January to March, 2015 and analysed based on descriptive statistics and t-test.

The results indicated that the main occupation of the migrant households is rice farming, with only six or ten Rai of land for making their livings. And, 45.8 percent of the households accrued debts of more than 50,001 baht in order to cover the expenses associated with travel process, and with 87.4 of households had at least one family member travelled abroad for works. Most migrant workers (47.0%) were 31 to 40 year old and 52% have more than three years of experience abroad. The main group of migrants (71.0%) were male. And, 74.3% of the workers had transferred money back to their family at the average of less than 25,000 baht per month. The majority of the migrant worker households with male and female migrant workers, or 78.5% and 76.0 %, respectively, were considered to be at the middle economic security level, while no more than 15% of both were at the highest level. The result from t-test analysis found that there were no significance of economic security between gender of migrant at level 0.05

Key words: *economic security, gender, overseas migrant households, international labour migration*

1. Introduction

The 1st National Economic and Social Development Plan (1961) caused numerous changes in Thai society. Output from development of the country resulted in a rapid growth rate of the economy and domestic industry, especially in urban areas, where were developed rapidly. However, it was found that the development of agriculture sector, which was a primary occupation of the country, has failed since the number of farmers in the country was decreasing (National Statistical Office, 2004). The development of infrastructure also caused more convenience of migration from rural areas to urban areas. Pattern of migration in the early era was done based on the purpose of job seeking in urban areas over the country, and later the migration pattern was split up to be more complex, such as from rural areas to urban areas, from urban areas to rural areas, from urban areas to urban areas, or even an international migration (College of Population Studies, Chulalongkorn University, 2010). According to literature reviews, found that the situation of international migration in Thailand has occurred increasingly. There were 132,442 workers who requested to work overseas in 2012. It was also found that 102,605 out of 132,442 workers were male (77.47%), while 29,837 workers were female (22.53%) (Thailand Overseas Employment Administration, Department of Employment Ministry of Labor, 2013). They preferred working overseas to the domestic works because of the revenues from overseas works often higher than domestic works, and in overall Thai worker could generate the revenues and sent the remittance back to the country averaged 66,161.1 million Baht each year (National Statistical Office, 2012).

Regarding an international migration of Thai workers, impacts of migration are found both positive and negative issues depended on worker's behavior in the workplace, in the destination country, and individual reason. Ayuwat's study (2008) pointed that worker's behavior in the workplace and worker's lifestyle played important roles in the achievement of overseas working among Thai workers. Ayuwat also stated that there were 3 groups of Thai workers who have worked overseas, who consisted of 1) Workers who got quality jobs and well paid, benefits based on country's labor law, and had good behavior in the workplace. These workers would have much chance of success in working overseas. 2) Workers who got quality jobs, but lacked of job continuity. They got benefits based on country's labor law, but behavior in the workplace and personal lifestyle were terrible. They played gambling and had debt, and addicted to alcohols and drugs. These workers would have less chance of success. 3) Workers who got terrible jobs and no benefits based on country's labor law. They also had poor working behavior in the workplace and personal lifestyle. These workers would fail in their overseas workings. These findings reaffirmed that behavior in the workplace and personal lifestyle were related to the achievement of migration among workers, and also affected to worker's household

in the origin country. The findings also pointed that inappropriate living in overseas would affect to the social security of the worker's household in origin country because workers had to leave their families to work overseas for a period of 3-5 years depended on employment contracts.

As an issue above, workers in the Northeast region of Thailand (Isan Region) are dealing with the risks from international migration which might affect to their households in origin country especially on the social security issue. According to previous statements, research questions were raised that how level of the economic security among oversea migrant households in the Northeast region of Thailand. There were some concepts and related research that were employed. The one was **Human Security**: Human security is vital for human's quality of life. Sabina Alkire (1997) defined human security as human's prevention against dangers and threats which correlates to human's expectations in the long run. Human security can be considered in many dimensions, namely, economic security, social security, health security, educational security, security of rights and legitimacy, political security, and legal security. The Office of National Social and Economic Development Board (2006) defined life security of Thai people as having good mental and physical health, knowledge, occupation, sufficient income, warm and secure family, and living in a good environment and good governance. From this definition, 7 indicators of happiness and security of life of Thai people have been established: health and hygiene, knowledge, occupational life, income and income distribution, household life, good environment and administration.

It can be seen that human security concept has its root in individual interests. Research conceptual basis has been extended into the household level by defining the security of migrating laborers' households, based on the above concept, as the impact a household receives from having a member migrating to work abroad, which can be on the living of the members that results in educational security of members. Household educational security refers to the fact that a migrating laborer's family receives impact from support and encouragement by the migrating laborer who sees the importance of family members' education.

The other was Thai Laborers' Overseas Migration and their Gender. Thai laborers' migration is a process in which the family participates in decision making. Stark (1991) pointed out that households basically need the highest level of incomes from all household activities. However, these must lead to the lowest risks. This is the important part behind the decision for sending a member to work abroad. The study on overseas migration of laborers involves interesting points in the 2 items of impact from working in the destination country, i.e., social impact and economic impact. In terms of social impact, research studies have shown that labor migration

changes the ways of living in the domestic community both positively and negatively. The disadvantages lie in the person's being far away and hence a decrease in the community security and strength (Sukanya Em-imtham and Farung Mee-udorn, 2002). On the other hand, migration is one way to earn a living of Isan folk people (Dusadee Ayuwat, 2006). Economically speaking, the Bank of Thailand, the Northeast Office (2001) reported that northeastern laborers returning to Thailand were able to build security for their families. It was also found that a higher number of people who had worked abroad had no debt when compared to the number of those having debts. These people were satisfied with their incomes in the foreign country. Moreover, their neighbors accepted them more and agreed with the idea of working overseas (Sukanya Em-imtham, Wahcaree Sangkarat, Atchara Charoenphon, and Jitrada Karndee, 2002). However, it was found that migration can bring about risks that happen to both male and female laborers from a study on male and female laborers' ways of living in Taiwan that showed risks in their living (Dusadee Ayuwat, Sukanya Em-imtham and Apisak Theerawisit, 2010). Besides, female laborers who migrated to work abroad encountered a problem in gender discrimination, for example, different position assignment, different salaries or wages, different increments (Grisanaputi, W., 1999). Therefore, a question arose regarding gender. In Thailand where males are considered more important, female laborers might be regarded as not going to become as successful and to build as much security to their households as male laborers since the gender condition is the social construct. "Female being" or "male being" is the function of social and cultural instilling. The strict double-gender system is based on the power-oriented relationship structure which is not equivalent in terms of patriarchy (<http://www.teenpath.net/data/event/40002/SexCourse01/content-001.html>, retrieved March 6, 2014).

Thus, this article sought to study the difference in economic security between the households with male overseas migrating laborers and households with female overseas migrating laborers.

2. Methodology

The quantitative research method was applied at the household level as the analytical unit. The research population included 428 households in the Northeast with migrating laborers during the 5-year period from 2010 to 2015 in 31 villages in Udonthani, Chaiyaphum, and Khon Kaen areas. These three provinces have shown the highest numbers of migrating laborers in the northeastern region.

The research instruments included: 1) questions asking for general household information, namely, household size, number of dependable members, major occupation, subsistent land, average annual income, monthly savings, total debts, and

debt from loan made for migration logistics; 2) questions asking for general information of the migrating laborers from the involved households, namely, gender, age, destination country, the number of years with experience working abroad, characteristic of work in the destination country, and the amount of money remitted; 3) Thirteen questions on economic security of households with migrating members. These questions had been pretested and their reliability found from the Cronbach's alpha formula was 0.87, which is an acceptable value. The instrument was then used in the interviewing of the population households.

The dependent variable was the economic security of the households with overseas migrating laborers, measured in the interval scale. The independent variable of interest were the migrating laborers' characteristics and the migrating households' characteristics, which was measured in the interval and ratio scale.

Data collection was performed from January through March, 2015 by interviewing the household heads. The data was then analyzed by means of descriptive statistics to find the percentages, means, standard deviations, lowest and highest parameters. The statistical analysis was performed to test the research hypothesis by t-test independent group.

3. Results

The findings are presented in four topics: 1) major characteristics of the northeastern households with overseas migrating members, 2) major characteristics of the overseas migrating laborers from the Northeast 3) level of the economic security of households with members being overseas migrating laborers and 4) the comparison of the economic security classified by the gender of migrants as follows:

3.1 Major Characteristics of Overseas Migrating Laborer Households

The findings indicated that as high as 43.7 percent of the labor households had 5 members and 75.7 percent had 1-3 dependable members. Most households' main occupation was farming (87.4%), proving that they were basically farmers and were competent in agriculture. Most households (84.6%) possessed only 6-10 rai (0.96-1.6 Ha) of subsistent land and earned only an average of 300,001 – 600,000 baht (8,663-17,326 US\$) per year (Means = 51,103.0; S.D. = 28,737.0). The amount of monthly savings of 43.9 percent of households was from 30,000 – 60,000 baht (866-1,733 US\$). It should be noted that the total debt of 45.8 percent of households was over 125,000 baht (3,609US\$) per household and the loan from migration processes for overseas migrating laborers of 45.8 percent of households was over 50,001 baht. It was found that 87.4 percent of households had one overseas migrating member.

3.2 Major Characteristics of Overseas Migrating Laborers

The findings indicated that most of the overseas migrating laborers (47.0%) were between 31-40 years old, which is considered the able-bodied age. Major destination countries including the Southeast Asian countries (Singapore, Malaysia, Brunei) and East Asian countries (South Korea, and Japan) accounted for as high as 64.0 percent. It was found that 52.8 percent were laborers who had experiences working abroad for over 3 years, with 68.2 percent working in the agricultural sector. It should be noted that 74.3 percent of the laborers remitted an average of less than 25,000 baht (722 US\$) per month back home. The average amount of remittance was 24,187.1 baht monthly (S.D. = 5,569.7), with the maximum being 40,000 baht (1,155 US\$) per month.

3.3. Economic security of Isan migrant households

In terms of the level of the economic security of Isan migrant households, found that 77.8% of households were having a medium level of the economic security, while 14.5% of households were having high levels of the economic security. At last, the mean score is 30.8 (S.D = 1.7) from the highest score was 35.0. The results also found that 78% and 76.0% of households who have male and female migrant were having a medium level of the economic security respectively. (Table 1)

Table 1: Percentage of rural migrant households from the Northeast who working aboard classified by economic security and the gender of migrant

Level of the economic security	Percent		
	Household with Male Migrant	Household with female Migrant	Total of Household with migrant
Low Level)25 - 28 scores (6.6	10.4	7.7
Medium level)29 - 32 scores(78.5	76.0	77.8
High level)33 - 35 scores(14.9	13.6	14.5
Total	100.0 (303)	100.0 (125)	100.0 (428)
Mean	30.8	30.8	30.8
Median	31.0	31.0	31.0
S.D.	1.7	1.7	1.7
Min.	25.0	27.0	25.0
Max	35.0	35.0	35.0

Considering in details of economic security level among the international migrant households, found that 95.8% of the households were able to spend the remittance to supplement a household's extra job such as the grocery shop, to increase the household income. However, only 55.85 of the migrant households that paid a debt for household's agricultural activity, while the percentage of households that paid a debt for working abroad was 95.6%. This percentage has close to the percentage of the household a saving account which represents the migrant's name in order to save the money for him/her, which was 94.9%. According to the details above, the circumstance occurred due to the process of working abroad. Although the migrants were able to apply through the state system which was organized by the Department of Employment, some households might parallel apply through the employment agency in order to make sure the migrant's overseas working. Therefore, the migrant might have to send the money to the employment agency to get rid of the debt (Ayuwat and Chamaratana, 2015). Regarding patterns of economic security level, found that there is a few differences among the male migrant households and the female migrant households. 97.6% of the female migrant households opened the saving account under the migrant's name, and always save the money in those saving accounts. While 93.7% of the male migrant households opened the saving account under the migrant's name, and always save the money in those saving accounts.

It is noted that almost the migrant households (99.8%) have bought household facilities such as telephone, television, washing machine, and etc, and 54.2% of households have bought technological devices for agricultural activity such as pump, or wheel plough, and etc. It might be concluded that the international migrant households obtained the benefits from the overseas working of household members only for improving the living conditions which represented through the household facilities exist and the work convenience in agriculture (Table 2)

3.4 Comparison of the economic security classified by the gender of migrants

The comparison of the average scores of economic security of the northeastern overseas migrating laborer households between male and female members based on the t-test Independent Group showed that the families with male and female overseas migrating laborers did not significantly differ at 0.05 level with the average score being 30.81 (S.D.= 1.67) and 30.84 (S.D.= 1.66), respectively (Table 3). This means notwithstanding if they were males or females, the migrating laborers were able to equally bring economic security to their home since both genders had information related to life overseas that they could rely on to adjust their own behaviours and reduce risks.

Table 2: Percentage of economic security level among the international migrant households in the Northeast of Thailand by item, classified by the gender of the labourers

Levels of economic security among the international migrant households in the Northeast of Thailand	Households with male international migrant (303)				Households with female international migrant (125)				Households with female international migrant (125)			
	Frequency				Frequency				Frequency			
	Always	Frequently	Seldom	Never	Always	Frequently	Seldom	Never	Always	Frequently	Seldom	Never
<i>During your household members are working abroad</i>												
1. Your household has sufficient income for taking a vacation. (*)	62.4	37.6	0.0	0.0	61.6	38.4	0.0	0.0	0.0	0.0	37.9	62.1
2. Your household has spent the remittance to supplement household's extra job such as the grocery shop, to increase the household income.	32.3	64.7	2.6	0.3	33.6	59.2	7.2	0.0	32.7	63.1	4.0	0.2
3. Your household can buy an insurance for savings to the household members.	2.0	18.2	69.3	10.6	1.6	19.2	71.2	8.0	1.9	18.5	69.9	9.8
4. Your household has more savings.	88.1	11.9	0.0	0.0	87.2	12.8	0.0	0.0	87.9	12.1	0.0	0.0
5. Your household has to regulate the expenses to household members.	93.4	6.6	0.0	0.0	92.8	7.2	0.0	0.0	93.2	6.8	0.0	0.0
6. Your household has a saving account under the migrant's name in order to save the money for the migrant.	93.7	6.3	0.0	0.0	97.6	2.4	0.0	0.0	94.9	5.1	0.0	0.0
7. Your household has managed household's finance by controlling household member's expense.	99.7	0.3	0.0	0.0	98.4	1.6	0.0	0.0	99.3	0.7	0.0	0.0

Levels of economic security among the international migrant households in the Northeast of Thailand	Households with male international migrant (303)				Households with female international migrant (125)				Households with female international migrant (125)			
	Frequency				Frequency				Frequency			
	Always	Frequently	Seldom	Never	Always	Frequently	Seldom	Never	Always	Frequently	Seldom	Never
8. Your household has paid a debt for working abroad.	96.0	4.0	0.0	0.0	94.4	5.6	0.0	0.0	95.6	4.4	0.0	0.0
9. Your household has paid a debt for household's agricultural activity.	56.1	43.9	0.0	0.0	55.2	44.8	0.0	0.0	55.8	44.2	0.0	0.0
10. Your household has fixed the residence for better living.	21.1	76.6	2.3	0.0	19.2	79.2	1.6	0.0	20.6	77.3	2.1	0.0
11. Your household has bought more lands for specific purposes such as for living, or farming.	34.7	63.4	1.7	0.3	36.0	62.4	1.6	0.0	35.0	63.1	1.6	0.2
12. Your household has bought technological devices for agricultural activity such as pump, or wheel plough, and etc.	54.5	43.2	2.3	0.0	53.6	46.4	0.0	0.0	54.2	44.2	1.6	0.0
13. Your household has bought household facilities such as telephone, television, washing machine, and etc.	72.6	27.4	0.0	0.0	73.6	26.4	0.0	0.0	99.8	0.2	0.0	0.0

Table 3: The average of economic security of households with overseas migrating laborers classified by the genders of the laborers

Genders of the overseas migrating laborers	Mean	S.D.	Number	t
Male	30.81	1.67	303	-0.158
Female	30.84	1.66	125	

Df= 426.00

Level of Significance= 0.874

4. Discussion and Conclusion

The findings indicate the medium level of economic security among the majority of international migrating laborer households, while few numbers of the international migrating laborer households are having a high level of economic security. Additionally, there is no difference among the male international migrating laborer households and the female international migrating laborer households. The findings suggest that female migrants are able to provide economic security to their households as same as male migrants. Therefore, female migrants should have equally access of migration circumstance as same as male migrants. Another interesting finding indicates only few migrant households have spent the remittance to supplement household's extra job such as the grocery shop, to increase the household income. Therefore, it is necessary to implement a mechanism of supporting household's economic activity in order to secure their sustainable livelihoods .

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PART 2: URBAN AND REGIONAL DEVELOPMENT

DYNAMICS OF SOCIAL NETWORK CONSTRUCTING IN RURAL ISAN COMMUNITY: A CASE STUDY OF RURAL COMMUNITY IN LOWER ISAN REGION, THAILAND¹

Nattapon Meekaew, Ph.D

nattaponmeekaew@gmail.com

Candidate (Sociology)

Assoc. Prof. Dr. Dusadee Ayuwat²

dusayu@yahoo.com

*Department of Sociology and Anthropology, Faculty of Humanities and Social Sciences, Khon Kaen University, Thailand
Labour and International Migration Service Center*

Abstract

This paper investigates the dynamics of constructing a social network for livelihoods in a rural community in the Lower ISAN region of Thailand. The qualitative approach was adopted in the study. Group interviews were used to collect data from 15 key informants who were community leaders and community seniors, and this data was used together with non-participatory observation. The research area was a community named Preeng village, where the community had experienced socio-economic changes over a number of decades. Primary data was analysed using the content analysis method.

The results explored how a social network was formed informally, through exchanges of natural resources and the kinship system, in the settlement period. Decades later, a social network was formed, brought about by migration due to drought in the rural area, as many villagers decided to seek work in the fishing industry. Currently, a social network has been formed within the contract farming system, between rice farmers and the middlemen of the rice mills, in order to advance their own interests.

Keywords: *household livelihoods, livelihoods, rural community, and social network*

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² Corresponding author.

1. Introduction

The economic and social changes in rural ISAN have been a focus topic for development studies in Thailand for decades. The changes have imposed both structural and individual effects upon rural stakeholders who have made their living in a traditional way (Giddens, 2013). Change has impacted upon peoples livelihoods in both urban and rural areas; however, it appears that development plans were limited only to urban areas, where there was a comprehensive industrial sector with little development provided for rural areas (Santasombat, 2003). To serve the industrial sector, it is necessary to induce consumption demand, and this affects upon ISAN rural communities where there are many production resources, for instance, natural resources, and human resources (labour).

The changes in the ISAN region brought about circumstances of poverty in the rural areas, and this affected many people's livelihoods. The previous studies of rural communities emphasized on the structural changes associated with the social system, but changes in rural communities are linked to capitalism. These changes have resulted in more complex relationships within the rural community, for instance, a variety of local production activities, job creation, and income generation to stimulate consumption demands within the community (Kanchanapan, 2011; Rigg, 1997)

The changes caused livelihoods to become insecure, which forced the people in rural areas to seek a survival option for themselves and their households. To escape from the situation, they had to create a livelihood strategy to deal with the harshness of the situation (Pongsiri, 2015; Reung-Aramsri, 2011). Attempts to create alternative ways of living were constantly found in order to make their livelihoods sustainable. People in rural areas had to find ways for their families to break out of poverty (Chambers and Conway, 2005). One strategy for this was to create their social network for sustainable living.

A social network is an interdisciplinary concept that has been widely recognized in studies, it is specifically a social structure associated with individual interactions. A Social network is used to present a model of social interactions between individuals, groups, and organizations through a variety of forms of interaction, such as trade, communications, community activity participation, etc., under the same interests (Ritzer, 2003; Emerson, 1976) However, the interactions between the two actors do not perform as a single role, but the actors can play multiple roles in everyday life practices, in order to maintain smooth interactions. More precisely, the social network is a variety of interaction performance which is based on the mutual exchange of benefits (Freeman, 2004; Emerson, 1976)

Recent social networking studies have been observed in a variety of disciplinary studies, which emphasize on interactions between social networks and rural communities. For instance, Keyes (2010) investigated the changes that occurred in a Northeastern community which relied on the kinship system until the transition into capitalism. The state and the market played a role in the production system of the community, and encouraged farmers to participate in the capitalist market through mono-crop farming, and livestock such as cassava, cattle, buffalo, etc. While Chamaratana et al (2013; 2010) extended the scope of the social network into a more sophisticated form of community production, which was described through the network of labor brokers. This illustrates the link between an individual's interactions as associated with the rural social structure.

This paper presents the dynamics of social network construction in a Lower ISAN rural community. The paper attempts to analyze the relationship between structural conditions and the individual's actions through the construction of a social network for sustaining the livelihoods of the people in the Lower ISAN community during various periods. The lower ISAN rural community was selected as a case study because the selected community has been dealing with complex circumstances regarding the local production mode. Thus, the pattern of social networking, in each period, is performing within different contexts, both economically and socially, and includes cultural contexts that serve as a living guideline for sustaining rural people's livelihoods.

2. Method

The qualitative methodological approach was used to investigate the dynamics of the social network and conditions that affected the social network construction in the rural community. The selected research area was Preeng village, located in the Tha Toom district of Surin province. Preeng village was selected because the village had been dealing with changes in community production for some time and as a result has a variety of social network construction.

Group interviews and non-participatory observation were used as the research instruments in order to collect primary data from the key informants who were 15 community seniors and leaders. The criteria required that the key informants were persons who were born and had lived in the community at least 30 years. Field data collection took place during December 2016 to February 2017. The collected data was categorized and analysed by the content analysis method in order to explore the dynamics of social network construction in the rural community.

3. Results

The study of the dynamics of social network construction in the Lower ISAN rural community aimed to describe the socio-economic and cultural changes associated with the construction of social networks, in a community-scale context, in order to strengthen the livelihoods of the people in the ISAN rural community. Analysis of the social network construction was conducted through a framework of the production system within the community in each historical period as per the following details.

The settlement period

Preeng community is an agricultural community located on the banks of the Mun River. It was originally settled due to the expansion of the Tha Toom Community at a major hub of the Central Mun River Basin. Some villagers from the Tha Toom community decided to leave their community to seek new living areas. They settled in the Preeng area, where there were rich natural resources and it provided a perfect geographic location for farming. The production activities of the community, during the settlement period, were related to agriculture and forestry activities. The natural products that they found in the forest were for household consumption. If there was an oversupply beyond household needs, the villagers would exchange their products with other villagers to get the products they wanted.

The interactions that occurred among the people in Preeng were based on the kinship system and the sharing of ethnical consciousness. Since most of the villagers who emigrated from the Thai-Cambodian border area, the culture embedded in the Preeng community reflected the Khmer culture. However, other cultures also existed in the community, for example, ISAN culture, which brought about cultural integration in the Preeng community. As stated above, the social network was constructed through the kinship system. Villagers normally formed groups for production activities such as hunting, and rice farming. The natural products they obtained would be allocated first to their own households, and then exchanged for other natural products with other households in the case of oversupply. This case reflects an informal social network that was constructed informally with the surrounding community and was tied to natural resource-based conditions.

Regarding the mode of production in the community, the villagers would bring their own products from the forest, such as herbs, mushrooms, or wildlife, to exchange for the other products that they needed for their household. The exchanges generally were conducted between household relatives or neighboring households and the exchanges were conducted on a non-monetary basis. In addition, the villagers

also interacted with the outside community by trading with merchants from Tha Toom district or Surin province. This trade was done formally and on a monetary basis. These exchanges with third parties reflected a diverse production system, which resulted in a broader trading network.

The migration period

Since 1957, Preeng community had been rapidly developing its infrastructure through the National Economic and Social Development Plan, which focuses on rural development, especially in the rural northeastern region. Transportation development allowed Preeng community to have easier access, and made it more convenient to interact with other communities than in the past. As a result, villagers were able to bring their goods to sell at Tha Toom community and other nearby communities, easily.

Convenient transportation allowed people to move freely. Traders from nearby communities arrived in Preeng in order to make trades. Monocrop farming was introduced to the community when the villagers started growing flax. Flax, at that time was a famous product that was in demand by the market. The Chinese merchants in Tha Toom market visited the community to buy flax for making “Mong” (fishing nets). Flax provided a high income for the community. However, the popularity of flax plantation started to decline when the demand for fishing nets, made from flax, went into decline and were replaced by synthetic fishing nets, which had lower price. Therefore, production activity within the community returned to rice farming.

Although the community was located on the banks of the Mun River, the surrounding area was subject to extreme drought. When it rained, the location was often flooded and this caused insecure income for the households. Some villagers decided to migrate in order to work ‘up-country’. Some moved to work in Surin province, was not far away from the Preeng community, while some villagers headed to the southern region of Thailand to find work in mining and fishing, which was demanding a huge number of workers.

Many Preeng community workers decided to work in the fishing industry because of the increased demand of workers in the fisheries sector. Many villagers decided to leave their farm and took up fishing as a career. To enter the fishing industry, the villagers applied through a brokerage system that was used to find fishing workers. Regarding the recruitment process, the fishing companies sent their own staff to the ISAN rural areas in order to recruit workers, with the help of local community leaders. The process of recruiting workers for the fishing industry was successful because it provided high income to workers and their households, which resulted in better living condition. A few years later, the brokerage system had

changed its patterns, the fishing workers became responsible for recruiting other villagers to go fishing. Using people from the same community to persuade neighbors to take up fishing as a career was an effective strategy because the brokers used personal relationships in persuasion.

Regarding the migration pattern, the brokers facilitated travel for the workers by providing a shuttle bus between the village and the company office. The company would then distribute the workers to the fishing ships as required. In addition, some villagers found another way to go fishing and chose to travel alone. However, there was a risk of abduction occurring during their journey as at that time there was a great demand for workers. Some were abducted, and forced to work as slave labor on board.

Staff who had worked for the fishing company for a long time would have a chance of career promotion. Some Preeng workers were promoted to be ship supervisors, responsible for the migrant crew. These promoted workers became a useful source for the company in recruiting other workers from their hometown. The brokers would also be paid a commission for their worker recruitment. Additionally, the fishing company would make an advance payment to the agreed-households upon employment consent. This compensation would be deducted later from the salaries of the fishing workers. At present there are still a large number of ISAN migrants who decide to go fishing because they believe that this career may help them and their households to improve their quality of life.

During this historical period, the social networking of the people in Preeng community has changed from a goods exchanging network into a migration network. The development of transportation and the prevailing drought condition are a precondition of the migration. Social networks were built for the benefits produced from migration through a brokerage system. The broker network does not operate as a single network, there are other networks existing and connecting together in order to support each other.

The Capitalism invasion period

Since 1997, migration has continued to be a key strategy for household livelihoods in Preeng community. Many villagers, especially working-age villagers, choose to work in major cities, especially in the Eastern provinces such as Chonburi and Rayong, where there are many, large industrial estates. Working in an industrial estate is popular among teenage workers since the industrial work provides a satisfactory income for workers and their families.

The mode of production within the community has changed significantly due to the invasion of Capitalism. Capitalism caused a transition in rural society by introducing the contract farming system to the community. Contract farming is a production activity that bonds the villagers with the selling contracts they made with the investors. Contract farming was introduced to Preeng community due to the reputation of Surin jasmine rice. Preeng was recognized as a production site for Surin jasmine rice which was widely regarded as having the finest quality jasmine rice in Thailand. A large number of rice mill entrepreneurs saw opportunities to make a profit from local jasmine rice. They built their mills in the Thung Kula Ronghai area. The demand of the Jasmine rice market has intensified, resulting in increased competition among the mills. Large millers from other regions also began setting up local rice mills. This competition reflects the deep-rooted capitalism of jasmine rice production in the Thung Kula Ronghai community.

To become a major rice producer, each rice mill tried to contract the farmers in the area, and so persuade them to sell their rice only to their rice mills. The circumstances of contract farming did not only occur directly between the mills and the farmers, but also between pairs of farmers and local rice collectors, and the local rice collector and the rice mills. Regarding the relationship between the farmers and the local rice collectors, the local rice collectors tried to make friends with the farmers in their neighborhoods, and convinced these farmers to sell their rice to them. Some rice collectors might offer supporting conditions to farmers, for instance, funds for fertilizers, bidding over the middle price, or providing loans, in order to build up trust with the farmers. Most local rice collectors were often merchants in the community or farmers who were large landowners. The rice collectors bought rice from the farmers, and sold it to the mills. The rice collectors played a major role in rice trading because most farmers were small landowners. The farmers were not likely to sell directly to the rice mills due to high transportation costs.

The relationship between the rice mills and the local rice collectors is interesting. The local rice collectors collected rice from the small-scale farmers and consolidated it in their own warehouses. Later, the rice was sold to the mill that offered the best price. The local rice collectors had huge bargaining power with the rice mills because they had a lot of jasmine rice in their storage, and the rice mills were not able to contact directly with the farmers at that time. However, role of the local rice collectors was to decline due to the arrival of a state policy regarding a rice subsidy scheme. The farmers did not have to sell their rice through the local rice collectors anymore. They could go directly to the rice mills, and received the cash as declared by the state. Additionally, the advances in communication technology had opened up marketing channels to the farmers. The farmers had the optional marketing

channels to sell their rice, for instance, the online channel. This resulted in the local rice collectors no longer playing a significant role in the rice production chain.

The above circumstances reflect the changes of production mode in the community through the invasion of the Capitalism. Additionally, traditional farming has changed into technology-based farming in order to survive capitalist trading. Moreover, the invasion of Capitalism caused some farmers to adjust themselves to become local rice collectors or rice production employees in order to make additional income when they finished farming in their own fields. Capitalism has also provided an opportunity for people in the community to more easily own agricultural machinery, or trade in different ways. This not only occurred in Preeng community, it applies to all communities in the ISAN region. It underscores the changes in rural areas where capitalism infiltrates the area, and affects rural livelihoods, both positively and negatively.

In conclusion, the social network has been constructed through Capitalism. The circumstances of contract farming effect upon stakeholders in the local production system. The stakeholders have had to find their own way to survive in the Capitalist market. One of the ways to survive is to construct production networks. Additionally, another interesting issue has been exposed. Social networking in the early Capitalism era would be characterized as a vertical relationship. That is to say that the relationship was based on the patronage system among production stakeholders. The power of negotiation remained with the patron side. In the post-war period, however, technological advancement and government aid policies have narrowed the gap between capitalism and agricultural production. It has resulted in the pattern of the network relationships being shifted to a horizontal relationship with the farmers having more bargaining power, in various forms, such as cooperative grouping.

4. Discussion and Conclusion

Understanding the changes occurring in the ISAN rural community is essential in order to explore the process or conditions that cause the changes. Regarding the case of Preeng village, socio-economic changes during each period forced rural people to adjust themselves in order to sustain their livelihoods. One strategy that was used to sustain the livelihoods was the social network, constructed on the basis of different social structures.

The social networks constructed in the settlement age were associated with the exchange of resources for living among the people in the nearby community. This was conducted through the kinship system to facilitate the exchange of goods. Relationships with outsiders were performed more formally. Later, migration became

the vital strategy for rural household livelihoods. Social networks were constructed through the labor brokerage system, which was created to get benefit from the development of migration. A social network was constructed in order to send rural workers into the fishing industry. Labor brokers did not operate alone as the operation cooperated with surrounding networks, which provided great benefits to the labor brokers. In the period of Capitalism, the contract farming system was used to create efficient production systems for all stakeholders, investors and the producers at household level. Capitalism, however, offered a great opportunity for everyone to compete for their interests. The result was that production stakeholders had to do everything to get the benefits. With the construction of a network among the investors, the middlemen, and the rice farmers, the result was a complex relationship among stakeholders who managed their power relationships for accessing benefits.

One interesting finding is raised in this paper. Although the conditions that affected the social network construction are different in each period, all patterns of social networks are constructed based on the exchange of interests. All stakeholders in social networking get benefits from it, but the level of benefits they received would be based on the power relation they were dealing with. It is interesting that; social networks in northeastern Thailand are still tied to the patronage system, which is declared as a vertical relationship. This patronage relationship has represented Thai society, including northeastern society, for a long time. However, the advancement of modern society, including local decentralization, has begun to diminish the vertical network, and it is being replaced by a horizontal network. Rural farmers started forming new network relationships through co-operative groups or other production groups in order to negotiate with the investors and the middlemen. These findings are similar to Baker (1999) who explored the pattern of bargaining for natural resources among the capitalists and poor people, and Sattayanurak (2016) who viewed the changes that occurred within rural peasant society. The farmers today are not farmers who take part in all steps of rice production, but they act as "the rice manager" who is responsible for the management of the rice production, and establishing networking relationships with other rice production stakeholders, such as the rice harvesting laborers, chemical spraying laborers, etc. This illustrates the changes in rural areas as they enter into entrepreneurial society.

In conclusion, social networks are constructed differently dependent on different times and conditions. The social networks have changed dynamically since the settlement era that the network was constructed based on the kinship system and then performed as a vertical social relationship, through the view of migration. Finally, the social network changed into a horizontal network where stakeholders in the community have the power to negotiate with other groups of stakeholders.

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THE EVERYDAY LIVES OF ELDERLY MIGRANTS MOVING INTO URBAN AREAS AND URBAN ENVIRONMENT¹

Ittipong Thongsrikate, Ph.D. Candidate

Thongsrikatei@gmail.com

Assoc. Prof. Dr Dusadee Ayuwat²

dusayu@yahoo.com

Faculty of Humanities and Social Sciences, Khon Kaen University, Thailand

Labour and International Migration Service Center

Abstract

This article aims to study the everyday lives of elderly migrants in urban areas and environments. The study employed a qualitative approach by using in-depth interviews with 10 important informants, aged 60 years or more at the time of migration. The data was collected between December 2016 and February 2017. The research area was Sila municipality, Khon Kaen province. The data analysis was by descriptive analysis.

The results found that the elderly migrants were aged 62-80 years old; most of them had migrated from rural areas, both close to Khon Kaen and from further away, to the urban area. They were farmers, traders, and general contractors. They were living with a small number of family members in the urban community. Their everyday life was significantly as the supporter of family members by providing child care, home care, and food preparation and they continued to produce handicrafts that would generate income for themselves and the family.

Keywords: *everyday life, elderly migrants, urban environmental*

1. Introduction

The society of the twenty-first century, around the world, is becoming an elderly society and that aging population is increasing. Population study has a tendency to move from population size into the qualitative dimension of population, being equal to that of an historical study emphasizing on population that exists in an

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² Corresponding author

increasing dimension, such as the potential study of population and existing capital of population in each group etc. (Chimmamee, 2014)

Most studies of migration have been aimed at working age migration and student migration (Kodchasan, 2014). The study of elderly migration has concentrated on foreign elderly who migrated into Thailand (Duangkaew, 2015) more than on elderly migration of Thai people inside the country. However, migration studies have aimed at working age migration more than other groups of population but in the future they may emphasize on all population groups. Particularly as elderly migration has become an increasing tendency. The data from the migration survey of Thai elders found that the elderly have an increasing tendency to migrate. The data from a migration survey of the Thai population in 2007 found that the elderly population (more than 60 years old) migrated inside the country in a total of about 1.8 percent and 6 years later (2013), it was found that the elderly population had increased their migration to about 2.5 percent. In 2015, it was found that there were 934,000 migrants. Most migrants are in the adult age group (25-59 years old) with about 52.0 percent, the youth group (15-27 years old) accounts for about 32.9 percent and children (0-14 years old) about 12.3 percent. The elderly (more 60 years old) account for about 2.8 percent of all migrants (National Statistical Office Thailand, 2015). Data from the Thai elderly population survey in 2014 showed that older people are more likely to move to live in urban areas. But the elderly still also live in rural areas. 40.9 percent of the elderly live in urban areas and 59.1 percent live in rural areas (NSO, 2015) because the urban areas offer the convenience of access to medical services, public health and welfare (Foundation of Thai Gerontology Research and Development institute, 2010). Moreover, the elderly people living in rural areas are healthier than the older urban dwellers because the rural elderly are more often using their bodies. Their latent workout in daily routines or work has social networks, social activities more than older people living in the city, such as visiting the temple, which is an important aspect to help the elderly in the country have good mental and good physical health (Gray et al., 2013). The migration of the elderly is an important change in their life because they have to adjust from their original life of making a living when they find themselves in a new environment and destination (Jampaklay, 2007; Prasartkul, 2002; Kaplan et al., 1977) and future societies will progress the potential migration of older people so that they can do more. Improving the elderly's quality of life is one of the challenges for policymakers and achieving this goal is accessible by designing accurate plans.

2. Research methodology

The study of everyday life of elderly migrants in urban areas and in an urban environment was qualitative research. The research targets were the highest migrant elders in the municipal community, Sila municipality, Khon Kaen province so as to compare with the other communities. The migration statistic data came from the Department of Local Administration Ministry of Interior, for the years 2012 – 2015, in the year 2012 there were 4,801 In-migrants. In the year 2013, there were 4,260 In-migrants. In 2014, there were 4,104 In-migrants and in 2015, there were 4,070 In-migrants. The overall image of this community is that it has a population of about 50,341 persons from 28 villages, 24,894 families and there is an elderly population of about 6,060 persons (Department of Local Administration Ministry of Interior, 2015). The key informants consisted of 10 older people. The researcher collected data by using in-depth interviews and non-participatory observation with guidelines. The data was collected during 3 months between December 2016 and February 2017. The data was selected from the elder's experiences, especially the everyday life of elderly migrants in urban areas were analyzed by applying descriptive analysis. In the process of analysis, the researcher interpreted the everyday life of elderly migrants into urban areas.

3. Results and discussion

Context of the study site: Sila town municipality has been raised up from Sila district council. Sila district administrative organization was formed, according to the Ministry of Interior, by the establishment of the sub-district administration organization in 1996 and by the establishment of the sub-district administration organization, Sila at Moo 8, Ban Nong Hin, Sila Sub-district, Muang district, Khon Kaen province. Later, in 2012, this was raised to be a Town municipality because there were 10,000 or more people in the area, earning enough income to do what is required by law and municipal ordinance. According, to the ministry of interior, up to now, Sila town municipality has a total area of 28 villages. The area is divided into 3 zones, with 24,894 households, a total population of 50,341, and 6,060 elderly people. (Department of Local Administration, Ministry of Interior, 2015)

Sila town municipality is 7 Kilometers from Khon Kaen city. They are able to contact other areas within Mueang district, Samran sub-district municipality, Nong Tum sub-district, Khok Si sub-district, and Dang Yai sub-district. Sila town municipality has an area of 45,312.50 square meters or is a 72.5 square kilometers unit consisting of villages; it is a large-sized Town municipality and has a long history. The sub- district is governed in a municipality system situated in the governing are of Khon Kaen city municipality and Sila town municipality. The

physical geography is a mix of both urban and rural areas. There is a main road used for regional communications and cutting through, there is a secondary road located not far from the community. Transport provides easy access to services in the urban area, whether it's a department store, a market, or medical, and public health services. Public buses, private cars, and taxi services are available all the time. This facilitates access to and consumption for many ages. In terms of occupation, the people in the community are employed as farmers followed by working in the government service and as general contractors, respectively. The elderly receive a pension in the form of a progressive payment. This means that they receive more money along with progression of age, the older they are, the more they receive. The payments are as follows: 600 baht for age between 60 and 69 years old, 700 baht for age between 70 and 79 years old, 800 baht for age between 80 and 89 years old and 1,000 baht for age 90 years and over.

Due to the fact that the community is located close to the urban area and there are large universities located close to the municipality, this has resulted in many types of careers. The economic growth in this community is also quite high; the community has a diversity of groups that continue to be traditional communities, such as markets within communities, religious places, health centers, community halls, etc. and is also a modern community. From the previous information, it is considered that this community had formulated a strong inner self, even though the location is close to the urban area. The transportation system can be accessed easily. This has led to a wide range of people moving into this community, continuously.

Demographics of the population, social and economic information on the elderly: the ten targets of this research comprised of 2 male and 8 female elderly people. The targets aged between 60-69 years old consisted of 2 persons, between 70 and 79 years old (middle aging) were 7 persons and aged 80 years and above (late aging) was 1 person. Nine of the elderly are married and live together with members of the family, 1 person was widowed and still lives with members of their family.

Of the elderly, 80% (8 people) had finished primary school. The majority of the elderly in this study are not unemployed, 7 persons still working for an income, 1 person had a home for rent, three make handicrafts and the last one makes fobbed bags from paper. Incomes ranged between 1,000 – 4,500 baht per month. Almost 50% of the elderly received money from their children, around 1,000-3,000 baht per month. The incomes of the elderly reflect economic status and the competency of some of the older people who are still active workers. For family support, the elderly still receive economic support from family members.

The Pattern of the elderly migrants: Most migrated from rural to urban areas and those who migrated from urban to urban areas consisted of 2 persons. Most migrated from rural areas near Khon Kaen or further away from Khon Kaen to the urban areas. The main reason for migration given by the elderly was for family reasons. In terms of migration, they followed their family members. This is consistent with the style of living of the elderly that found that elderly migrants are mostly migrants living with their children. Most of the children are married and have children of their own living at home. This is consistent with the study of Kodchasan (2014) that migration and adaptation of the elderly in Chiang Mai Municipality found this was the cause or reason for migration. The elderly migrants main factor is family (relative/children/grandchildren) most seniors move into a residential home, minors move to relatives and self-renting houses. This research found that there are three elderly people migrating to their destination with their spouses. The current residence time is about 2-5 years. When considering migration readiness, it was found that most elderly people are not willing to relocate at the early stage when their children try to persuade them to live with them, most will argue so as not to be a burden. Some do not want to move from their home because they feel attached to the local environment, as in the words of an elder woman migrant.

“I don’t want to be here but my children brought me here. My children don’t want me to make papaya salad.”

(Orn, (fictitious name) 62 years old)

In the past, migration was by the younger members of the population because they are a group able to adapt quickly to a new environment. Of these migration groups, the main reason for change concerned the economy (Chamratitthirong et.al., 1995). The elders have chosen to migrate less than the other age groups because they are of a changing age with regression of body and mind affecting their migration. However, it was found that during a ten year period (2007-2016), the migration of elders within Thai society increased continually. The main reason causing an elder’s migration was due to family migration, as a member of the family, the elder would move with them (Damsangsawat, 1999; Rossi, 1995) due to family cohabitation. It was noticeable that elders’ migration may be due to their inability to take care of themselves. This was a genuine reason for migration. The elders’ migration was due to a willingness to migrate with the family and also as a necessity (de Jong et al., 1995; Friederick, 1994).

Everyday life for elders at the migration destination: everyday life refers to the daily lives of older migrants involved in a daily routine, from waking up, to work, home, activities, and hobbies each day. The research results showed that the

elders had a different lifestyle compared to that in their hometown. The migrating elders adjust some of their roles when they migrate. Especially, their role may change from householder or master to become a caretaker for members of the family. The householder's role, as it existed in their hometown may be eliminated because when the elders move, they have reduced responsibility within the family. Now the most responsible family members are the elders' children. After migration, the elders' status becomes that of family member. Their old role in their hometown was as the householder finding income to support the family and eliminating problems, but now they have become a caretaker for the family home and the household members.

“My husband and I live in a house that our children built but the children don't live with us. The children come for a meal every Sunday and I cook as I wait for my children. Sometimes the children bring food for us, but most of the time, I cook on Sunday. Every day, I go to the temple, after I come back I work in the backyard. I plant some vegetables to sell and share with our children and neighbors. My children built the house for me. I go in the house to relax and watch television but I like to sleep in a small house more than big house because it is more comfortable.”

(Mon, (fictitious name) 62 years old)

Elderly migrants live each day, with the support of family members, while taking care of cleaning the house. They help their family members, care for grandchildren, etc.; it is a great way to help keep the family members together. That is the work of the elderly and the work of family members (Function Solidarity) (Bengtson, 2002). The rest of their time will be used for recreation, doing things that they want to do, such as growing vegetables, eating with the family, preparing Kratip rice (lunch box), etc. to increase the income for the family. The activities undertaken by elderly people in their free time are interesting. These activities allow the elderly to use their capital. It is of personal benefit and is relaxing. Some prefer to take physical exercise while others make crafts to earn extra income. Another channel that accounts for economic capital accumulation indicates that the elderly are not dependent on the family (Vachirapheprani, 2010).

While the concept of the sociology of aging explains the elders' social changes from the increasing age perspective, so the elders disengage from participating in social activity (Disengagement Theory) as put forward by Elaine Cumming and William Henry (1961). The disengagement from society by elders follows the body's requirements and is the acceptance that one has decreasing ability and degeneration of health so they disengage from society to decrease stress and to save their energy. While migration happening to some elders follows the concept, another part finds that the elders accept their decreasing roles due to increasing age (Role Loss) but create

other roles to replace them. This corresponds with the Activity Theory of Robert Havighurst (1963) who mentions that elders' take part in activities for contentment and they participate in or make other activities to replace lost roles due to their increasing age. This study found that migration brought about decreased importance for elders in their previous main roles. While migration leads to subordinate roles or supporting roles for the elderly, they still retain some roles in the family. This can be seen in their daily life at their new location. Most are responsible for providing assistance to family members. They do not remain silent nor are they dependent on members who provide care as they retain a healthy body and look after the household members. It is thought that older migrants have a relationship with the social structure that is perceived as older people depending on others or family members only on the basis of traditional knowledge produced for older adults. (Ratanatilaka Na Bhuket, 2103) So there would little work inside the home for elderly migrants, taking care of grandchildren, gardening to raise crops for consumption. These are considered instances occurring in the daily lives of elderly migrants (de Certeau, 1984). The migrating elders work to demonstrate to their household members and society that they don't want to be a burden upon their children.

Destinations in an Urban Environment and everyday life of Elderly Migrants: The concept of urban development for the elderly (aging city) is a concept that addresses a city with a favorable environment for elderly living. Lawton (1975) proposed that the life of the elderly is composed of four factors: Behavioral Ability, Mental happiness, Touchable quality of life, and the empirical environment (physical and social), where a city for the elderly must pay attention to these factors and focus on the elderly living in urban areas that consist of older residents and newly migrated elders. According to interviews, the elderly migrants who moved to live in urban areas were found to have needed to adapt to their new life, especially elderly migrants from rural to urban areas more than urban migrants who moved from urban to urban areas. This was because they were familiar with their environment as it was close to their source environment (Wallker, 2010; Gullette Gregory S., 2014).

However, the elderly migrate to live in the destination city for their daily lives. This is especially due to the facilities available within an urban environment, such as public transportation, access to activity areas, access to healthcare facilities, etc. Regarding welfare benefits for the elderly, the elderly are satisfied and use these benefits to manage so they may not necessarily rely on their family members alone. This is consistent with research by Kim et al. (2003) who studied the elderly aged 45 years and older in Seoul. South Korea's choice of homes intended for retirement after retirement found that the elders would choose a house not far from Seoul, with easy access to the suburbs, have a pleasant environment, and access to fitness facilities and

equipment, including easily accessible medical services. It can be said that the urban environment is the destination where the elderly choose to migrate to live. If the destination has an environment conducive to the elderly it will help older migrant populations utilize the endemic environment as a means of self-reliance.

“I will go to church every Sunday. The church is in the urban area. I ride my bike from the house to the entrance of the village. The bicycle has a lock. Then I ride a minibus. It does not take long to get out on your own, do not let your children go. Do not disturb them.”

(Won, (fictitious name) 72 years old)

Meanwhile, for the elderly migrants coming to the urban areas, older people have means in the urban areas for economic benefits or income. They can make types of craft as well as utensils, baskets, bags made of plastic fiber, mats made from rags, etc. The workplace is the home of the elderly person. The finished goods can be sold in the urban area by using public transport services for the delivery of goods and also for supplying materials to produce goods. The elderly can manage their own income and partly reduce their reliance on family members.

“I went to buy my own. This rope was purchased from Mukdahan to weave baskets. I work at home, in one week; I weave around 30 baskets. I sell my baskets in the city using public transport to travel to the basket distribution.”

(Malee, (fictitious name) 62 years old)

It can be said that the destination city, in addition to allowing older migrants to use the facilities within urban areas also provides opportunities for older migrants to earn money of their own by using their knowledge to produce handicraft products for sale within the city where they now live. Although, there are not many producers it is indicated that urban areas are an important factor that makes migrants desperate to move to a city as with economic growth they can earn more than in rural areas (Lili Ma, 2010; Ulrich, 2012; Jampaklay, 2013) Therefore, with an environment that is conducive to the elderly, this will help promote the elderly to prolong their own life with the least dependence on others. With regard to the physical context, social context and the environment in which the elderly live, supporting the daily lives of the elderly themselves, realizing their potential, will bring benefit for them to live happily at the destination. This is where modern society tries to change the paradigm by looking at the elderly as active aging, which is in line with the concept of the cities of the World Health Organization (WHO, 2007)

4. Conclusion

Migrations occur within any population. Migrants will have to adapt their way of life to their destination. The elderly also migrate. When migrating, whether moving from rural to urban or from urban to urban, elderly people will have to change their lifestyle to fit their new destination. However, migration of the elderly does not focus

on economic migration or career progression as for those of working age as the reason for elderly migration is often to follow family members. The elders' quality of life with their family members, who have prepared to give care where there are facilities for making a living and where there are grandchildren to care for the elders, so the migrating elders are in good health and mind although their destination is different from their hometown. It takes time to adjust some of their roles but they can adjust to the new environment over time because of the social and cultural bases that exist. While their roles decrease because they migrate to become family members, they make new roles although these roles are important and responsible, they are not equal to their original roles that they had in their hometown, their new roles help them make a living, happily and if the family members understand the elders' new roles, it helps them to achieve their potential for great benefit. The urban environment can be a favorable environment for the elderly as it can make them more self-reliant. This will have a positive effect on the elderly, a population that is going to be the main population of the world.

5. Recommendations

The research results point out that the everyday lives of elderly migrants in urban areas are different depending on their experience and self-management in the destination. These were divided into two patterns: rural to urban and urban to urban. The national policy and strategy regarding welfare for the elderly should concern different levels of migration patterns corresponding to the experiences of the elderly migrants moving into the urban environment.

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A SYSTEMATIC APPROACH TO QUANTIFY GREEN HOUSE GAS TARGETS IN PROVINCIAL GREEN GROWTH ACTION PLANS: AN ILLUSTRATION WITH ENERGY PORTFOLIO

MA Nguyen Thi Dieu Trinh

*Department of Science, Education, Natural Resources and Environment, Ministry of Planning and Investment, Hanoi, Vietnam
trinh4mpi@gmail.com*

MA Ha Dang Son

*Centre for Energy and Green Growth Research, Hanoi, Vietnam
cegr@outlook.com.vn*

Assoc. Prof. Dr Le Thu Hoa

*Faculty of Urban & Environmental Economics and Management, National Economics University, Hanoi, Vietnam
lethuhoaneu@gmail.com*

Abstract

Vietnam has adopted a Green Growth Strategy (VGGS) in order to respond to diverse social and environmental changes resulted from rapid industrialization and economic development. The National Green Growth Action Plan (VGGAP) was released and the People Committees (PC) at provinces and cities should be responsible for formulating local green growth action plan (PGGAP) with prioritized projects/ programs to reduce GHG emissions in each province. However, quantifying Green House Gas (GHG) emissions and identifying appropriate mitigation actions should require sufficient competences at the local level and clear guidance from the central government.

This paper presents a systematic approach to develop provincial green growth action plans (PGGAP) as a bottom-up approach for quantifying and fulfilment of Green House Gas (GHG) targets at provincial level. The success stories with eleven approved PGGAPs, and lessons learnt from shortcoming renewable energy portfolios in those PGGAPs would be valuable for policy makers in the next phase of Vietnam Green Growth Strategy implementation.

Keywords: Green growth, provincial action plan, clean energy, GHG targets.

1. Introduction

In 2012, the Government of Vietnam approved the Vietnam Green Growth Strategy (VGGS, by Decision 1393/QD-TTg dated 25/9/2012). The green growth in Vietnam is a growth based on the process of changing growth models, restructuring the economy with an aim to fully exploiting comparative advantages, increasing economic efficiency and competitiveness through research into and application of advanced technologies, developing modern infrastructure systems to efficiently use natural resources, reducing greenhouse gas emission, responding to climate change, contributing to hunger eradication and poverty reduction, and creating driving forces to promote sustainable economic growth. In sum, GG aims to promote the process of restructuring and improving economic institutions towards more efficient use of natural resources, improved competitiveness of the economy.

The VGGS has set three strategic tasks, namely:

- (i) Reduce the intensity of greenhouse gas emissions and promote the use of clean and renewable energy;
- (ii) Greening production; and
- (iii) Greening lifestyle and promoting sustainable consumption.

Notably, green-house gases (GHG) emission reduction targets were specified in Strategy Task 1 for two periods: the first phase between 2011-2020 would reach 8% to 10% reduction in the GHG intensity as compared to the 2010 level; and the second phase up to 2030 would maintain a minimum 1.5% to 2% reduction in GHG intensity.

It was the first time ever Vietnam could address its GHG mitigation targets, and then enforced by the submission of the Intended Nationally Determined Contribution (INDC) report by the Ministry of Natural Resources and Environment (MONRE) to the United Nations Framework Convention on Climate Change (UNFCCC) before the 21st Conference of Parties (COP). In the INDC report, energy was identified as the major source of GHG emissions during the period 2010 - 2030 (Figure 1).

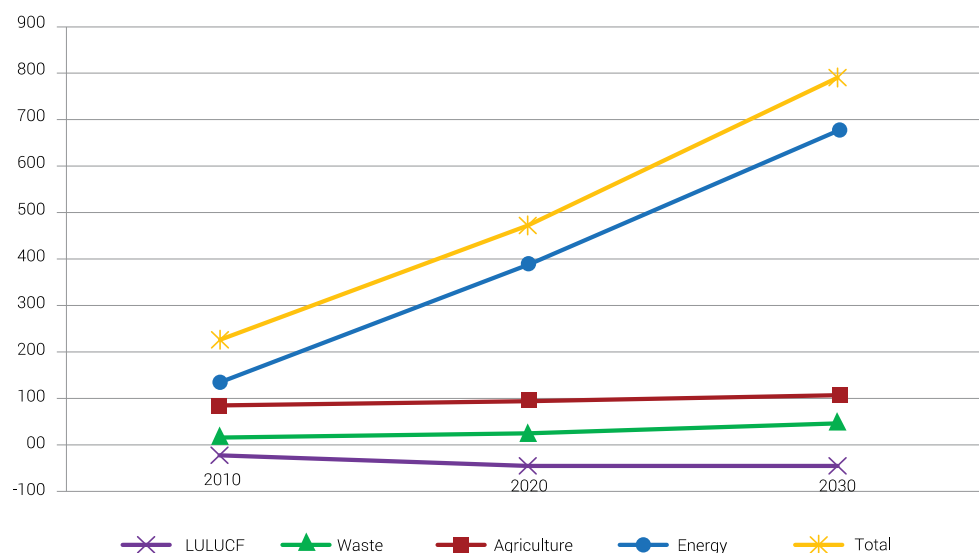


Figure 1: Projections of GHG emissions by sector (MONRE, 2015)

As such, energy-related mitigation activities would have important roles in fulfilling the national commitment on reducing GHG emissions. As indicated in the VGGs, the energy sector should reduce GHG emissions by 10% to 20% compared to the business-as-usual (BAU) case for the period 2011-2020, and 20% to 30% compared to BAU for the period up to 2030.

To provide detailed guidance on the implementation of the VGGa, on 20 March 2014 the National Green Growth Action Plan (VGGAP) was released. The VGGAP presents 66 activities, which are grouped under four themes: (1) Institutional improvement and formulation of green growth action plans at the local level; (2) Reducing GHG emissions intensity and promoting the use of clean and renewable sources of energy; (3) Greening production; and (4) Greening lifestyle and promoting sustainable consumption. Activities 6 and 7 in the VGGAP promulgated that the People Committees at provinces and cities under central government should be responsible for formulating local green growth action plan (PGGAP) with prioritized projects/ programs to reduce GHG emissions in each province. However, quantifying GHG emissions and identifying appropriate mitigation actions should require sufficient competences at the local level and clear guidance from the central government.

2. Method

In principle, a PGGAP shall be developed based on: (i) Legal framework (relevant legislation and guidelines at national level and provincial level); (ii) Scientific base; and (iii) Local context (current situations and potentials for development of the locality). It should cover, but not limited to the following topics:

- Review on the socio-economic development situation of the province;

- Review on the natural resources and environment situation of the province;
- Assessment on achievements and challenges for the development of the province;
- Setting-up the long term and short-term goals and objectives with selection of priorities for green growth development of the province for the period up to 2020 with vision up to 2030.

The main challenges to a local People Committee (PPC) in developing PGGAP, as mentioned above, are to quantify GHG targets and to establish a portfolio of prioritized mitigation options for each period, include but not limit to:

- Quantified targets for reduction of GHG emission intensity and proposed solutions;
- Targets for green production and proposed solutions;
- Targets for green lifestyle and promotion of sustainable consumption and proposed solutions;
- A list of targeted programmers and projects at the local level for the implementation of the PGGAP;
- Roles of different stakeholders for the implementation of the PGGAP.

In a pilot effort in 2014, a systematic approach to develop PGGAP was first proposed by the authors in 2014, then tested and completed in 2016 (Figure 2).

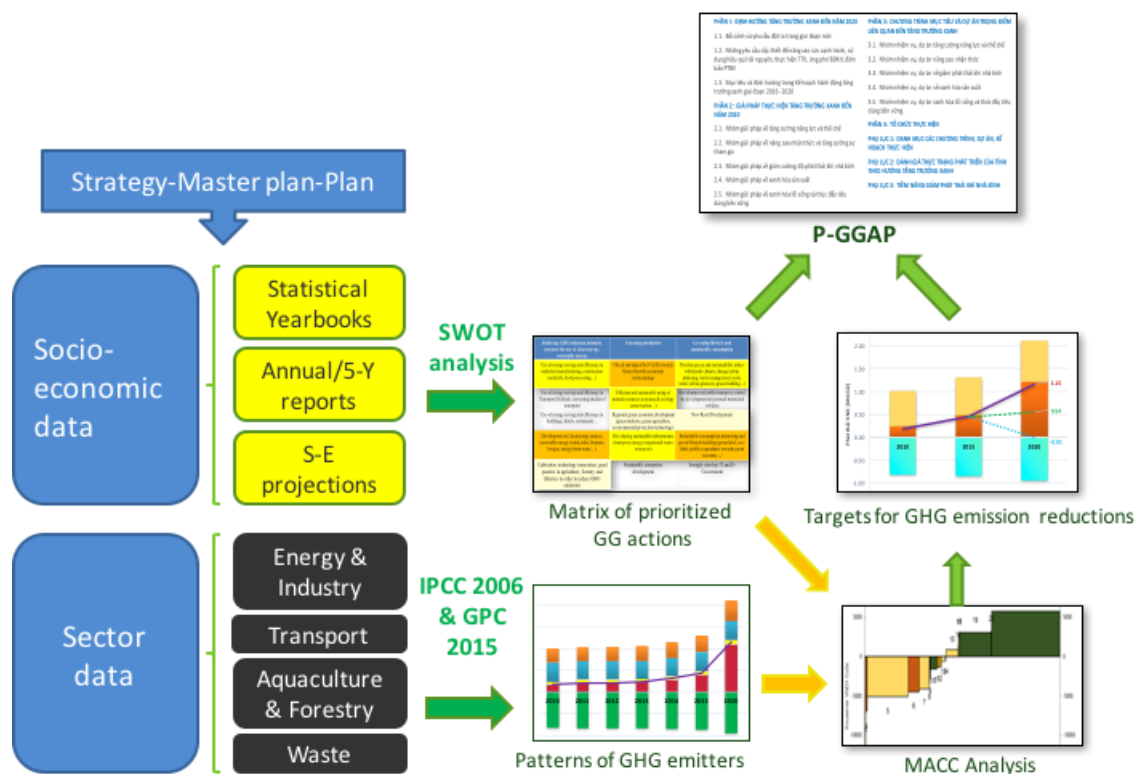


Figure 2: The proposed approach to develop PGGAP

Source: Proposed by Authors

The quantification of GHG emissions shall be conducted using the Mitigation Scenario Analysis (MSA) methodology, as proposed and successfully applied in recent studies funded by the Asian Development Bank (von Hippel et al., 2013) and the World Bank (Audinet et al., 2016). The baseline for GHG emissions is developed following the Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC) Guidelines (GHG Protocols, 2014), which is in turn compliant with the globally accepted IPCC guidelines on GHG inventory (Intergovernmental Panel on Climate Change - IPCC, 2006). The Mitigation Scenario Analysis (MSA) methodology was illustrated as in figure 3.

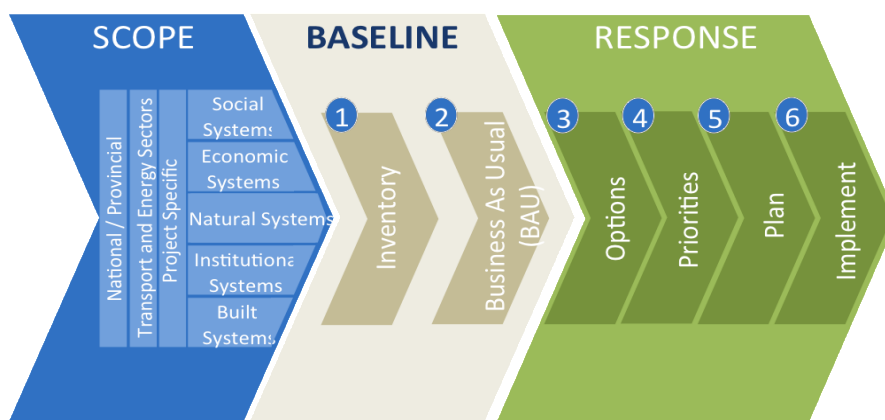


Figure 3: Mitigation Scenario Analysis methodology

Source: IPCC, 2016

For identifying the prioritized actions and to set GHG emission reduction targets for a province or city, the Marginal Abatement Cost Curve (MACC) analyses shall be conducted for key sectors (energy, agriculture, forestry), and expandable to waste and industrial processes if applicable). MACC is a succinct and straightforward tool for presenting carbon emissions abatement options relative to a baseline (typically a business-as-usual pathway). A MAC curve permits an easy to read visualization of various mitigation options or measures organized by a single, understandable metric: economic cost of emissions abatement. MAC curves are useful for framing carbon emissions abatement options, providing a tidy and accessible tool that orders measures on a simple economic metric (\$/tCO₂). This allows measures from various sectors (e.g. transportation and power) to be compared on equivalent terms, serving as an initial lens of where abatement opportunities are potentially the largest and most cost effective. Therefore, MAC curves can be powerful for robust initial framing and identification of options to further evaluate.

In this sense, MAC curves provide a great conversation starter from which deeper discussion and analysis can evolve with consideration of additional important dimensions and suitable policy options for unlocking the potential in each block. (Kevin Tempest, 2016).

The foundation for MACC analyses at the province/ city level would be the studies conducted under project “Strengthening Sustainable Development and Climate Planning” on quantifying GHG emission reductions (MPI/ UNDP, 2013). For the energy sector, a set of various mitigation options has been identified (Table 1).

Result from the study shows that at different abatement costs, the prioritized mitigation actions in energy would be with residential sub-sector (households), through various energy savings and distributed renewable energy measures (e.g. rooftop solar PV, solar water heating).

Table 1: GHG emission reduction potentials of energy sub-sectors to 2020, by abatement cost

Sub-sector	Cost of CO ₂ emission reduction (US\$/ ton CO ₂)							
	<=0		<=5		<=10		<=20	
	No. of option	Amount of emission reduction (MtCO ₂)	No. of option	Amount of emission reduction (MtCO ₂)	No. of option	Amount of emission reduction (MtCO ₂)	No. of option	Amount of emission reduction (MtCO ₂)
Building	3	0.17	3	0.17	3	0.17	3	0.17
Construction material	1	0.49	1	0.49	1	0.49	1	0.49
Cement	<u>3</u>	<u>2.61</u>	<u>3</u>	<u>2.61</u>	<u>3</u>	<u>2.61</u>	<u>3</u>	<u>2.61</u>
Textile	2	0.08	2	0.08	2	0.08	2	0.08
Household	<u>8</u>	<u>14.80</u>	<u>9</u>	<u>16.22</u>	<u>9</u>	<u>16.22</u>	<u>9</u>	<u>16.22</u>
Pulp and paper	2	0.19	2	0.19	2	0.19	2	0.19
Electricity generation	<u>0</u>	<u>0</u>	<u>1</u>	<u>15.49</u>	<u>3</u>	<u>17.96</u>	<u>9</u>	<u>61.23</u>
Iron and steel	2	0.09	3	0.22	3	0.22	3	0.22
Road transport	<u>1</u>	<u>3.45</u>	<u>1</u>	<u>3.45</u>	<u>1</u>	<u>3.45</u>	<u>1</u>	<u>3.45</u>
Total:	22	21.88	25	38.92	27	41.38	33	84.65

Source: MPI/ UNDP, 2013

The runner-up would be power sector, given that clean energy investment (solar, wind, etc.) would have positive abatement costs and require substantial financial mobilization from donors and/or foreign direct investment (FDI). Clean

energy options solely add to more than 72% of total emissions reductions target at an abatement cost of US\$20/ tCO₂. Two subsectors share the third and fourth position in the priority list would be road transport and cement. Other industrial subsectors such as pulp and paper, iron and steel, and textile would be in focus also, but not at the same level of priority as compared to the cement subsector.

3. Results

As of April 2017, there are 26 provinces and cities³ having developed approved their PGGAP (11 GGAP with GHG emission reduction targets), 13 provinces and cities are developing their PGGAP, and 1 PGGAP is under final review for approval.

The approved PGGAPs can be categorized in two categories:

- **Category 1:** Provinces and cities that develop themselves the PGGAP following guidelines from VGGAP without GHG inventory and MACC analyses;
- **Category 2:** Provinces that develop PGGAP with supports from donors such as USAID, BTC, GIZ, etc. In these provinces, usually, there are a GHG inventory and MACC analyses. The province approves the PGGAP with a list of clean energy projects to be implemented in the next period.

Under Category 1, four provinces in the Northwest region have approved PGGAPs, among those two PGGAPs were developed with the supports by the Asian Development Bank (Ha Giang city) and the Bread World organization (Hoa Binh province). According to MPI,⁴ all four PGGAPs focus more on adaptation and green city rather than mitigation (i.e. GHG emission reduction activities). In the same manner, Vinh Yen city (in Vinh Phuc province, within the Red River Delta) approved green-city oriented PGGAP in October 2015 without any specific target on GHG emission reductions.⁵ The PGGAP of Vinh Yen city was developed with more details than the PGGAP of Vinh Phuc province which was approved two months later.⁶

The three cities in the Central of Vietnam, including Hue⁷, Hoi An and Da Nang, are highly exposed to the climate change impacts thus focus on climate resilience issues in their PGGAPs, and mitigation actions were mentioned without

³ Based on the best available information obtained (MPI, internet searching)

⁴ Pham Hoang Mai, presentation at the Green Growth Coordination Meeting for implementing Paris Agreement (2017)

⁵ <http://nnptnt.vinhphuc.gov.vn/vanban/Pages/chi-tiet-van-ban.aspx?ItemID=1145>

⁶ <http://nnptnt.vinhphuc.gov.vn/vanban/Pages/chi-tiet-van-ban.aspx?ItemID=1146>

⁷ <https://www.thuathienhue.gov.vn/Portals/0/Attachs/Nam2015/T10/UBND-91-KH-UBND-2015-PL1.pdf>

quantification. Two highland provinces, Kon Tum and Dak Lak, developed and approved their PGGAPs in 2015 without quantifying GHG targets.

In the South of Vietnam, three provinces (Tay Ninh, Can Tho, Bac Lieu) announced the PGGAPs right after the issuance of VGGs (2012-2013) thus did not include the mitigation actions. All these provinces and cities did not use the proposed PGGAP development approach. However, Bac Lieu province will apply the approach to revise its PGGAP during 2017 under a technical support by German Technical Cooperation Agency (GIZ).

Under Category 2, the United States Agency for International Development (USAID) in collaboration with the United Nations Development Program (UNDP) has taken the leading role with the first two provinces (Quang Ninh, Thanh Hoa) and one city (Da Lat, based on the general PGGAP of Lam Dong province issued in 2014⁸) having approved PGGAPs with explicit GHG emission reduction targets and mitigation activities. Another province, Ha Nam, has its PGGAP submitted to the People's Committee in 2016 but not yet approved. USAID continues its support to VGGs by helping two provinces in the Northwest region (Cao Bang, Bac Kan) to develop PGGAP – the submission to PPCs is expected by mid of 2017.

As a follow-up on Quang Ninh PGGAP, the Japan International Cooperation Agency (JICA) is helping Ha Long city (in Quang Ninh province) to develop a green-city development plan following the approved PGGAP of the province. In the neighborhood city, Hai Phong, under the bilateral collaboration between Vietnam and Japan on Joint Crediting Mechanism (JCM) the city has received support from Japan's Kitakyushu city to develop a GG Promoting Plan with focus on scalable and measurable mitigation projects, for filling up the gap on GHG indicators in the PGGAP announced in July 2014,^{9,10} However, GHG inventory and targets were calculated in a simplified way using GDP ratio and national indicators, and thus could not give a realistic picture on GHG emitters in the city.

From the hometown of the Global Green Growth Institute (GGGI), the Korea International Cooperation Agency (KOICA), within the scope of a technical support to MPI on legal and institutional framework for VGGs, also piloted an approach for PGGAP development in three selected provinces (Bac Ninh, Quang Nam, Ben Tre).

⁸ <http://tapchimoitruong.vn/pages/article.aspx?item=Lâm-Đông-triển-khai-Kế-hoạch--hành-động-quốc-gia-về-Tăng-trưởng-xanh-40194>

⁹ <http://www.haiphong.gov.vn/Portal/Detail.aspx?Organization=ccty&MenuID=8283&ContentID=59117>

¹⁰ www.asiangreencamp.net/pdf/green_vn.pdf

The Belgian Technical Cooperation Agency (BTC) focuses its support on Central/South Central coastal region with six provinces (Ha Tinh, Binh Thuan, Ninh Thuan, Phu Yen, Khanh Hoa, Binh Dinh) covered, all have very high renewable energy potentials. Three provinces have approved the PGGAPs during mid 2016, and the other three provinces expect to release their PGGAPs within the second quarter of 2017.

The GIZ is supporting the development of PGGAP in six Mekong delta provinces (An Giang, Bac Lieu, Soc Trang, Hau Giang, Kien Giang, Ca Mau) where they have put efforts to help these provinces combating climate change, through innovative works on agriculture and water management. Among those, An Giang approved its PGGAP in February 2017.

Figure 5 illustrates the status of PGGAP development to date.

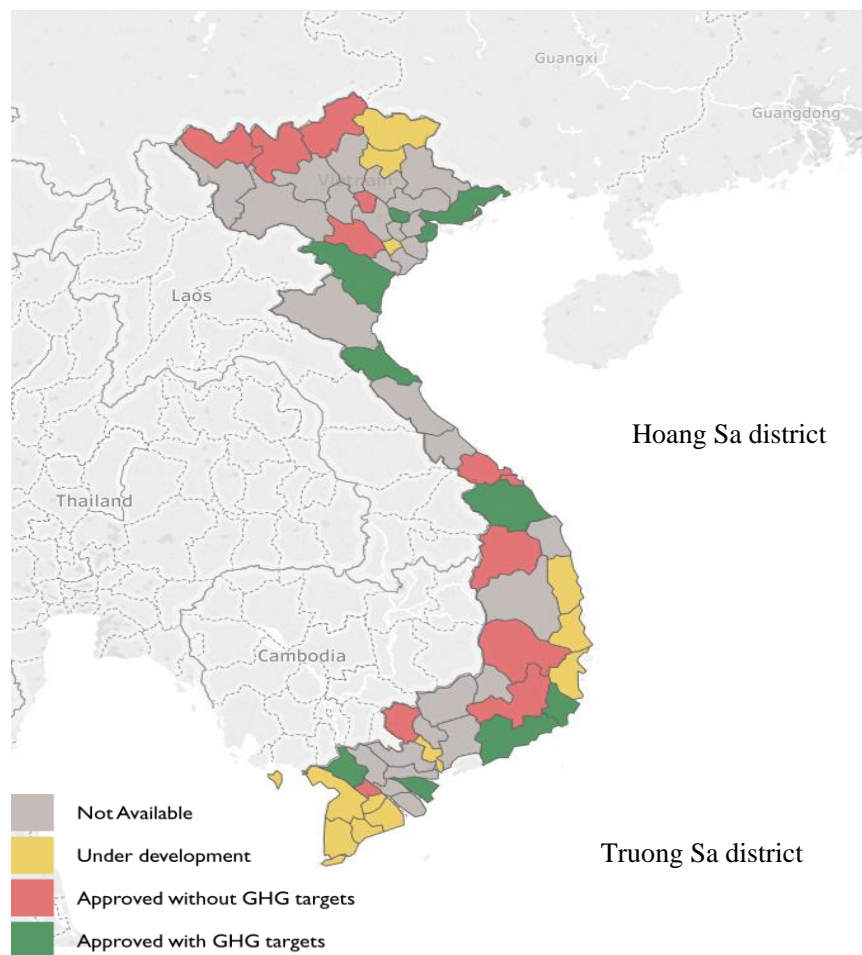


Figure 4: Geographical map of provinces having PGGAP approved or under development (Courtesy: Vietnam Low Emission Energy Program)

4. Discussion and Conclusion

4.1. Overall, in order to develop GGAP at provincial levels, each province needs to do research and develop appropriate plans for reducing greenhouse gas emission, that are consistent with the national and ministerial overall development strategies on the basis of sustainable development, practical context and characteristics of each province.

To unify calculation methods and develop objectives of National green growth action plan and strategy, each province needs to identify GHG emission potentials in relevant sectors and develop its own Green growth action plan. A number of specific tasks are: (i) Quantitative analyze the amount of GHG emissions reduction as compared with local baseline scenario; (ii) Review potential plans of GHG emissions reduction in selected areas in accordance with economic, finance and environment indicators; (iii) Provide recommendations to local leaders regarding future prioritized GHG reduction investment plan, in order to achieve goals outlined in Green growth strategy.

To achieve goals mentioned above, strong support and commitment of local authorities in human resources (e.g. develop green growth task team with the participation of major departments) are needed. Additionally, to suit with Vietnam's planning system, province should allocate appropriate resources and link activities with socio-economic development process, as well as development priorities. Hence, the coordinating role of department of planning and investment is very important. This will assure synergy between the PGGAP (as crucial input data) with the SEDP in terms of planning, budgeting and allocating investment annually and 5-year basis. The preparation of provincial green growth action plan and development options to reduce emission would be useful inputs to consider appropriate development plans, and ensure economic development, green growth goals, energy and resources savings, as well as climate change resilience.

4.2. The proposed approach to develop PGGAP has been proven appropriate in Vietnam's context with more than ten provinces and cities successfully applied. However, there are still gaps and limitations for overcoming in the next phase of VGGS implementation, as discussed below.

a) Consistent time line with VGGS but lack of provincial long-term vision

Most of approved PGGAPs cover the implementation period until 2020. Some provinces and cities did mention the vision up to 2030 or even 2050, however it is hardly to find explicit actions to support such a vision. Only Thanh Hoa province

came up with a clear road map up to 2030 with specific projects and activities to implement the PGGAP.

b) Challenge in quantifying GHG indicators

Less than half of 26 provinces/cities having approved PGGAP can quantify GHG indicators with explicit pipelines of projects and activities, and all those PGGAPs were developed with donor supports. Accounting GHG emissions from key sectors and prioritizing mitigation actions using Marginal Abatement Cost Curve (MACC) analysis require extensive capacity and knowledge that the provinces can hardly afford.

c) Lack of linkages to annual and mid-term budget allocation

Since the promulgation of VGGs in 2012, there are only 30 approved PGGAPs from 63 provinces and central-dependent cities. An assessment made by the Central Institute of Economic Management (CIEM) shows that those provinces having PGGAP approved also have difficulty in allocating budget to implement.¹¹ One of the main reason, as figured out by CIEM, is that the PGGAP was developed based on the official 5-year socio-economic development plan (SEDP) which has been developed years ago and thus not easy to mobilize new financial sources to implement the PGGAP. Those provinces with PGGAP approved during the interim period between SEDP 2011-2015 and SEDP 2016-2020 are in uncertainty of budget allocation as all mid-term budget proposals were fixed by end of 2015. CIEM also pointed out that there is no legal binding for local authorities to implement the PGGAP.

d) Dependency on approved provincial Power Development Plans

As observed in almost every PGGAP with explicit GHG targets, the projections of indirect GHG emissions from electricity consumptions and the proposed options on utility-scale renewable energy (RE) development (wind, solar) reflect the approved power development plan (PDP) of the province in review. As such, the sizes of RE projects would be limited by the vision of the provincial authorities, and high-RE alternative power development options (e.g. coal to RE, carbon sequestration...) may not be discussed nor quantified in an action plan.

To improve the poor RE portfolio in the power development plans, several provinces have developed their own renewable energy development plan (REDP). The Ministry of Industry and Trade (MOIT) has also requested provinces having

¹¹ <http://baodauthau.vn/dau-tu/ho-hung-voi-tang-truong-xanh-28727.html>

good wind resources to develop provincial wind development plans¹² (PWDP). However, the wind capacity included in most of PGGAPs was far lower than the potentials identified in the respective provincial PWDP (Table 2).

Table 2: List of provinces having approved RE/ wind development plans, and relevant wind capacities in the PGGAP

Province	Approved on	Total wind potentials (MW)	Wind potentials by 2020 (MW)	Capacity in PGGAP (MW)
Binh Thuan	August 16, 2012	2,500	700	670
Ninh Thuan	April 23, 2013	1,429	220	220
Ha Tinh	<i>(not willing to develop PWDP)</i>			-
Soc Trang	May 6, 2014	1,470	200	n/a*
Quang Ngai	December 22, 2014	3.3	-	n/a
Ben Tre	March 18, 2015	1,520	150	30
Quang Tri	June 19, 2015	110	110	n/a
Thanh Hoa	July 8, 2015 [◇]	-	-	40
Tra Vinh	December 4, 2015	1,608	270	n/a
Bac Lieu	April 11, 2016	2,507	401.2	n/a*
Ca Mau	April 11, 2016	3,607	350	n/a*

* *ongoing work on PGGAP*

[◇] *no utility-scale wind/ solar potentials mentioned in Thanh Hoa RE development plan*

4.3. As Marginal Abatement Cost Curve (MACC) is applied for identifying targets in and options in VGGs formulation process as well as other sectoral GGAP at the central level, all provinces have been recommended to use MACC as the main tool to calculate and provide recommendations. The MACC analysis results help to understand the scope of lower carbon growth that is driven by following factors:

- Electricity, coal and less use of fossil fuels, efficient use of natural resources, or avoid using outdated devices, the use of traditional production methods and lower fossil fuel inputs and relative electricity prices.
- Limit the use of the modern technology, partly because it is not effective. Small companies in Vietnam continue to be based on outdated technology.

¹² By Official Letter No. 6090/BCT-NLTT dated July 2nd, 2014

Especially in existing power plants, retrofitting will provide significant potential to improve energy efficiency.

- In the last decade, the use and management of forest land has been improved and Vietnam is currently a net carbon sink forests. However, an assessment of the land use plan shows potential to further enhance and improve forest management, through which potential carbon sink can be significantly increased.
- The improvements in the agricultural sector, particularly sustainability and efficiency have shown that win-win situations (e.g. GHG emissions reduction and net benefits increased) have potential development. New technology can further enhance this potential.

Different approaches have been developed through MACC analysis to provide information to policy makers regarding the most feasible solution in developing development scenarios. Overall, through standardized methodology, tools and scientific basis, together with strong commitment and adequate resources, provinces would develop their own GGAP in a reliable way in order to mobilize domestic and international resources, and ensure rapid and sustainable socio-economic development.

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INCREASING INCOME FOR KHMER RICE FARMERS IN VIETNAM: THE CASE OF SOC TRANG PROVINCE

M.Fin. Trinh Anh Khoa

takhoastcc@gmail.com

Faculty of Economics, Soc Trang Community College, Soc Trang, Vietnam

Abstract

This paper presents the research investigating socio – economic factors affecting the income of Khmer rice farmers. The data was collected through a direct survey of 193 Khmer rice farmers in Soc Trang province. The study sites were selected as three districts with a large number of Khmer rice farmers are Chau Thanh district, My Xuyen district and Long Phu district. Factors affecting household income are examined using Multiple Regression Model and the findings confirm the important role of education, investment for rice production, advanced science and technology application and poverty reduction in improving rice farmers' income. The findings suggest that policies for enhancing income of Khmer rice farmers should focus on improving the accessibility to education, formal credit and applying advanced science and technology in production.

Keywords: *Income, Khmer rice farmers, Socio – economic factors, Soc Trang Province*

1. Introduction

Vietnam has always payed attention on poverty reduction, income generation and livelihood improvement for the ethnic minorities. The distribution of a considerable part of social income for poverty reduction aims to improve living standards for rural people. Despite being highly appreciated by the world in improving the quality of life and income for local people, Vietnam has been facing great difficulties and challenges as inequal income of farmer households. In particular, there has been a large gap in incomes between urban and rural populations, especially among ethnic groups. So how to identify determinants of income to increase ethnic minorities income in rural areas is a big demand for researchers and policymakers.

Soc Trang is a province located in the Mekong Delta region with a natural area of 3,223 km², 80.84% of land is used for agricultural production, of which paddy

land accounts for 75.50% of agricultural land. The population in 2014 was 1,307,749 people; Of which ethnic minorities make up 35.76% of the population (19 ethnic minorities, mainly Khmer ethnic group 30.71%, Hoa ethnic minority group 5.02%, remaining 0.03% is the others). The province has 08 districts, 02 towns, 01 city with 109 communes, wards and towns and 775 hamlets and hamlets; Of which there are 85 communes, wards and towns in disadvantaged areas (44 communes with special difficulties, 30 communes, wards and towns in zone II and 11 communes in the horizon). The Khmer people live all over the province, mixed with the Kinh, Hoa; they are distributed in Vinh Chau, Long Phu, Tran De, Chau Thanh and My Xuyen districts. The highest proportion of Hoa residents was found in Vinh Chau Town (44.78%) and Soc Trang City (26.62%) in comparison with the total number of Hoa people in the province. Other ethnic minorities live mainly in urban and rural areas (Soc Trang People's Committee, 2016).

Through the poverty survey at the end of 2015, the whole province has 28,200 poor households (accounting for 8.88% of total households); Of these, 14,807 Khmer households (15.15% of total Khmer households) are poor, nearly poor Khmer households are 17,251 households (accounting for 17.65% of total Khmer households) (Soc Trang People's Committee, 2016). And the Khmer is still relatively slow-growing communities in many aspects of their lives in the relation to the rest of the population, such as the Kinh and Hoa. This is reflected in low income per capita, low level of education and the highest poverty rate in the province. In order to succeed in alleviating poverty and hunger for ethnic minorities living in area, studying the factors affecting household income is a matter of both theoretical and practical significance. Improving household incomes contributes to poverty reduction as well as improving the quality of life of disadvantaged people living in other areas.

This paper: (1) Presents the results of the study on factors affecting the income of Khmer rice farmers in Soc Trang province. (2) Research results will be the basis for local authorities and policy makers to work out solutions to support Khmer rice farmers to improve their incomes and improve their livelihood. (3) Research results also contribute to the existing literature by providing the econometric evidences for factors affecting household income of the Khmer ethnicity for other studies in broader ranges.

2. Literature review

According to many recent researches, the literature on factors affecting the income of ethnic minorities is well established, dating back from the literature on human capital development, capital for production and policies from the government.

Poverty issue

The poverty trap is any self-reinforcing structure that persists in poverty. Based on the theory of poverty trap, the poor usually lack of capital, knowledge, experiences for production so that they can't earn enough money to satisfy basic demand as food, education for their children, health care and so on. These problems in turn will make poors become poorer. To reduce poverty, Sachs (2005) suggested that spending more on aid, and generally believes that things (fertilizers, bed nets, etc.) should be given away and that poor people should be enticed to do what we think is good for them. However, to the best of my knowledge, there was no study investigated the correlation between poverty and income of ethnic minorities. A better understanding of factors affecting household income of the ethnic minorities is of much importance, especially when designing policy interventions to improve their welfare. Hence, in this study, poverty was conducted to fill in the gap in the literature.

Credit

Capital is one of the most important factor enhancing the performances of every manufacturing. In agriculture, the capital was used to invest machinery and equipments, agricultural materials such as: pesticides, fertilizer and so on. These assets play an important role in helping farmers increase productivity. The empirical evidences from recent studies showed that credit affects positively to the income of ethnic minorities. Thien (2007) investigated 400 households in Thai Nguyen province about the main causes of poverty in ethnic minorities in general and ethnic minorities in particular in high mountainous areas of Thai Nguyen province. The results pointed out more than 79 percent had chosen lack of capital as the main cause leading to poverty of ethnic minorities. Long and Mitsuyasu (2011) agreed that credit affects income positively to the Co Tu (an ethnic minority in Vietnam), however, this can also be explained the Kinh do not lack credit to invest into their production since they may have more investment sources from savings and remittances than from loans. These results also get in line with the research outcomes of Hoang (2011), Linh and Ha (2016).

Experiences

One of the characteristics of agricultural production is that production practices are often formed through years of farming experience. Production experience helps farmers actively prevent and respond to cyclical natural disasters. According to Linh and Ha (2016), the second extreme reason leading to poverty of ethnic minority households in Dak Lak is the lack of experiences, knowledge and skills in production. This cause counted to nearly 42 percent of respondents. Thien

(2007) concluded that the average age of household head had a strong correlation with poverty reduction of ethnic minorities because they will have more experiences in production resulting in income increase. In particular, an additional one percent of age due to accumulated experience, households would have an additional 0.267 percent of income.

Education

Education is a very important aspect to evaluate the quality of human resources. It is considered to be of high quality when qualified high professional skills. Educational level of household head is a very interesting factor, helping the household to grasp the new knowledge. It is also a tool to help household access to new knowledge, enhance the ability of thinking creatively. Based on the research results of Gam et al. (2014), when other factors remain unchanged, if the number of schooling years of the household head increases by 1%, the household's income will increase by 0.267%, or the number of schooling years of the household head increases by one year, the household will increase to 795.83 thousand VND. Similarly, the empirical evidence from research of Thien (2007) concluded that the education of the household head was a very important factor affecting poverty alleviation of ethnic minorities. An additional 1 percent of schooling years will contribute to an additional 0.035 percent of the income of ethnic minority people in the study area. Aikaeli (2010), Amare et al. (2013), Tuyen (2015) and Hoang (2011) also confirmed that education of household members is often found to have a positive effect on rural household income.

Land area

Land is one of the precious material resources that help people develop income (Amare et al., 2013; Alfred et al., 2013). The larger area of farmland will help farmers to take advantage of economies of scale, save production costs, increase productivity and income. However, due to some conditions of population, the area of cultivated land is narrowed and some areas are not suitable for agricultural production. Therefore, some policies to increase income and reduce poverty are less focused on the expansion of arable land. According to research by Gam et al. (2014), cultivated land area is the least significant factor affecting household income. When the area of cultivated land increased by 1 percent, the household income increased by 0.054 percent. Lack of cultivated land counted for 36.6 percent of respondents and ranked the sixth position in the list of seven factors influencing livelihoods of ethnic minority households in Dak Lak province (Linh and Ha, 2016).

Investment

Investment in this study is understood as the total costs for rice production. Using agricultural materials suitably to crops brings many benefits such as: increasing productivity and quality of agricultural products; stabilize and increase soil fertility; increase income for environmental protection producers ... Fertilizing is always the most influential technical measure, the most decisive for crop productivity and yield. The new variety also only promotes its potential, giving high yields. From production practices in many countries also showed that: no chemical fertilizer is not high yield. According to Gam et al. (2014), the total costs for production had a positive correlation with income of household, for every 1 percent increase in costs of cultivation, the household income increased by 0.124 percent. Saari et al. (2015) examined the sources of income growth for major ethnic groups in Malaysia has pointed out that the changes in capital inputs was one of the main determinants for the income changes.

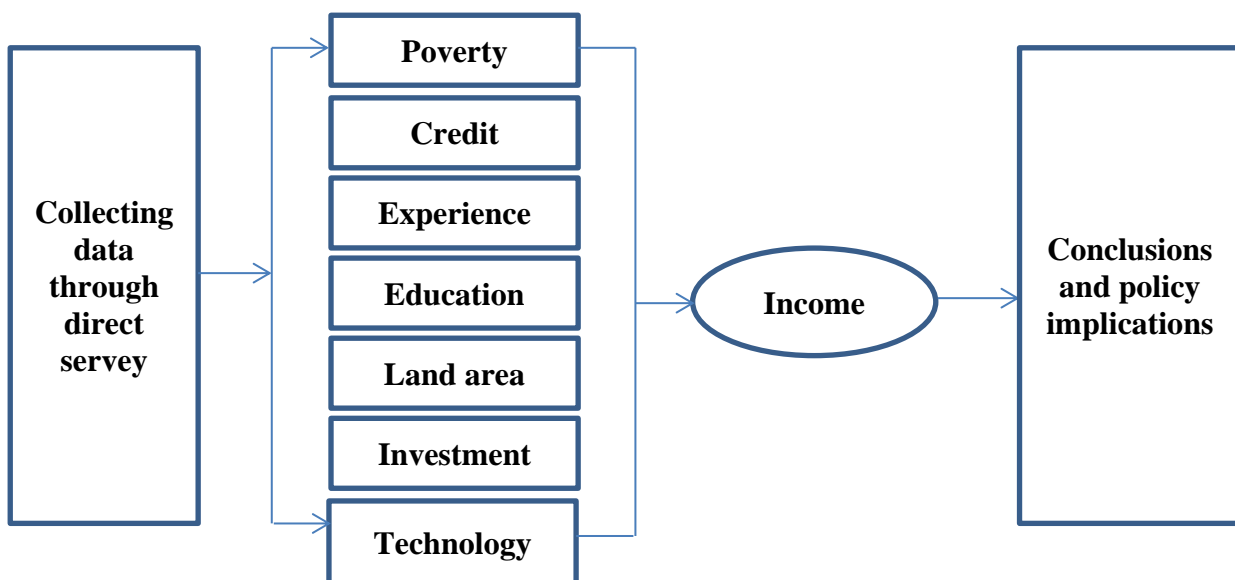


Figure 1. Framework of the study

Applying science and technology

The application of science and technology to rice cultivation not only help farmers increase productivity, quality and profit but also reduce production costs and reduce environmental pollution. Accessing to and implementation of technical advances in agriculture to help farmers solve difficulties, ensure sustainable development (Son and Thanh, 2014). Linh and Ha (2016) argued that lack of experience, lack of knowledge and skills in cultivation is the second extreme factor influencing livelihoods of ethnic minorities. However, very few studies added this factor to the models investigating determinants of poverty or income of ethnic minorities.

3. Data and Research Methodology

The data was collected through a direct survey of 210 Khmer rice farmers in Soc Trang province in 2016. The study sites were selected as three districts with a large number of Khmer rice farmers are Chau Thanh district, My Xuyen district and Long Phu district, with 80, 60 and 70 sample structures. The three districts were selected because of the large number of Khmer ethnic groups living there. At the same time, the Khmer people living in these districts are mainly farmers. Therefore, the selection of these three districts for data collection will ensure the representative of the data. After eliminating some missing data, the remaining observations included in the analysis were 193.

Multiple Regression Model has been used as statistical tool for this study. The model was used to test the impacts of seven factors consisting of poverty, accessibility to formal credit, production experiences and educational level of household head, cultivated land area, investment for rice production, advanced science and technology application to the income of Khmer rice farmers. Multiple Regression Analysis gives informations about how much of the variance of the dependent variable is explained by independent variables.

The model is as follows:

$$\text{LNIncome} = \alpha + \beta_1\text{Poverty} + \beta_2\text{Credit} + \beta_3\text{Ex} + \beta_4\text{Education} + \beta_5\text{Land} + \beta_6\text{LNInvest} + \beta_7\text{Tech} + \varepsilon$$

Where,

LNIncome: logarit of annual household income. The annual income was equal to the total return minus total cost in rice production of each household. In other words, it was the profit of rice production.

Poverty: Poverty status of household. It recieves value 1 if the household was poor and recieves value 0 in contrast. To indentify a household was poor or non- poor, the study used income poverty line based on the standard of Ministry of Labor, Invalids and Social Affairs 2015. According to this standard, a household in rural area is nominated as poor if the average monthly income of each person is equal or less than 700 thousand VND.

Credit: the accessibility to formal credit of household. It recieves value 1 if the household has had at least one loan from a formal credit institution and recieves value 0 in contrast.

Experience: experiences of household head in rice production. It was measured by the number of years household head has cultivated rice.

Education: the educational level of household head. It was measured by the number of years household head has studied.

Land: the land area used for cultivated rice (unit hectare).

LNInvest: logarit of total costs for rice production.

Tech: Applying science and technology. It recieves value 1 if the household has applied at least 1 progressive model into production: IPM, 3 decrease 3 increase, ... and recieves value 0 in contrast.

β_i : The coefficient of the independent variables and the dependent variable

ε : Error terms

Table 1. Measurement and expected sign of explanatory variables

Explanatory variables	Unit	Expected sign
Poverty	Dummy, value 1 or 0	-
Credit	Dummy, value 1 or 0	+
Experience	Year	+
Education	Year	+
Land	Hectare	+
LNInvest	VND	+
Tech	Dummy, value 1 or 0	+

4. Results and Discussion

According to table 2, out of 193 interviewed households, 133 households have accessed to formal credit equal to 68.91% of total sample. Based on the standard of Vietnam Ministry of Labor, Invalids and Social Affairs 2015, there were 61 households classified as poors accouting to 31.61% of the sample. The number of households using science and technology in statistics production is high (40.9%). Statistical results showed that the Khmer rice farmers had access to credit institutions and were enabled to apply science and technology into production. This was the result of government supporting policies for ethnic minorities in production. However, the percentage of Khmer rice farmers who applied science and technology in production was still low.

Table 2. Statistics of dummy explanatory variables

Dummy explanatory variables	Number	Percent
Poor	61	31.61
Applying science & tech	79	40.90
Access to credit	133	68.91

(Sources: calculated from data collected in 2016)

Table 3 below gives the information about four other explanatory variables consist of investment, land area, education and experience of household head.

The mean of experience of the household head was nearly 24 years, the household head had the lowest experience of 2 years and the max value was 50 years. With such age of experience, the household head would have more experience in managing and producing, etc. This was the appropriate age of experience for the farmer in agricultural production.

The average investment cost for production inputs of each household was about VND 97,350 thousand with a standard deviation of VND 13,524 thousand. Households with the highest investment cost up to 187,885 thousand VND and the lowest investment cost was 23,000 thousand VND. The difference in investment costs for inputs due to the difference in cultivated area and partly due to different farming techniques, the cost of production differs between farm households.

In term of cultivated land area, the household had the largest cultivated land area of up to 10.4 hectares while households had the least cultivated land area was 0.1 hectares. On average, each farmer had cultivated land area of about 1.82 hectares. In general, the average of 1.82 hectares of cultivated land area meets the requirement for agricultural production.

The average level of education of borrowers was 4.95 years. The highest educated household head was up to 12 years and the lowest educated household head was illiterate. With the average was second level, the head of household could have good information for producing effectively. In general, the average educational level of households having formal loans was relatively high.

Table 3. Statistics of land area, investment, educational level and experience of household

Explanatory variables	Min	Max	Mean	Std. Deviation
Experience	2	50	23.55	10.12
Investment	23,000.60	187,885.80	97,350.16	13,524.31
Education	0	12	4.95	3.34
Land area	0.10	10.40	1.82	1.49

(Sources: calculated from data collected in 2016)

Table 4 shows the summary of the model. The adjusted R square was 0.507 indicates that 50.7% of the variance in income was significantly explained by predictors. The remaining 49.3 % was explained by other factors that not included in the model. Durbin-Watson value (DW) is 1.96 supporting that there was no autocorrelation between independent variables.

Table 4. The summary of logarit – linear regression model

R	R Square	Adjusted R square	Std. Error of the Estimate	Durbin-Watson
.712	.507	.488	.41579	1.960

(Source: Results extracted from SPSS)

The F test was used to estimate the appropriation of Multiple Regression Model. The significant value of F test is below 0.05 (table 5). Therefore, the coefficient of the independent variables are different from zero. In other words, the model based on thesis is suitable to practical situations.

Table 5. The ANOVA analysis of logarit – linear regression model

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	32.675	7	4.668	27.000	.000
Residual	31.811	184	.173		
Total	64.486	191			

(Source: Results extracted from SPSS)

According to the results presented in table 6, there are five factors that contribute to the changes in income of Khmer rice farmers including poverty, credit, experience, education and inputs investment. Moreover, the values of collinearity statistics (VIF) are less than 2 (table 6), hence, there is no multi-collinearity among independent variables.

Based on analysis in table 6, this study found that there are significant correlations between income and poverty, experience, education as standardized coefficients beta of these factors in the model are too high in a comparison with that of the others.

Table 6. Factors affecting the income of Khmer rice farmers from Multiple Regression Model

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	VIF
	B	Std. Error	Beta			
(Constant)	5.132	1.324		3.876	.000	
Poverty	-.687	.067	-.549	-10.197	.000	1.082
Credit	.124	.068	.098	1.833	.068	1.062
Experience	.017	.003	.295	5.577	.000	1.044
Education	.048	.010	.273	4.874	.000	1.169
Land	.033	.022	.083	1.485	.139	1.174
LNInvest	.428	.124	.191	3.449	.001	1.148
Tech	.040	.086	.026	.469	.639	1.113

(Source: Results extracted from SPSS)

The t-statistic value of poverty is 10.197, five times higher than 2 and the significant value stand at 0.000 on 0.05 level. The standardized coefficients beta of poverty is negative number that mean if the households are poors their income will be 0.549 percent lower than households who are not poors. This result was similar to the expect as mentioned in literature review. The poor farmers are usually lack of money, land, etc. in order to create income supporting their basic demand, in turn, these problems reduce the income of farmers.

The second noticeable results were the positive correlations between experience, education of household head and income with t-statistic values reach 5.577 and 4.874 with the significance stand at 0.000 on 0.05 level. The standardized coefficient betas were 0.295 and 0.273 implying that when the experience and education of household head go up 1 percent, the income of Khmer rice farmers will increase 0.295 and 0.273 respectively. This findings are similar to recent studies (Thien, 2007; Aikaeli, 2010; Hoang, 2011; Amare et al., 2013; Tuyen, 2015; Linh and Ha, 2016) and they contribute a proof of positive relationships between income of farmers and experience and education of household heads.

The fourth factor affecting the income of Khmer rice farmers according to the model was LNInvest with the coefficient value was 0.191 and the significant value stand at 0.001 on 0.05 level. The coefficient value implies that when the invest for rice crops increases 1 percent, the income of Khmer rice farmers will increase 0.191 percent. This result get in line with the research results of Gam et al. (2014) and Saari et al. (2015) on the positive correlation of inputs with the income of rice farmers.

The last factor having positive correlation with income was credit with the standardized coefficient reaching 0.098 and the significant value was 0.068. This result complies that if the households access to formal credit, their income will increase 0.098 percent. As had been concerned above, many researches found that accessing to formal credit has positive effect on income of households (Thien, 2007; Long and Mitsuyasu, 2011; Linh and Ha, 2016).

Lastly, the two factors having positive influences on the income of Khmer rice farmers were land area and applying science and technology in rice production but they were not statistically significant (the level of significant were 0.139 and 0.639 respectively). The research results are consistent with the actual rice production in many localities. Officials at all levels have actively implemented training courses and technical guidelines for producing, implementing large size fields, but many farmers are still hesitant to participate or participate but have not followed the guidelines

seriously. Thus, although having scientific and technical applications but not bring high efficiency and still not use the economic of scale.

As a result of the Multiple Regression Model, the factors influencing the income of Khmer rice farmers in Soc Trang province show that the income of rice farmers is correlated with the official source of credit, investment for inputs, experience and education of the household head. In addition, income is reduced if households are poor. The study also reveals the fact that many rice farmers have not yet applied effective technical advances in production and have not actively involved in large size field models.

In order to increase the income for Khmer rice farmers, it is necessary to focus on poverty reduction, education universalization, suitable investment in agricultural materials, supporting to farmers on capital sources and production techniques.

5. Conclusion and policy implications

From the results from Multiple Regression Model through the sample of 193 Khmer rice farmers in Soc Trang province, the study identified the factors affecting income of Khmer rice farmers including: accessing to formal credit, poverty status, investment in production inputs, education and experience of the household heads. In addition, the study also showed a positive but not statistically significant correlations between cultivated land area, application of science and technology to production to the income of Khmer rice farmers. This indicates that the application of scientific and technical advances to farm production has not been applied or has been applied but not efficiently yet. Based on the research results, the study implies some policy recommendations that will contribute to the income generation of Khmer rice farmers in the future:

Firstly, improve the level of education for households, especially children in households as they are the main sources of labor of the households in the future. Promote the upgrading, expansion and construction of new schools, the strengthening of supplementary education for various age groups, tuition fee exemption and reduction, and increased contributions to the education of Khmer people.

Secondly, credit institutions need to step up the propagation and dissemination of credit operations related to rice farmers and credit products suitable to households to create conditions for them to grasp. It also helps farmers to be more self-reliant in loan application procedures, thereby limiting the amount of unnecessary expenses for households to guide the procedure of loans profile.

Thirdly, local authorities should develop forms of groups or associations in the community through local official associations to support each other in terms

of information, production techniques, ... At the same time, participating in these associations, households will be easier to get loans thanks to the guarantee of the associations.

Fourthly, local governments need to have supportive policies on capital, housing, means of production, health insurance ... for poor households to help them stabilize their lives and have resources to develop their production and increase income.

Finally, the government and local authorities should pay attention to the dissemination of production techniques (through training activities) and investment in development of infrastructure for production, development and replication of production models. To help farmers use inputs effectively in order to increase production efficiency, increase income.

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THE IMPACT OF URBANIZATION ON THE DEVELOPMENT OF THE CENTRAL HIGHLANDS

Phd. Nguyen Thi Thanh Huyen

*Faculty of Urban & Environmental Economics and Management, National
Economics University*

Email: huyen116@yahoo.com

Abstract

The article analyzes the actual status of urbanization, the factors affecting the Central Highlands's urbanization, the impact of urbanization on the development of the Central Highlands. Based on the analysis of advantages and disadvantages of urbanization affecting the socio-economic development in the Central Highlands, the author will show some recommendations for sustainable development in the process of strong urbanization.

Key word: *Urban, Urbanization, the Central Highlands.*

1. Introduction

Stepping into the 21st century, in every country, continents, urban and urban's issues are increasingly being talked about more than ever. This also seems obvious because now over 50% of the world's population lives in big cities and estimated that by 2050 this figure will reach 75% (UNHABITAT Report, 2016). The reason for the explosion of urban population is that the urbanization process is becoming more and more strong in global. The process of urbanization affects all aspects, all factors of the urban from economy-politics, culture, society and environment. Although there are always positive and negative aspects in urbanization, urbanization is an indispensable step in the development of all nations in the world. Because there are no country can become a high-income country and develop without a urbanization process. So how can we separate urbanization from development, It seems that urbanization is the premise, a necessary condition of the development. Urbanization helps completely change the country's face in just a few hundred years, decades, and even years. The most representative and nearest are some countries in Asia such as China, Japan, Korea,... and even in Viet Nam, Hanoi or Ho Chi Minh City, Da Nang has changed dramatically in recent years.

In the context of the country's renew, in the past few years, the Central Highland has been experiencing urbanization with its own nuances, the article "**Urbanization of the Central Highland**" will analyze the current situation of urbanization in this area and make some recommendations.

2. Research Methods

This article uses the qualitative research methods, combined with a descriptive statistical method to answer the research questions:

- (i). How does urbanization affect the socio-economic development of the Central Highland?
- (ii) What factors affect the process of urbanization in the Central Highland?
- (iii) What measures to develop the Central Highland Socio-Economy sustainably in the process of rapid urbanization?

3. Research results

3.1. Actual status of the urbanization process in the Central Highlands

According to the Vietnam Population and Housing Census in 2009, the Central Highland includes 8 cities with a population of 1,284,609 people, The annual growth rate of the urban population in the period 1999-2009 was 1.4%. In 2009, The Central Highland has four urbans and five towns.

Compared to other socio-economic regions in the country, the level of urbanization in the Central Highland is moderate, ranked no. 3/6 of the socio-economic regions of the country, with 27.8% population living in urban. The rate of urbanization in the Central Highland is higher than the other 3 regions: Northern midland and mountainous (16%), North Central and Central Coast (24,1%); The Mekong Delta (22,8%) and just less than the urbanization of the Red River Delta (29,2%) and South-eastern region (57,1%).

Analysis the average urban size in 2009 and urban growth rates from 1999 to 2009, by type of urban areas, showed as following:

Table 1: Average size of urban areas in 2009 and urban growth from 1999 to 2009, the Central Highlands

Type of urban areas	Number of urbans	Average size (people)	Urban growth (%)
Type II	2	26.711	2.7
Type III	2	175.867	2.2
Type IV	4	100.364	-0.9

Source: Hoang Ba Thinh (2011)

The urban development is uneven among 5 provinces in the Central Highlands, Both in urban quantity and urbanization level. The highest is Lam Dong (37,9%), The second is Kon Tum (33,8%), next is Gia Lai (28,6%), Đak Lak (22,5%) and lowest is Dak Nong (14,8%).

3.2. Some factors affecting the process of urbanization in the Central Highlands

The process of urbanization in the Central Highlands is influenced by the following important factors:

- *The process of industrialization*: Industrialization accelerates the process of urbanization, This feature is also shown in the Central Highlands, with 7 industrial zones in 4 provinces (2009);

- *Socio-economic development strategies of this region*: are important factors affecting the process of urbanization in the Central Highlands in recent years;

- *Migration from rural to urban areas*: This is a factor that affects the urbanization process. The Central Highlands is one the regions which has influx of migrants has been increasing in recent years. Vietnam's internal migration characteristics are those with high levels of urbanization that have high levels of immigration.

Table 2: Migration in the Central Highlands over the past five years compared to other regions

	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6
Immigration rate	15,9	35,0	16,0	43,3	135,4	16,3
Emigration rate	33,5	36,7	50,6	32,1	27,7	56,7
Net migration rate	-17,5	-1,7	-34,6	11,2	107,7	-40,6

Source: Hoang Ba Think (2011)

- *Demarcation*: The separation of Dak Lak province into two provinces Dak Lak and Dak Nong (2004) Is also a factor in the difference in urbanization rates between the two provinces.

3.3. The impact of urbanization on the development of the Central Highlands

Urbanization is a rule's process in the movement and development of human society. The formation and development of the urban areas is ultimately determined by the requirements of production development. From agricultural societies, rural areas turn to industrial societies, urbanization is always been two-way interaction of reservation, inheritance, renewal and development. The impact of urbanization on ethnic minorities in the Central Highlands should be considered in all aspects of social life: both historical and present, both customs habits and modern elements of civilization, both positive and negative.

The process of urbanization in our country is associated with the process of industrialization and modernization and consider in some aspects, it is the economic

and technical process to create the technical infrastructure to build a new society-socialist republic; the characteristic of the process is leads to change, restructuring the economy by increasing the proportion, the role of industry and services, while reducing the proportion of agriculture. In accordance with that process is a change in the structure of social labor towards the replacement of manual labor by technical and mechanical labor, step by step automation. From the social aspect, urbanization is the process of dissolving the structure of agriculture and rural areas into modern, industrial urban. Adapting to this process is also a shift in customs, traditions, and other socio-cultural issues of residents in the urbanization process. For the ethnic minorities in the Central Highlands, due to the influence of the policies of colonialism before (both old and new) the infrastructure of capitalist production have made the economic activity of ethnic minorities has many new elements. The plantations have attracted a minority of ethnic minority people into agricultural workers, other becoming seasonal workers. Policies for agriculture of Sai Gon Government have also influenced ethnic minorities and certainly differentiate to traditional economy, creating new forms of cultivation in addition to the traditional forms of cultivation. By 1975, for ethnic minorities in the Central Highlands could be divided into 3 different regions:

Urban areas, including the fringe and along the transport axes are the most affected by colonialism. A part of ethnic intellectuals working in the Sai Gon military and government, some become smallholders, small businesses; Some ethnic minorities places, private ownership has developed; the impact of commodity economy has gradually disrupted self-sufficiency; production tools and modern amenities (in that time) were used.

The countryside is heavily influenced by the war and the lives of people are unstable. Ethnic minorities in this area seems intact traditional economic methods. The upland economy, along with the low level of education, makes life not only improved, but also pushes them back into places as far-flung and backward. Revolutionary base areas, various forms of assistance have been formed in production labor, many new technical elements have been applied to agricultural production, but due to the heavy destruction of the war, the material life of the people has not changed dramatically. People are more open in the spiritual life, the backward customs are gradually limited, the new relations, new culture gradually formed. By 1975, along with overcoming the severe consequences of the war is the formation and development centers of economic - society in many places especially the Central Highlands has contributed to changing the face of the area (include the ethnic minorities) not only in economics but also in culture. First of all, the transport system, compared with the midland and mountainous areas, the ethnic minorities in general

and the Central Highlands in particular have developed more. The Central Highlands has 14 highways with a total length of 2,100 km; 57 provincial highway with a total length of 1,900 km; hundreds of district and inter-communal roads with a total length of about 13,000 km. The transport system has developed, facilitate for trading to the central coastal provinces as well as the provinces and cities of the South, and Laos, Cambodia through the border. The development of traffic, the market system has also emerged, quickly becoming the hub in economy increasingly affecting rural areas, directly affecting ethnic minority villages, attract people to exchange goods and acquire new cultural elements. In addition to the developed transport system, 98% of communes have national grid. 100% of communes and wards have health stations; 100% broadcast coverage, telecommunication network; 83% of the communes have post offices. Urbanization has facilitated economic restructuring in the right direction. The proportion of the agro-forestry economy in social products is generally decreasing. Industry and services in the economic structure have increased. In agriculture, food crops are still valued and shifted towards commodity production, intensive farming, and growing crops. Industrial crops are increasingly growing and occupy a large share of the crop structure. Forestry production from the harvesting area has mainly been shifted to growing, caring and processing. Parallel to the economic restructuring has also created conditions to create new jobs for residents in the region, including ethnic minorities. For the Central Highlands, rubber enterprises under the Vietnam General Rubber Corporation have attracted 3,996 ethnic minority workers, accounting for 33.2%. Dak Lak Rubber Company, directly under the People's Committee of Dak Lak province, attracted 1,111 ethnic minority workers, accounting for 26.53%.

Some coffee enterprises under the People's Committee of Dak Lak province attracted 696 ethnic minority workers, accounting for 16.43%. Some coffee enterprises under the Vietnam Coffee Corporation attracted 2,184 ethnic minority workers, accounting for 19.51%. Some enterprises belonging to the People's Committee of Dak Nong province attract 78 ethnic minority workers, accounting for 4.3%. Legion 15 attracted 738 ethnic minority workers, accounting for 9.98%. Some coffee enterprises under the People's Committee of Gia Lai province attract 1,521 ethnic minority workers, accounting for 21.49%. The economic structure of ethnic minorities has shifted but not yet solidly; Agriculture and forestry still make up a high proportion (50% only for the Central Highlands); the manufacturing sector is not sustainable growth.

Education, culture and health care for the people also achieved significant achievements; The process of urbanization has made the life of the people in general and the ethnic minorities in particular significantly improved. Many new cultural

factors have been absorbed by ethnic, and many backward practices have been gradually eliminated. Step by step restoration of festivals such as elephant racing, gongs and traditional festivals such as buffalo show, new rice festival, remove grave, celebrate health and praying for rain... The cultural institutions of the village such as community cultural centers, cultural houses, models of cultural villages model in the provinces of Gia Lai, Kon Tum, Dak Lak was built. The presence of Kinh's residents in ethnic minority areas has rapidly changed the population structure and greatly affected the lives of ethnic minorities. The socio-cultural exchange between Kinh people and ethnic minorities has made the relationship between the Kinh and ethnic minorities, which are divided by colonialism, are now close to each other, trading between Kinh and ethnic minorities in villages and markets are newly established has made ethnic minorities more familiar with the commodity economy and stimulated production.

After more than 40 years of unification of the country, with many policies of the Party and State, the life of the ethnic minorities has made certain changes; many places have escaped the period of self-sufficiency, lack of food constantly; the proportion of commodity products is increasing, many export items have big market share in the region and in the world; socio-economic infrastructure is built and promoted effectively. However, for ethnic minorities, the disparity in the level of development is still apparent in the following three regions:

Region I: communes, wards and townships close to the city centers, towns, industrial parks, trade centers in this area have made good changes in economic, cultural and social development. On the other hand, the communes in Region I are close to provincial highways and national highways, convenient in exchange and transportation of commodities has contributed to boosting the economy.

Region II: The life of residents is stable but not sustainable, the risk of falling back is high. Although ethnic minority communes in this area have motorized roads leading to the center of the commune, most of these roads are only accessible during the dry season, while the rainy season is difficult to access, even not many routes available; Schools, clinics and other services have not met the requirements of serving the production and life of the people.

Region III: People's lives are still difficult; poor households are high; poor infrastructure, travel difficultly. The electricity, irrigation, clean water, schools, clinics, social services have not met the requirements. The conditions of production and cultivation are many difficulties and shortages; residents's life is based on agriculture and forests; most of production land is based on natural conditions, not actively being irrigated; many places still happen deforestation for agriculture, still

nomadic. With this reality, the process of urbanization as well as the impact of this process on ethnic minority must be on all aspects of social life, from sedentarisation; land issue; poverty reduction; employment; housing, clean water; education, health and many other social issues. These contents are in the overall national policy of our Party and State and was expressed succinctly at Resolution of the 7th conference of the Party Central Committee (Congress IX) about ethnic affairs.

3.4. Urbanization trend in the Central Highlands:

In the Decision No. 936 / QD-TTg of the Prime Minister 18 July 2012 on "Approving the Master Plan for Socio-Economic Development in the Central Highlands to 2020" by the Prime Minister has shown the trend of urban development of the Central Highlands as follows "By 2015, the rate of urbanization in the Central Highlands will be about 31.5% and about 36.2% by 2020". According to the approval decision, Buon Ma Thuot will become "The central city of the Central Highlands, service, industry, science and technology, education and training, health centers and nuclear urban in the Development Triangle of Vietnam - Laos - Cambodia.

In order to manage the urbanization process in the sustainable development of the Central Highlands, the provinces in the Central Highlands need to build the development policy in a scientific way, in accordance with the socio-economic characteristics of each local.

4. Recommendations

First, in economic sector: For areas with favorable conditions, need to rapidly develop agricultural commodity production, to step up the restructuring of rural agricultural economy to industrialization and modernization; forming areas of concentrated production, with the reasonable plant and animal structure.

Attaching agriculture and forestry to the processing industry, linking the production to domestic and foreign markets; increase income per unit of cultivated area. Adopt policies and incentives to encourage all economic sectors to invest in agriculture and forestry.

Adjustment of food production planning in line with requirements of increasing productivity along with improving product quality; should not expand the area of food crops at all costs. Developed according to plan and focus on investment-intensive areas of industrial crops such as coffee, rubber, tea ... form areas of vegetables, flowers, fruits have high economic value associated with the formation of processing facilities.

To develop industry, cottage industry, industry, tourism and services strongly. First of all, is to review the processing industry of rubber, coffee, cashew, cotton, silk,

wood processing, horticulture, food, animal feed, fertilizer, building materials... from that, planning and investing in processing facilities of appropriate scale and modern technology, creating highly competitive products to better serve the demands of agricultural development and export of goods. In addition, considering the establishment of concentrated industrial zones and the development of the energy industry to exploit hydropower potential.

Focus on developing handicraft industries associated with rural areas to cater to the demands of production and life of ethnic minorities. Development of handicrafts in ethnic minority areas will transfer some of the agricultural labor to non-agricultural occupations step by step increase farmland for agriculture, expand production scale, increase employment and income for rural and ethnic minority people living in ethnic minorities.

To quickly develop service activities in all economic sectors, first of all building eco-tourism areas in ethnic minority areas, restoring traditional villages and hamlets for tourists.

Second, investment in socio-economic development in villages; the localities should develop a program of comprehensive manufacturing organizations, including the work of agricultural, forestry must implement to the hamlets; bring technical staff down to the grassroots, hand over work, guide production reorganization for each household; training and transfer of science and technology to develop production. The State invests and supplies animals and plant specials to households.

Encouraging career development, creating more jobs; policies for poor families to access health services, education, culture and information. Have policies to encourage business establishments receiving minority labor combined with methods to do business: land, labor of the people + investment capital, technology of the business; building programs for technology transfer, marketing of products for residents in disadvantaged areas.

Integrate socio-economic development programs in each area with poverty reduction. Focus on solving housing problems, productive land for poor families; create breakthrough delete temporary, dilapidated houses for poor households with appropriate forms and measures in the spirit of diversifying the mobilization of resources and promoting the strength of the whole community.

Third, building infrastructure, first of all to invest in the development of irrigation systems to meet the requirements of wet rice production, perennial industrial trees and fruit trees; supply water for residents - especially highlands, water scarcity, solving this problem by wells, droplets, and water flowing itself.

Having adequate support policies together with the localities mobilizing people to develop the rural transport system; upgrading the existing roads, striving to 2010 all communes have roads for motorized vehicles to the commune center, over 70% of villages have access roads in both seasons.

Focus on developing electrical systems, supply power effectively for production and daily life; for remoting areas without electricity or the national grid, the State need support to develop power sources.

Infrastructure construction for ethnic minorities is also aimed at overcoming major disparities in the level of socio-economic development between regions. Therefore, adequate resources should be devoted to addressing the urgent needs of infrastructure, particularly in remote and isolated areas, revolutionary bases, sedentary farming places.

Fourth, about socio-cultural: The whole of this policy is to build a rural cultural life, protect the fine traditions. Promoting the movement to build cultural villages; build the village of the neighbor, support each other in the community; Develop health, education, build human qualities, lifestyles, healthy morals; strengthen the effective operation of the mass media, broadcasting in ethnic minority languages; continue implementation of free supply of newspaper publications serving regional and remote. Expanding the system of boarding schools for ethnic minorities, creating the most favorable conditions for ethnic minority children to study.

In the decision approving the master plan for socio-economic development in the Central Highlands until 2020, the Prime Minister has confirmed development perspective: “Socio-economic development in the Central Highlands must be in line with the distribution and development level of production forces, ensuring balanced development and harmony among regions associated with progress and social justice in each step of development, create more jobs for workers, poverty reduction, people's health care and social stability; interested in the human resources development; preserve and promote the traditional cultural values”, Central Highlands is always placed in the attention and priority development especially in the country, coupled with socio-economic development is the process of urbanization and modernization of the highlands. That brings a lot of great opportunity for this area in the present and in the future. However, there will also be strong changes in traditional social values in many different directions. The preservation and promotion of traditional cultural values of ethnic groups in the Central Highlands under the influence of urbanization must ensure harmony between traditional, modern, ethnic and international factors. and avoid thinking the ethnic culture as a closed entity, no change; simultaneously, develop forms of conservation, focused forms of conservation with the community,

with the people's livelihood... That is also the most important thing in preserving the traditional cultural values of Tay Nguyen's ethnic in the context of sustainable development today./

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TECHNICAL EFFICIENCY OF RICE FARMING HOUSEHOLDS IN TRA VINH PROVINCE: A STOCHASTIC PRODUCTION FRONTIER APPROACH

Nguyen Huu Dang

nhdang@ctu.edu.vn

Faculty of Economics, Can Tho University

Abstract

The aim of this study is to determine technical efficiency and determinants of technical efficiency of rice farming households in Tra Vinh province, Vietnam, based on a cross-sectional data collected in 2015 from 196 rice farming households in Tra Vinh province. The Cobb-Douglas stochastic frontier production function, incorporating inefficiency effects was employed to analyze the data, using the Frontier 4.1. The results revealed that the technical efficiency was ranged 57.21-99.27%, average of 85.18%. Significant factors that were found to positively affect rice output per farm were area, potash fertilizer, and rice variety while seed, phosphate fertilizer and pesticide were negatively related to the rice output per farm. Significant determinants of technical efficiency were positively related to technical efficiency were education attainment, farm size, training, credit access, membership of farmers' association.

Key Words: *Technical efficiency, rice farms, determinants of technical efficiency, stochastic frontier production function.*

1. Introduction

Technical efficiency, which reflects the ability of the firm to obtain maximum output from a given set of inputs (Farrell, 1957). It indicates that technical efficiency is the ratio of the actual output over the maximum output. There are numerous studies on the determinants of technical efficiency. Kalirajan and Flinn (1983) found that the practice of transplanting rice seedlings, incidence of fertilization, years of farming, and number of extension contacts had significant influence on the variation of the estimated rice farm technical efficiencies in the Philippines. In addition, Najma and Atul (1996) found that technical efficiency was higher for the high-yielding variety (HYV) Boro crop as compared to the traditional Aman crop of rice farmers in Bangladesh. Adam *et al.* (2003) revealed that farm-level specialization was found to have a positive effect on efficiency while land fragmentation was detrimental to efficiency in Chinese grain sector.

In addition, Tijani (2006) the levels of technical efficiency largely ranged from 29.4 percent to 98.2 percent in the rice farming in Osun State, Nigeria. Surender (2007) indicated that small-size farms are more efficient than medium- and large-size farms. Idiong (2007) showed that farmers' educational level, membership in a cooperative/farmers' organization and access to credit significantly and positively influenced the farmers' efficiency. Ayinde *et al.* (2009) found that farm size, hired labor, fertilizer, seed, age, gender, household size and amount of credit were the significant determinants of technical efficiency of rice farmers in Nigeria. Jyoti *et al.* (2010) the farm size and female workers were positively related with technical efficiency.

Tra Vinh province located in the south of the Vietnam, its economy is agriculture based economy as the share of agricultural sector is 45.67 percent while those of industrial and service sectors are 19.12 percent and 35.21 percent, respectively. Rice cultivation is the most important subsector of Tra Vinh province since it plays a crucial role in employment creation, income generation especially from rice exports, poverty reduction, and food security for the region and for the country as a whole. It has 235.800 ha of rice production area, account for around 5.5 percent of the regional rice production area.

However, it is difficult to expand rice production by increasing rice land area or crop intensification since almost all the agricultural land in Tra Vinh have been utilized. There are also limitations related to crop intensification such as soil erosion, pest infestation, and other issues concerning sustainable development in agriculture. Therefore, promoting policies aimed at sustainable growth in rice yield will be the basis for sustainable development in the rice cultivation in Tra Vinh province in the future. Moreover, rice production in Tra Vinh recently has been confronted with problems such as the rapid increase in labor cost and other material input costs, which in turn, caused the decrease in the farmers' levels of input use. A reduction in input use may have negative impacts on rice yield and the productive efficiency of rice farming households as well. These lead to question that how is the level of technical efficiency of rice farms and what factors affect the farm's technical efficiency. Thus, this study is aim to estimate technical efficiency and identify determinants of technical efficiency of the rice farms in Tra Vinh province.

2. Theoretical framework

Among the various approaches developed to estimate productive efficiency, the stochastic frontier production function approach (Aigner *et al.*, 1977; Meeusen *et al.*, 1977) and the data envelopment analysis (DEA; Charnes *et al.*, 1978) are the most popular. In agricultural production where data are likely to be greatly influenced by

systematic errors due to the effects of weather conditions, climate change, diseases, etc., the stochastic frontier approach is considered more appropriate than the DEA approach.

The stochastic frontier production function was independently proposed by Aigner et al. (1977) and Meeusen et al. (1977). The original specification involved a production function specified for cross-sectional data which had an error term with two components, one to account for random effects and another to account for technical inefficiency. Following Battese (1992), the stochastic frontier production function can be expressed in the following equation:

$$Y_i = f(x_i; \beta) \exp(V_i - U_i) \quad (1)$$

Where $i = 1, 2, \dots, N$ and Y_i represents the possible production level for the i^{th} sample unit; $f(x_i; \beta)$ is a suitable function (e.g., Cobb-Douglas or Translog) of the vector, x_i of inputs for the i^{th} unit and a vector; β is a vector of parameters to be estimated; and N represents the number of the units involved in a cross-sectional survey. This model is such that the possible production Y_i is bounded above by the stochastic quantity, $f(x_i; \beta) \exp(v_i)$, hence, the term stochastic frontier. Besides, V is the symmetric error term accounting for random variations in output due to factors outside the control of the farmer such as weather, disease, bad luck, and measurement error whereas U represents the technical inefficiency relative to the stochastic frontier, which assumes only positive values. The distribution of the symmetric error component V is assumed to be independently and identically distributed as $N(0, \sigma_v^2)$.

However, the distribution of the one sided component u is assumed to be half normally ($u > 0$) distributed as $N(0, \sigma_u^2)$ and, thus, measures shortfalls in production from its notional maximum level. If $u = 0$, then the farm lies on the frontier obtaining maximum output given variable and fixed inputs; but, if $u > 0$, then the farm is inefficient and makes losses or the production lies below the frontier function and the distance of Y_i and Y^* measures the extent of the farmers' technical inefficiency (Coelli *et al.*, 2005). Therefore, the larger the one sided error is, the more inefficient the farm becomes.

Technical efficiency. The technical efficiency of an individual producing unit is defined in terms of the ratio of the observed output of the corresponding frontier output, given the available technology (Coelli *et al.*, 2005). Thus the technical efficiency of unit i in the context of the stochastic frontier production function is the following expression.

$$TE_i = \exp(-U_i) \quad (2)$$

$$TE_i = Y_i / Y_i^* = f(x_i; \beta) \exp(V_i - U_i) / f(x_i; \beta) \exp(V_i) = \exp(-U_i) \quad (3)$$

Y_i is an observed output and Y_i^* is the frontier output. X_i , β_s , and V_i are as defined earlier. In this case, Y_i achieves its maximum value of $f(x_i; \beta) \exp(V_i)$ if and only if $TE_i = 1$. Otherwise, $TE_i < 1$ provides a measure of the shortfall of observed output from maximum feasible output in an environment characterized by stochastic elements that varies across producers.

3. Methodology

This study employed the stochastic frontier analysis following the single-stage estimation procedure developed by Battese and Coelli (1995, 2005). The stochastic frontier production function would be estimated by the Cobb-Douglas or the translog functional forms as follows:

- *The Cobb-Douglas stochastic frontier production form:*

$$\ln Y_i = \beta_0 + \sum_{j=1}^n \beta_j \ln X_{ji} + \beta_1 D_i + V_i - U_i \quad (4)$$

- *Translog stochastic frontier production form:*

$$\ln Y_i = \beta_0 + \sum_{j=1}^7 \beta_j \ln X_{ji} + \beta_1 D_i + \frac{1}{2} \sum_{j=1}^7 \sum_{k=1}^7 \beta_{jk} \ln X_{ji} \ln X_{ki} + \sum_{j=1}^7 \beta_{jl} \ln X_{ji} * D_i + V_i - U_i \quad (5)$$

Where, β_j : regression coefficients of the explanatory variables in the estimated stochastic production function, where $j = 1, 2 \dots 7$; Y_i : rice production output (kg/farm). X_{ji} are factors contributing to rice output per farm, consisting of: X_{1i} : land area (ha/farm); X_{2i} : amount of seed used (kg/farm); X_{3i} : amount of nitrogen used (kg/farm); X_{4i} : amount of phosphate used (kg/farm); X_{5i} : amount of potash used (kg/farm); X_{6i} : amount pesticide used (g/farm); X_{7i} : human labor used (man-days/farm); D_i : other factors contributing to rice output per farm such as: D_1 : rice variety dummy (1 = improved variety; 0 = traditional variety). V_{it} : random variable assumed to be independently and identically distributed (iid) $N(0, \sigma_v^2)$ and independent of U_i ; U_i : non-negative random variable that is assumed to account for technical inefficiency in production. The subscripts j, i refer to the j^{th} input used of i^{th} farm.

Simultaneously estimated with the frontier model was the rice farming household level technical inefficiency (TIE) model. The TIE model is expressed mathematically as follows:

$$TIE_i = U_i = \delta_0 + \sum_{j=1}^8 \delta_j Z_{ji} + \xi_i \quad (6)$$

Where, δ_j : regression coefficients of the explanatory variables in the estimated technical inefficiency model, where $j= 1, 2 \dots 8$; Z_{ji} : factors contributing to technical inefficiency such as, Z_{1i} : gender of farmer dummy (male = 1; female = 0); Z_{2i} : age of the farmer (years); Z_{3i} : education attainment of farmer (years of schooling); Z_{4i} : experience of the farmer in rice farming (years); Z_{5i} : membership in farmers' association (member = 1; not member = 0). Z_{6i} : farm size dummy (area ≥ 0.6 hectare = 1; area < 0.6 hectare = 0); Z_{7i} : credit access dummy (with credit = 1; no credit = 0); Z_{8i} : attendance in training on rice production dummy (with training = 1; no training = 0); ξ_i : error terms, assumed to be independently and identically distributed with mean = 0 and variance = σ_{ξ}^2 ; and the subscripts j, i refer to the j^{th} characteristic of i^{th} farm.

- *Test for the appropriate functional form (i.e., Cobb-Douglas vs. Translog):* the appropriate functional form was determined using the following selection criterion: (i) overall significance of the estimated equation based on the generalized Likelihood Ratio (LR) test, (ii) the number of significant variables based on the t-test, (iii) consistency of signs of the MLE coefficients with economic theory, and (iv) absence of multicollinearity. The likelihood ratio statistic (λ) used for the generalized Likelihood Ratio (LLR) test is given as follows:

$$\lambda = -2[L(H_0) - L(H_1)] \quad (7)$$

Where, $L(H_0)$: value of the log-likelihood function of a restricted frontier model (or the Cobb-Douglas) as specified by a null hypothesis, H_0 ; $L(H_1)$: value of the log-likelihood function of an unrestricted frontier model (or translog model) as specified by the alternative hypothesis, H_1 . The LR test statistic (λ) has approximately a chi-square (χ^2) distribution with the number of degrees of freedom equal to the difference between the parameters involved in H_0 (Cobb-Douglas) and H_1 (translog). The critical value was obtained from the normal χ^2 table. The decision for this test was to reject the null hypothesis (H_0) if λ is greater than the critical χ^2 value and vice versa.

- *Test for the appropriate frontier estimators (OLS vs. MLE):* Using the same statistical testing procedure (generalized LR test) as testing for appropriate functional form mentioned above. However, $L(H_0)$ in the formula refers to the value of the log-likelihood function of the OLS frontier model as specified by the null hypothesis, H_0 , while $L(H_1)$ is the value of the log-likelihood function under the alternative

hypothesis, H_1 (i.e., MLE model). Similarly, the test statistic λ has approximately a chi-square distribution. The degree of freedom is equal to the number of parameters involved in the inefficiency model plus one ($k + 1$), where k is the number of parameters or restrictions or explanatory variables except the intercept. The critical χ^2 value was obtained from the Kodde and Palm (1986). The decision rule for this test is to reject the null hypothesis (H_0) if λ is greater than the critical χ^2 value and vice versa.

Anyway, another test would be able to employ. The value of gamma parameter may lie between zero and one. A value of $\gamma = 0$ indicates that technical inefficiency is absent and the OLS is a more adequate estimation procedure to describe the parameters in the model. A value of γ close to one means that there exists technical inefficiency in the model, or if $\gamma = 1$, all the deviations from the frontier are entirely due to technical inefficiency and the MLE adequately characterizes the data. LR results for the functional and frontier estimation method tests were automatically derived by using the FRONTIER 4.1 computer program.

Data

The data in this study is cross – sectional data collected by directly interviewing 196 rice farmers in the two largest rice farming districts of Tra Vinh province, namely Tieu Can and Cau Ke. About 100 rice farming households per each district were selected by random sampling. The data collection includes quantity of input use, paddy yield in the first crop of 2014 and other data related to the rice farming household's specific characteristics.

4. Results and discussion

4.1. Rice farming household's specific characteristics

On average, the rice farmers have 7.98 years of schooling, 23.27 years of rice farming experience, 0.85 ha of rice farming area. This indicates that education attainment of the farmers are quite low that would be logically a somewhat barrier in adaption new production technology. There is 46 percent of rice farmer-respondents accessed the formal credit while another 54 percent were self-financing for their rice farming; 57 percent of interviewed rice farmers participated in rice production training while another 43 percent did not join any training related to rice farming over last three years; and 64 percent of interviewed rice farmers are members of local farmer's association (Table 1).

Table 1. Specific characteristics of 196 rice farming households in Tra Vinh province, Vietnam

Farm 's characteristics	Unit	Average	Std. Dev.
Gender dummy	1: male; 0: female	0.86	0.34
Educational attainment	Year	7.98	3.58
Rice farming experience	Year	23.27	11.18
Farm size	Ha	0.85	0.56
Credit access dummy	1: borrowed; 0: not	0.46	0.49
Training dummy	1: Participated; 0: not	0.57	0.50
Farmer's association membership dummy	1: member; 0: not	0.64	0.48

Source: Author's survey in 2015.

4.2. Input use and paddy yield

The average amount of seeds used by the interviewed rice farmers was 189.03 kg/ha while that in Mekong Delta, on average, was 142.7 kg/ha (Dang, 2017). This could be attributed to that most of the farmers here applied the broadcast sowing, which need more amount of seed than that of other sowing methods such as line sowing, transplanting.

The interviewed rice farmers applied several types of fertilizers. The most commonly used fertilizers were urea, ammo-phos (or Di-Ammonium Phosphate), complete fertilizer (contains nitrogen, phosphorous, and potassium) and muriate of potash, among others. In terms of active fertilizer ingredient form, on average, the farmer respondents applied 98.53 kg/ha of nitrogen fertilizer, 83.16 kg/ha of phosphate fertilizer and 36.45 kg of potash fertilizer.

In addition, the interviewed rice farmers applied several types of pesticides in both liquid and powder pesticides. In terms of active pesticide ingredients and by converting the liquid pesticides into powder pesticides, on average, the interviewed rice farmers applied 1,958.12 g/ha (~1,958.12 ml/ha). The labor use was ranged 24.23-46.15 man-day/ha, an average of 31.79 man-day/ha. Recently, there was a marked reduction in the use of labor for harvesting operations due to the increased adoption of mechanical harvesters. Paddy yield of the interviewed rice farmers was,

on average, 6,587.65 kg/ha; the lowest level of paddy yield was 5,839.16 kg/ha while highest one was 7,375.38 kg/ha.

Table 2. Mean levels of input use per hectare and paddy yield, 196 rice farming households in Tra Vinh provinces, Vietnam

ITEM	Maximum	Minimum	Mean	Std. Div.
Seed (kg/ha)	138.46	230.77	189.03	41.25
Fertilizers by ingredients:				
Nitrogen (kg/ha)	143.08	61.88	98.53	29.21
Phosphate (kg/ha)	137.36	53.75	83.16	18.78
Potash (kg/ha)	83.33	0	36.45	28.29
Pesticide by active ingredients (g/ha)	2,980.62	1,140.77	1,958.12	487.65
Labor (man-days/ha)	46.15	24.23	31.79	6.95
Paddy yield (kg/ha)	7,375.38	5,839.16	6,587.65	388.79

Source: Author's survey in 2015.

4.3. Results of the stochastic frontier production analysis

4.3.1. Testing results for appropriate functional form and estimator

The result of LR test indicated that the translog functional form was more appropriate than the Cobb Douglas since the value of likelihood ratio statistic (λ) was 102.425, which was greater than that of critical value (60.097). Therefore, the H_0 was rejected. However, except the interaction and square variables in the translog model, the Cobb Douglas resulted in more significant variables than the translog model based on T-test. Moreover, the signs of coefficients of variables in the Cobb Douglas were more consistent than those of the translog model. In addition, based on the result of testing for multicollinearity, the translog model contained serious multicollinearity problem. Hence, the Cobb Douglas functional form was chosen to analyze the data. Besides, gamma parameter γ was close to 1 (0.956), which indicated the existing of technical inefficiency in the model. Thus, the MLE was more adequate than the OLS estimator.

4.3.2. Results of the stochastic frontier production function

The results of the frontier production function revealed that the area, seed, phosphate fertilizer, potash fertilizer, pesticide, labor and rice variety are found significantly to affect rice output per farm at one, five or ten percent probability level, while the nitrogen was found to have no significant effects on rice output per farm at 10 percent probability level.

In a Cobb-Douglas frontier production function, the regression coefficients are already the output elasticity. For instance, the regression coefficient of area of 0.39 indicates that a one percent increase in cultivated area would result in a 0.39 percent increase in rice output per household, *ceteris paribus*. With regard to seed, phosphate fertilizer and pesticide usages, the study found that the farmers might be overuse of seed, phosphate fertilizer and pesticide as their coefficients are exhibited negative signs with rice output per household. Potash fertilizer, on the other hand, positively influenced rice output per household. The regression coefficient of potash of 0.017 indicates that a one percent increase in potash fertilizer would increase rice output per household by 0.017 percent, other factors held constant. Similarly, the regression coefficient of variety is positive (0.047), implying that the interviewed rice farmers planted the improved varieties have a higher rice output per household than those planted the conventional varieties, other factors held constant.

Table 3. MLE of the Cobb-Douglas stochastic production and technical inefficiency functions, rice farming households in Tra Vinh province, Vietnam.

Variable symbol	Variable name	Parameter	Coefficient	Std. Error	T-ratio
<i>Frontier Production Function</i>					
	Constant	β_0	3.364 ***	0.145	23.248
ln A	Area (kg)	β_1	0.395 ***	0.073	5.376
ln S	Seed (kg)	β_2	-0.046 **	0.021	-2.207
ln N	Nitrogen (kg)	β_3	-0.034 ns	0.035	-0.977
ln P	Phosphate (kg)	β_4	-0.016 *	0.009	-1.833
ln K	Potash (kg)	β_5	0.017 ***	0.006	2.993
ln LP	Pesticide (g)	β_6	-0.031 *	0.018	-1.701
ln L	Labor (man-day)	β_7	0.079 **	0.033	2.371
DV	Variety dummy	β_8	0.047 **	0.022	2.153
<i>Technical Inefficiency Function</i>					
	Constant	δ_0	0.510 ***	0.203	2.517
Z ₁	Gender dummy	δ_1	-0.005 ns	0.027	-0.192
Z ₂	Age of farmer (years)	δ_2	0.073 ns	0.051	1.436
Z ₃	Education attainment (years)	δ_2	-0.016 **	0.007	-2.422

Variable symbol	Variable name	Parameter	Coefficient	Std. Error	T-ratio
Z ₄	Farming experience (years)	δ_3	-0.026 ^{ns}	0.027	-0.948
Z ₅	Membership dummy	δ_4	-0.031 ^{**}	0.012	-2.543
Z ₆	Farm size dummy	δ_5	-0.086 [*]	0.048	-1.775
Z ₇	Credit access dummy	δ_7	-0.130 ^{**}	0.049	-2.657
Z ₈	Training dummy	δ_8	-0.185 ^{***}	0.053	-3.499
<i>Variance Parameter</i>					
σ^2			0.010 ^{***}	0.002	5.761
$\square\gamma$			0.956 ^{***}	0.023	41.901
Log-likelihood function			119.702		
LR test of the one-sided error			29.245		
Mean technical efficiency (%)			85.181		

Note: ***, **, and * indicate statistically significant at 1%, 5%, and 10% probability level, respectively; and ns denotes insignificant.

Source: Author estimates.

4.3.3 Results of technical inefficiency function

This study employed the single-stage estimation procedure, in which the stochastic frontier production function and technical inefficiency function were estimated simultaneously. The results were shown in table 3. The average technical efficiency was 85.18 percent, which implies that with the recent input level, the rice farming households could be able to increase their rice output by 14.82 percent by improving technical efficiency determinants. This is to examine the effects of socio-economic and specific factors of the rice farming households on technical inefficiency.

A negative sign of the regression coefficient of an explanatory variable in the technical inefficiency function indicates that the variable improves technical efficiency. A positive sign means the opposite. The factors which were found positively affect technical efficiency of the rice farming households were education attainment of the farm operator, farm size, credit access, participation in rice production training programs and membership of the farmer's association.

The positive relationship between education attainment and technical efficiency might also be attributed to that the higher educated farmers adopted new production technology better than the lesser educated farmers. Likewise, the regression coefficient of participation in training dummy has a negative sign, which indicates that the interviewed rice farmers who participated in training programs on rice production which were conducted by the staff of the Department of Agriculture and Rural Development and some NGOs were more technically efficient than those who did not attend the afore-mentioned training programs. The explanation is that the interviewed rice farmers who attended training programs on rice production learned more about new technological developments and therefore were able to adopt better farm management practices in rice production. Thus, they tended to have more efficient use of resources than those who were not able to attend any training at all. This finding confirms the results of Seyoum *et al.* (1998), Wilson *et al.* (2001), and Seidu (2008) who reported that farmers who sought technical information and had adequate extension contact were associated with higher levels of technical efficiency. Similar findings were also found Kelvin *et al.* (2008) in rice farming in Bangladesh.

Similarly, the regression coefficient of membership in a farmers' association dummy exhibited a negative sign and is statistically significant at one percent probability level. This suggests that the farmers who are members of farmers' association would be more technically efficient than non-members, which might also be attributed to that the members of association have better chance to exchange production experience among the members and more frequency in participate in training program conducted by extension workers that help them have more efficient use of resources than those who were non-members. This finding is consistent with the finding of Idiong (2007) in his study of small-scale rice farms in the Cross River State of Nigeria. Likewise, the farm size was found positive effects to technical efficiency. This finding might be attributed to that with the larger farm, the farmers tends to spend more efforts on new production technology than those have smaller farm. Similarly, the regression coefficient of credit access dummy exhibited a negative sign and is statistically significant at ten percent probability level. This suggests that the farmers who accessed to the formal credit would be more technically efficient than others.

On the other hand, age, gender and farming experience of the farm operator had no significant effects on technical efficiency at ten percent probability level, which might be attributed to that the personal characteristics of the interviewed rice farmers, except the education attainment, had no effect to the chosen production technology.

4.3.4 *Distribution of technical efficiency*

The predicted technical efficiencies of the interviewed rice farmers differed substantially ranging from 57.21 percent to 99.27 percent. About 15.31 percent of the total interviewed rice farmers belonged to the most efficient category (95 - 100%). Only few (5.61%) of the interviewed rice farmers had technical efficiencies below 70 percent. Majority (35.20%) of the interviewed rice farmers belonged to the category (90 - >95%), indicating that most of the interviewed rice farmers were very technically efficient (Table 4).

Table 4. Distribution of technical efficiency of 196 rice farming households in Tra Vinh province, Vietnam

TECHNICAL EFFICIENCY (TE, %)	No. of Farmers	Percent
< 70	11	5.61
70-<75	8	4.08
75-<80	19	9.69
80-<85	21	10.71
85-<90	38	19.39
90-<95	69	35.20
95-100	30	15.31
Total	196	100.00
Average		85.18
Minimum		57.21
Maximum		99.27
Std. Dev.		9.94

Source: Author estimates

5. Conclusions and Recommendations

The study is aim to determining the technical efficiency and determinants of technical efficiency of selected rice farming households in Tra Vinh province, Vietnam, based on a cross-sectional data collected in 2015 from 196 rice farming households in Tra Vinh province. The Cobb-Douglas stochastic frontier production function, incorporating inefficiency effects was employed to analyze the data, using the Frontier 4.1. The results revealed that the average technical efficiency was 85.18%. With the recent input level, the rice farming households could be able to increase their rice output by 14.82 percent by improving technical efficiency determinants. Significant factors that were found to positively affect rice output per household were area, potash fertilizer, and rice variety while factors that were found negative affect rice output per household were seed and nitrogen fertilizer.

Significant determinants were positively related to technical efficiency were education attainment, farm size, training, credit access, membership a farmers' association.

In order to further improve the rice yield and technical efficiency of rice farming households, the study recommends to the rice farmers to reduce amount of seed usage; using improved rice variety; improving fertilizer management focusing on efficient use of fertilizer; and increasing the farm size as possible. In addition, the study recommends to the local government to intensify extension services particularly the conduct of training programs; providing continuous support for massive propagation and dispersal of high-yielding varieties in cooperation with the private sector; strengthening farmers' association; developing agricultural land right market; and improving the level of education of farmers through short technical training./.

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FACTORS AFFECTING THE COMMUNITY PARTICIPATION IN WATER MANAGEMENT: A STUDY IN THAC BA RESERVOIR, YEN BAI PROVINCE, VIETNAM

Assoc. Prof. Dr Le Ha Thanh

lehathanhneu@gmail.com

Msc. PhD Candidate Nguyen Dieu Hang

ngdieuhang@gmail.com

*Faculty of Urban & Environmental Economics and Management,
National Economics University, Hanoi, Vietnam*

Abstract

Fresh water is a resource that is limited and vulnerable while essential for our daily life. It is necessary to have different stakeholders participating in water management, in which water users community plays an important role. However, it can be difficult to recruit local community to participate if their motivations are not known. This study aims to investigate the factors affecting the community participation in water management using the Theory of Planned Behavior. Empirical study with a household survey was conducted in the Thac Ba Reservoir, Yen Bai Province in 2015. Five participating behaviours at different stages of community participation are identified for research. The regression models show that factors affecting the community's participating behaviors are households' attitudes, subjective norms, perceived behavioral controls, perception of water's social and economic values, and the uses of water.

Keywords: *Community participation, water management, Theory of Planned Behaviour (PTB).*

1. Introduction

Fresh water is a resource that is limited and vulnerable while essential for our daily life. Water management involves the participation of different stakeholders to balance the different benefits between water users. However, it can be difficult to recruit local community to participate if their motivations are not known. Previous studies show that behaviours are affected by cognitive factors and socio-economic characteristics. Thus to promote the community's participation in water management, it is necessary to investigate these factors.

The TPB (Ajzen, 1991) provides a theoretical framework for systematically investigating the factors which influence behavioural choices. One person's intention

to undertake a certain action will largely determine whether he performs it. Behavioural intention is influenced by three factors: Attitude towards Behaviour, Subjective Norms, and Perceived Behavioural Control. Attitude towards Behaviour is how one person assesses his own action. The attitude can be favourable or unfavourable, depends on his values. Subjective Norms refers to perceived social pressure, in other words, the normative expectation of others on one's action. Perceived Behavioural Control refers to one's perception of how easy or difficult to perform a certain action. The more favourable the attitude towards the behaviour and the subjective norms and the greater the perceived control, the stronger the intention of a person to undertake the behaviour. Difference in these three factors results in different behaviours among people. In addition, perceived behavioural control influences both intention and behaviour.

TPB has been widely used to investigate environmental behaviours. In the studies by Tonglet et al. (2014) and Davis et al. (2006), the three TPB factors including attitude, subjective norms and perceived behavioural control have positive impact on household's waste recycling behaviour. Sathapornvajana et al. (2006) concluded that attitude and subjective norms affect the water protection behaviour in Thailand. Fielding et al. (2008) found that Australian household's water uses are affected by the three TPB factors. Canabiss (2014) had the similar conclusion when studying the factors affecting the community participation in hazardous waste management program in the US.

Although there is considerable support for TPB's use, Ajzen (1991) allows that additional variables should be included within the model. Perception of values of the environment is one of the factors found in other studies. In Alberta, Canada, individual's perception of economic value and environmental value of water determines which water management policy he or she advocates (Russenberger et al., 2012). Social interaction and shared responsibility motivate the community to participate in urban conservation (Sakurai et al, 2015). Socio-economic characteristics also affect the participating behaviour. Age, level of education, place of residence... is correlated with individual participation in water management (Hamid, 1996; Zuo et al., 2011).

Community participation in water management has been studied in different areas in Vietnam. These studies largely focus on the level of participation rather than the motivations of the community to participate. Previous studies show that factors affecting the participation are varied depending on the study site. Thus it is necessary to investigate these factors in Vietnam context to understand the motivations of Vietnamese people. This study is conducted in Thac Ba Reservoir, Yen Bai Province. The objectives of the study are:

- To identify the local community's participating behaviours in water management and
- To identify the factors affecting the community's participating behaviours in water management in Thac Ba Reservoir, Yen Bai Province using the extended TPB model.

2. Method

Study site

Thac Ba Reservoir is a part of Chay River in the north east of Yen Bai Province. It is the reservoir of the Thac Ba Hydropower Plant which was built from 1964 to 1971 and has been operated since then. The reservoir is 23,400 hectare with the surface area of 19,050 hectare, which makes it one of the three biggest man-made freshwater reservoirs in Vietnam. The length of the Reservoir is 80km, maximum width is 10km, the average depth is 15 - 25m and maximum depth is 42m. Thac Ba Reservoir consists of 3-3.9 billion m³ of water.

The Reservoir is located in Yen Binh and Luc Yen District, Yen Bai Province. The population of Yen Binh in 2013 is 107,080. The annual income is VND 28.6 to 29.5 million per capita (USD 1,270 to 1,310). The labour force is 45,037; 76.5% of which works in agriculture. Luc Yen District's population in 2013 is 105,807 with annual income of VND 20 million per capita (USD 890). There are a number of ethnic minorities living in the area: Tay, Nung, Dao, Cao Lan.

Thac Ba Reservoir was built for electricity production, flood controls and irrigation. Besides, local community's fishing, aquaculture, forestry, water transportation and tourism also depend on the water from Thac Ba. The Reservoir provides tap water for domestic use of citizens living in the nearby urban areas which are Yen Bai City and Yen Binh Town.

Data collection

To understand the perception of water's values, socio-economic and cognitive factors that might affect residents' willingness to participate in water management, a household survey is conducted in the study area. People who use water for fishing, aquaculture, forestry, water transportation, tourism and tap water in the area are the population of the survey. It is estimated that there are 1,000 fishing households; 1,000 forestry households; 5,000 households using tap water from the reservoir and 5,000 households living next to the reservoir and using Thac Ba's water for other purposes. With the total population of 12,000 households, a sample of 350 households is selected by multi-stage method. After eliminating questionnaires with large proportion of missing values, the sample size for the study is 302 households.

The questionnaire asked respondents to rate their level of agreement or disagreement eight statements regarding perception on water's values, five statements regarding intentions to participate in five water management activities, five statements regarding the attitudes towards those activities, six statements regarding their subjective norms and eight statements regarding perceived behavioural controls relating to those participating activities. A 5-point scale is used rather than 7-point scale as guided by Ajzen (2013) for TPB questionnaire because 5-point scale is more understandable for local community. There are also questions about household's socio-economic factors. The survey is conducted from September to October 2015. The method is face-to-face interview with household's heads.

Data analysis

Eight statements regarding perception of water's values are put into Factor Analysis. The Barlett test of sphericity shows the validity and suitability of the responses collected to the problem. For Factor Analysis to be recommended suitable, the Bartlett's Test of Sphericity must be less than 0.05. Kaiser-Meyer-Olkin Measure of Sampling Adequacy for the model should be greater than 0.6. Factors with Eigen value greater than 1 are retained. Factor loadings below 0.3 are considered statistically insignificant.

Descriptive statistics for response of each statement of intentions to participate in water management activities, attitudes, subjective norms and perceived behavioural controls is calculated. Then a multiple regression analysis is conducted to identify the variables that affect the households' intention to participate in each water management activity. The enter method (all independent variables are included in the model at the same time) is used. The best-fit model is identified at 5% of significant level in F-value. SPSS 20 is used for statistical analysis and considered results to be statistically significant if $p < 0.1$.

3. Results

Socio demographic characteristics of the respondents

182 respondents or 60.3% of the sample are male. Female respondents account for 39.7%. The mean age is 38.6 with standard deviation is 12.1. The average residency in the study site is 34.2 years (standard deviation is 13.36) so it can be seen that most of the respondents are local people. 45% of them have finished high school. The average household size is 4.29. The average monthly income is VND 4.51 million (approximately USD 200). The sample consists of four groups of households based on their use of water from Thac Ba Reservoir: households using tap-water from Thac Ba Reservoir (20.9%); fishing and aquaculture households (24.2%); forestry households (31.1%) and households living next to the Reservoir and using water for other purposes (23.8%).

Participating behaviours of the community in Thac Ba Reservoir

Nguyen Viet Dung and Nguyen Danh Tinh (2006) reviewed the water community-based management models in Vietnam. By investigating modern and traditional models in a number of areas, they concluded that local community's participating behaviours are (i) attending the community meeting in the planning stage; (ii) contributing ideas in the planning and executing stage; (iii) appointing a community's representative to participate in water management; (iv) contributing resources to water management; and (v) paying the water use fee. Based on the previous studies and deep interviews with some local households and district officers, the current and indented participating behaviours of the local community are identified. Currently, the local community are managed to comply with the regulations on water management. Most of them attend the community meeting to get the information on water management. Some of them contribute ideas to the government in the meetings or through other channels. These activities are of compliance and consultation stages of participation. In the future, it is expected that the community can step on a higher stage of partnership. Thus, five intentions of participation behaviours of local community are used in this study are (i) comply withing the regulations on water use; (ii) contributing ideas in the community meeting; (iii) actively contributing ideas and giving feedback to the local government; (iv) contributing resources to water management; and (v) appointing a community's representative to participate in water management. Table 1 shows the descriptive statistics of intentions of these behaviours.

Table 1. Descriptive statistics of participating behaviours of the local community

Intention of behaviour	Mean	Std. dev.
I will comply with the regulations on Thac Ba water use.	4.0199	0.55848
I will contribute ideas in the community meeting	3.5728	0.98138
I will actively contribute ideas and giving feedback to the government	3.0563	1.10577
I will contribute resources to water management	3.4437	1.12735
I will appoint a community's representative to participate in water management	3.5795	1.06217

Response scale: 1 = Strongly disagree, 2 = Slightly disagree, 3 = Neither option, 4 = Slightly agree, 5 = Strongly Disagree

Descriptive statistics of TPB variables

Table 2 shows the descriptive statistics of TPB variables. The attitude towards compliance behaviour has the highest mean value, which means that people believe the most in the result of this behaviour. Respondents agree the most with the statement of subjective norms regarding the compliance behaviour. For the perceived behavioural controls, the respondents agree the most to the statement that “The government wants me to have a representative to participate in Thac Ba Reservoir water management”.

Table 2: Descriptive statistics of TPB variables

Variables	Statement	Mean	Std. dev.
<i>Attitudes</i>			
A1	Compliance to regulations on water use is good.	4.0894	0.8676 3
A23	Contributing ideas to the local government is good.	3.6821	1.1079 3
A4	Contributing resources to water management is good.	3.3477	1.2260 9
A5	Appointing a community’s representative to participate in water management is good.	3.7781	0.8667 7
A6	In water management, the government is more important than the community.	2.9967	1.5063 5
<i>Subjective norms</i>			
SN1	Most people comply with the regulations on Thac Ba water use.	4.0166	0.7535 5
SN2	Most people contribute ideas and feedback about on Thac Ba water management to the local government.	3.1358	1.2381 4
SN3	Most people appreciate me when I contribute ideas and feedback about on Thac Ba water management to the local government.	3.8411	0.9477 6
SN4	Most people appreciate me when I contribute resources to on Thac Ba water management.	3.2616	1.1675 8

Variables	Statement	Mean	Std. dev.
SN5	Most people want to have a community's representative to participate in on Thac Ba water management.	3.9073	0.8139 2
SN6	I would act similar to people around me.	3.6954	1.0180 7
<i>Perceived behavioural controls</i>			
PBC1	It is easy for me to find the regulations on Thac Ba water.	3.4106	1.0676 2
PBC2	The government wants me to contribute ideas and feedbacks on Thac Ba water management in the community meeting.	3.8642	0.8460 1
PBC31	The government wants me to actively contribute ideas and feedbacks on Thac Ba water management.	3.8642	0.9103 2
PBC32	I know where to send my ideas and feedbacks.	3.3179	1.0806 1
PBC23	The government has clear guidance for the community to contribute ideas and feedbacks on Thac Ba water management.	4.0099	0.7403 2
PBC33	The government often answers all my ideas and feedbacks on Thac Ba water management.	3.6358	0.8815 8
PBC4	The government wants me to contribute resources to Thac Ba Reservoir water management.	3.8576	0.9556 2
PBC5	The government wants me to have a representative to participate in Thac Ba Reservoir water management	4.0563	0.7291 8

Response scale: 1 = Strongly disagree, 2 = Slightly disagree, 3 = Neither option, 4 = Slightly agree, 5 = Strongly Disagree

Factor analysis

Eight statements regarding the perception of water's values are put into Factor Analysis. KMO Measure is 0.658 thus the model is adequate. The Barlett test of sphericity is less than 0.05. Three factors with Eigen value greater than 1 are extracted with the cumulative rotation sums of squared loadings are 58.42%. The first factor regarding the values from fishing, forestry and transportation can be called

“economic value”. The second consists of statement on the values from domestic water, tourism, recreation and micro climate, which is called “environmental value”. The third factor associating the social interaction and living condition that water brings to life, thus it can be named “social value” (Table 3). Factor scores are calculated by SPSS and used in the regression model.

Table 3: Rotated Component Matrix

Statements regarding perception of water’s values	Factor		
	Economic value	Environmental value	Social value
Thac Ba Reservoir supports aquaculture and fishing.	0.762		
Thac Ba Reservoir supports forestry.	0.694		
Thac Ba Reservoir provides water transportation	0.597		
Thac Ba Reservoir provides domestic water.		0.727	
Thac Ba Reservoir has tourism and recreational values.		0.722	
Thac Ba Reservoir helps to improve the micro climate.		0.424	
Protecting Thac Ba Reservoir can improve social interaction.			0.804
Thac Ba Reservoir helps to improve the local living conditions			0.737

Regression models

There are five regression models to forecast the intentions of five participating behaviours of the local community as follows:

Model 1: Intention to comply with the regulations on Thac Ba water.

Model 2: Intention to contribute ideas in the community meeting.

Model 3: Intention to actively contribute ideas and giving feedback to the local government.

Model 4: Intention to contribute resources to water management

Model 5: Intention to appoint a community’s representative to participate in water management.

Table 4 shows the coefficients and their significance. VIF scores for all factors were less than 4 - the level of multicollinearity was small enough to be ignored. All of the best-fit models explained more than 20% of the variability in the target variables except the Model 1. The attitude towards behaviour is associated with residents' intention to participate in four of five activities ($p < 0.1$). The statement "In water management, the government is more important than the community" is positively associated with the intention to contribute ideas and feedbacks to the local government, which means that the more local community trusts in the local government, the higher intention to contribute ideas and feedbacks to them. Subjective norms positively affect the households' intention to contribute resources to Thac Ba water management and to appoint a representative to participate in Thac Ba water management. Meanwhile, the perceived behavioural control only influences the intention to appoint a representative to participate in Thac Ba water management.

The fishing and aquaculture households have higher intention to contribute ideas and feedbacks to the local government on water management. However they have lower intention to participate in the remaining behaviours. Households using tap water are willing to contribute ideas and feedbacks in the community meeting as well as through other channels, but they do not find it necessary to appoint a representative to participate in Thac Ba water management. Generally other socio-economic characteristics do not affect the local community to participate in water management.

The perception of water's values has a certain role in the model. Households appreciating the economic value of water do not intend to have a representative to participate in Thac Ba water management, while those caring about the social value of water have intention to contribute ideas and feedbacks to the government regarding Thac Ba water management.

Table 4: Multiple regression of local community's intentions to participate in water management in Thac Ba Reservoir

	Model 1		Model 2		Model 3		Model 4		Model 5	
R ²	0.115		0.277		0.504		0.339		0.241	
Attitudes	A1	.139**	A2	-.003	A3	.106*	A4	.232**	A5	.167**
	A6	.000	A6	.190**	A6	.056	A6	.038	A6	-.043
Subjective norms	SM1	.036	SM2	-.135	SM2	.035	SM4	.184**	SM5	.145**
	SM6	-.054	SM3	-.024	SM3	.185**	SM6	-.071	SM6	-.102
			SM6	-.028	SM6	.071				
Perceived behavioural controls	PBC1	-.059	PBC2	.080	PBC31	.074	PBC4	.094	PBC5	.197**
			PBC23	.043	PBC32	-.034				
					PBC23	.050				
					PBC33	.011				
Households using tap water	.054		.360**		.178**		.040		-.161**	
Households living next to the Reservoir	-.121*		.089		-.001		.022		.006	
Fishing and aquacultural households	-.229**		.174**		-.067		-.145**		-.152*	
Age	.019		.006		-.076		-.014		.033	
Ethnicity	.036		.007		.047		-.012		.012	
Level of education	-.037		-.073		-.049		.044		.023	
Household size	-.008		.048		-.083*		-.040		-.038	
Monthly income	.089		.070		.079		.018		.059	
Economic value	.036		.024		.069		.054		-.211**	
Environmental value	.027		.042		.004		.054		.059	
Social value	.114		.205**		.102		.067		.043	

*, **: statistically significant at 10% and 5% respectively.

4. Discussion and Conclusion

The study shows that the TPB variables are associated with the local community's intentions to participate in water management as in Ajzen (1991). This result is consistent with findings of Tonglet et al. (2004), Davis et al. (2006), Sathapornvajana et al. (2006), Fielding et al. (2008) and Canabiss (2014) that TPB variables positively affect the community's intention to participate in different environmental protection activities, for example water protection and waste recycling. Thus in Thac Ba area, it is possible to change the TPB factors to improve the local community's participation in water management. This has policy implications for the local government. Firstly, they can communicate the results of participation activities to local behaviours so that the residents can have better attitude towards their participation. Secondly, the government should improve working performance to have more trust from the local community. When they trust more, they will be more willing to contribute ideas and feedbacks on water management policies. Thirdly, local community will appoint their representative to participate in water management when asked by the government. Thus the government should develop the regulation and guidance for the local community to have representatives. This would improve the water management as local community will have their voice in planning and decision making process.

Among the socio-economic variables, the variables regarding group of household or the households' main use of Thac Ba water influence the intention to participate in water management. The group of households using tap water has higher intention to (i) contribute ideas and feedbacks in the community meeting and (ii) contribute ideas and feedbacks to the local government through other channels but they do not intend to appoint a representative to participate in water management. Since the quality of tap water affects their health, they are always ready to raise their voice when Thac Ba Reservoir is polluted. On the other hand, they consider the local water company as their representative who has the responsibility to solve their water problems. So they may not want to appoint another representative to participate in water management.

The group of fishing and aquaculture households has low intention to (i) comply with the regulations on Thac Ba water, (ii) contribute resources to water management and (iii) appoint a representative to participate in water management. In reality, many of these households often violate the regulations on Thac Ba water as they may use electricity or poison in fishing. Their attitude towards the participating behaviours is also lower than other groups of households. This may explain the negative coefficients in the models.

The other socio-economic factors including age, ethnicity, level of education, household size, and monthly household income are statistically insignificant in most of the models. Only household size has a significantly negative coefficient in the model 3. Previous studies have different results on the impact of socio-economic factors. For example, Sheikh et al. (2014) found that Malaysian households' age and level of education are positively correlated with participation in water management. Age also affects the willingness to participate in urban conservation in the study of Sakurai et al. (2012). Thus the impact of socio-economic factors is not consistent and should be investigated in each site.

Perception on social value of water positively affects the local community's intention to contribute ideas and feedbacks in the community meeting. In other words, people are willing to have this participating behaviour because they believe that their behaviour would improve social interaction and living conditions. This is consistent with findings in Japan that participating in urban conservation will increase social interactions (Sakurai et al., 2012). Tidball and Krasny (2010) and Krasny et al. (2014) also found that in America, participating in environment protection would help to improve the relations between community's members. The local government should use this result to increase the community's participation in water management. In Thac Ba area, there are a large number of ethnic minorities' people who love festivals and social activities. Water protection and water management activities should be organized within the local festivals or by Youth Union and Women Union to attract local people to participate.

Perception on economic value has negative impact on the intention to appoint a representative to participate in water management. This can be explained as different groups of households have different economic benefits from the water and these benefits may conflict with each other. We recommend that each group of household establish an association. The leaders of each association will play as representatives of the community to negotiate with each other in water use and water allocation.

In conclusion, the local community in Thac Ba area has participated in water management with three behaviours: (i) comply with the regulations on water use; (ii) contributing ideas in the community meeting and (iii) actively contributing ideas and giving feedback to the local government. It is expected that they can participate more with the two behaviours: contributing resources to water management and appointing a community's representative to participate in water management. Theory of Planned Behaviour is used to investigate the factors affecting their five mentioned participating behaviours. The result shows that intention of each behaviour is affected by at least one of the three TPB factors which are attitude, subjective norms and

perceived behavioural controls, which is consistent with the theory. Main use of water of households and their perception on social value and economic value from water also have impact on their participating behaviours.

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ECONOMIC ANALYSIS OF URBAN WATER DEMAND MANAGEMENT IN HANOI, VIETNAM

Assoc. Prof. Dr. Le Thu Hoa

*Faculty of Urban – Environmental Economics and Management, National
Economics University (NEU), Hanoi, Vietnam
lethuhoaneu@gmail.com*

Hoang Thi Hue, PhD. Student,

*Faculty of Environment, Hanoi University of Natural Resources and Environment
hthue@gmail.com*

Nguyen Quoc Duong

*Center for Land Development, Nghe An
duongnq@gmail.com*

Abstract

For many countries in the world, the shift from water supply management (WSM) to water demand management (WDM) plays an important role in management of water resources which was already increasingly scarce. Traditional WSM approach has exposed many limitations such as: high costs, wastefulness, water loss, thus they put a lot of pressure on scarce fresh water resources, affect the ecosystem, make increasing water demand become more passive. To overcome these limitations, WDM approach is applied to significantly reduce the pressure on scarce freshwater resources, contribute to water conservation. It is expected that WDM will be an effective management method that give more benefits to the community and local government. Select appropriate WDM option is an important and critical part of water resources planning. Economic analysis of WDM provides the planners and managers with information helpful for their decision making process. This paper presents an economic analysis model for WDM, applying for urban case of Hanoi and proposes recommendations to improve water management for the city.

Key words: Water demand management, urban, Hanoi, economic analysis

1. Introduction

Water demand management (WDM) seeks to influence water demand in order to achieve consumption levels that are equitable, efficient and sustainable. (Ali, 2013). WDM involves the adoption of policies or investment by a water utility to achieve efficient water use by all members of the community. A demand management plan may involve a wide range of demand management measures including: cost-reflective pricing; universal customer metering; reticulation leakage detection and repair programs and pressure reduction; a communication strategy, including a community education campaign; customer advisory services, the use of incentives for installation and/or retrofitting of water efficient equipment; reduction of water use by the water utility; regulation of the efficiency of water using appliances, especially in new buildings; use of reclaimed water (e.g. waste water/grey water) to reduce the need for fresh water supplies; water use restrictions, either on a temporary or permanent basis (Butler, D. and Fayyaz M., 2006)

Increasing freshwater scarcity over the world has resulted in a great deal of pressure on the water resources management in general and urban water in particular. In response to this situation, the shift from traditional water supply management to water demand management in many countries has significantly contributed to the reduction of pressure on freshwater resources, thus to improve water security.

Hanoi is the capital of Vietnam and the country's second largest city by population. Its population in 2015 was at 7.7 million people. The rapid expansion of Hanoi is fueled by the movement of people to urban areas and the subsequent increase of population, rising 3.35% per year, and density, with 2,134 of people per square kilometers of land in the city. The demand of water was 2.7 million m³/day in 2015 and projected to increase to 3.3 million m³/day in 2030 (HAWACO).

Four water companies responsible for production and distribution of potable water in Hanoi are: VIWASUPCO, HAWACO, Son Tay Company, and Ha Dong Company. Hanoi Water Company (HAWACO) is the largest water company.

Besides the expansion of the piped scheme network system to supply safe water, maintenance of the existing infrastructure is a challenge. Water losses of the piped distribution networks in Hanoi around 20 to 32% (reported by HAWACO).

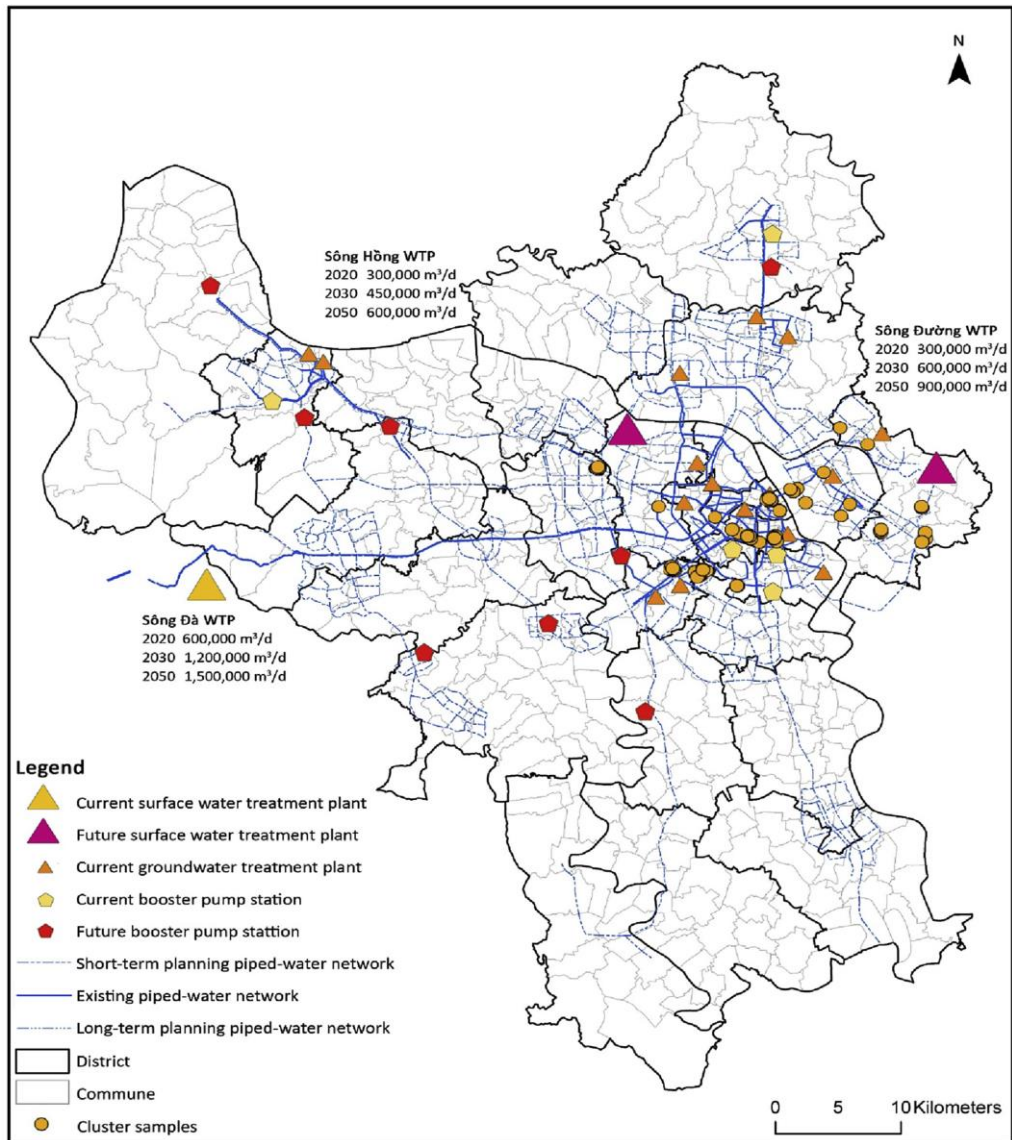


Figure 1: Hanoi's water supply network, projections of expansion to 2020, 2030 and 2050, and location of cluster sampling

Source: Lucía Wright-Contreras, Hug March and Sophie Schramm, 2017

Experiencing a fast urban development, Vietnam in general and Hanoi in particular are facing great challenges in urban water supply. Satisfying the demand for clean water in Hanoi is a difficult situation for some reasons, namely: (1) high and increasing demand for clean water due to urbanization, population and economic growth together with changes in lifestyle; (2) supply shortage of clean/ pipe water in terms of quantity and quality; (3) the problems of water losses due to leaks along the pipe; wastage among end-users and illegal abstractions; and (4) modest community's awareness and behaviour regarding water saving and efficiency.

In 2015, domestic clean water loss in Hanoi urban area is at a relatively high rate, 32%. The reasons of waste and losses come from both managers and end-users. However, wrong water usage by end-users is the main reason for water wastage, damages of water supply pipes which in turn directly affects quality of clean water supplied. This facts have badly impacted urban clean water supply and demand in Hanoi, now and in future. Thus, water management measures need to be taken to improve saving and efficient use of clean water.

Although WDM had been accepted and increasingly applied in many countries over the world, the approach still be a relatively new one in Vietnam in general and Hanoi in particular since many people has doubted about the costs and benefits of new WDM options. This paper presents an economic cost - benefit analysis model for WDM, applying for urban case of Hanoi and proposes recommendations to improve water management for the city.

2. Methodology

Cost Benefit Analysis Approach

Cost – Benefit Analysis (CBA) is defined as a systematic process for calculating and comparing benefits and costs of a decision, policy (with particular regard to government policy) or (in general) project in order. Broadly, CBA has two main purposes: (1) To determine if a decision/ policy/ project is sound (justification/ feasibility) – verifying whether its benefits outweigh the costs, and by how much; (2) To provide a basis for comparing projects – which involves comparing the total expected cost of each option against its total expected benefits. In CBA, benefits and costs are expressed in monetary terms, and are adjusted for the time value of money, so that all flows of benefits and flows of project costs over time (which tend to occur at different points in time) are expressed on a common basis in terms of their net present value.

Stages of Cost Benefit Analysis

The CBA process for urban water demand management, applied for Hanoi's urban area contains 6 main stages as follows:

- 1) Developing urban water management scenarios (WDM scenario, W_1 and baseline or business as usual scenario, W_0);
- 2) Identifying the costs and benefits of WDM scenario;
- 3) Valuing (estimating) the costs and benefits;

- 4) Calculating NPV and other criteria for project effectiveness;
- 5) Checking the effects of changes in assumptions and data (sensitivity analysis);
- 6) Producing recommendations.

Principles of Cost – Benefit Identification and Valuation: (1) Include only additional effects (costs/ benefits) of WDM implementation; (2) Include internalities and externalities (costs – benefits in side and out side of the water company); (3) Include non-priced outcomes like environmental quality, impacts on human health; (4) Consider the symmetry in costs and benefits identification: avoided damages/ costs are considered as benefits while a loss of benefits is considered as a cost.

Criteria for Options Viability Assessment is Net Present Value (NPV). NPV is the sum of the present values of all of a project’s monetarized costs and benefits (or sum of discounted net benefits). NPV can be written as:

$$NPV = \sum_{t=0}^n \frac{(B_t - C_t)}{(1 + r)^t}$$

In which

NPV: net present value

r: discount rate

t: year

n: project’s expected life time

B_t: benefit from the project in the tth year

C_t: cost from the project in the tth year

The time for analysis has been defined from 2009 to 2025 where fiscal year 2013 was chosen as the starting point for the analysis because 2013 was the time when Hanoi start apply the policy of increasing water tariffs as a part of WDM program.

NPV characterizes the net present value of the project. The project is considered advantageous and be viable if the NPV is positive (It means that net present value is more than zero or present benefit is higher than present cost). The higher NPV means the more profitable a project. If NPV is negative (present benefit is lower present cost), the project is not viable.

Discount rate and Sensitivity analysis

In calculating NPV, the discount rate (r) of 8 percents - approximate to the interest rate of government bonds was employed.

Sensitivity analysis then presented with several values of discount rate. For example, following the report of World Bank, r is incremented with the values of 3; 6; 10 and 12 percents.

Sources of Data

Published secondary sources: official publications of Hanoi local government, statistical office, department of natural resource and environment, reseaches. Unpublished secondary sources: the records maintained by Hanoi Water Company (HAWACO) and its plants (yearly report, investment report...).

Primary data is collected through questionnaire surveys conducted in 3 districts: Dong Da, Ba Dinh, Hai Ba Trung. The questionnaire's contents are focus in information of households, quantity and quality as well as cost of water.

The collected data would be processed by Excel spreadsheet and then served for application of analysing and valuation methods such as market price method, value transferring method; forecasting the demand for water.

3. Results

3.1. Urban Water Demand Management Scenarios

WDM scenario: two policy options in WDM were examined, which are (1) Preventing water leakage and revenue loss and (2) Increasing tariffs on clean water. Program on Preventing Clean Water Loss has been implemented sucessfully by Hanoi Water Company (HAWACO) and local people in 2010. On 24th November 2010, Prime Minister issued Decision No. 2147/QĐ - TTg "Approving national program on preventing loss of fresh water and loss of revenue from water until 2025". HAWACO has mobilized, concentrated its resources and implemented many solutions to prevent loss of clean water and loss of revenue. Its target is to reduce the rate of water leakage and loss of revenue from 30% in 2009 to 18% in 2020, and less than 15% in 2025. The company has applied many solutions for water end-users such as: regularly checking quality of water meters; replacing, repairing the broken meters, ensuring high precision of water meters; the households have gradually replaced water devices, which are worn-out, broken and cause water leakage, by water-saving devices.

Program on Raising water tariffs: Hanoi City People's Committee requested a 19 percent change in water price since October, 2015. However, band tariff system is only applied to the private sector. Water tariffs was adjusted during the period from 2013 to 2015.

Statu-quo scenario (or "Baseline Scenario" or Business As Usual) is a hypothetical analysis on the impact of scenario where the city applies a traditional water supply management approach that simply expands water supply infrastructure to meet increasing demand instead of implementing WDM.

3.2. Identifying and Valuing Costs And Benefits Associated With Water Management Scenarios

The major costs and benefits of WDM program and methods for valuing them are described in Table 1.

Table 1. Costs and Benefits of Water Demand Management in Hanoi Urban Area

Major Benefits/ Costs	Explanation	Code	Methods for valuation
Saved costs on water supply infrastructure and operation	Saving in financial expenditures of local authorities and other water providers/ companies, including capital outlays on water supply infrastructure, such as plant construction, pump stations, water supply pipes, etc., as well as operating costs such as the payment of wages and salaries to staff and the purchasing of substances for water purification.	B ₁	Market price
Saved energy costs needed for water supply	Supply of water often requires the use of energy, for example electricity required for the operating water producing plants, pump stations... By WDM, less energy needed for water supply because less water volume are produced.	B ₂	Market price
Saved costs on wastewater treatment	Saving water when implementing WDM often reduces the amount of waste water and cost of wastewater treatment (chemicals, equipments..).	B ₃	Market price

Saved energy costs needed for wastewater treatment	The implementation of WDM will reduce energy used for wastewater treatment because less wastewater treatment is needed.	B ₄	Market price
Reduced greenhouse gas emissions	Greenhouse gas emissions released in the process of generating electricity. Reduction of energy use for water supply and wastewater treatment can lead to reduction in the levels of 'indirect' greenhouse gas emissions.	B ₅	Social cost of carbon (SCC)
Increased direct use value of water supply	Direct use value of water is estimated through adjusted revenues by water supply companies	B ₆	Adjusted market price
Indirect use values of water resource	Indirect use values of water is derived from its functions to the ecosystem such as regulating and maintaining, waste assimilating, provision of habitat and life-support to wildlife, nutrient cycling...	B ₇	Benefit/ Value Transferring
Investment costs for program of increasing water tariffs	WDM scenario means that when water tariffs increase, investment costs for the program may include such as: research, propaganda program, payment for more staff, mechanism,...	C ₁	Market price, investment costs by HAWACO
Investment costs of water loss prevention program	Investment costs for management/ monitoring systems when companies implement the program on loss of water prevention; prevent breaking along water supply pipes; installs and tests water meters.	C ₂	Market price, investment costs by HAWACO

Source: Compiled by the authors

Estimated benefits of WDM implementation

The estimated benefits of WDM implementation during the period 2009-2025 illustrated in Figure 2.

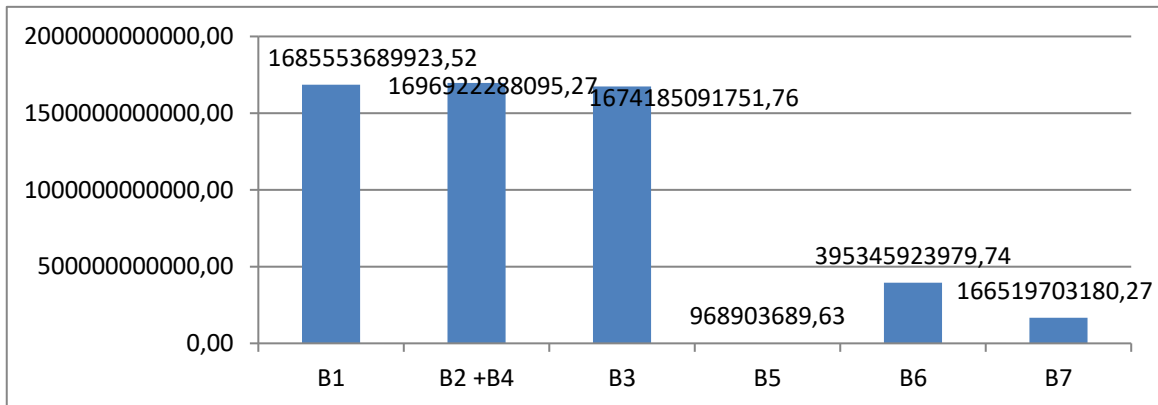


Figure 2: Benefit values of WDM implementation, 2009-2025

Source: Estimated by the authors

The largest amount is from the saved costs on water supply infrastructure and operation (B1), about VND1,685,553,689,923.52 over 16 years. Follows is the saved energy costs due to electricity reduction for water supply and wastewater treatment (B2 + B4), about VND 1,696,922,288,095.27. The costs of wastewater treatment (B3) also accounts for a relatively large number of VND 1,674,185,091,751.76.

The benefits for indirect use value from reduction of water taken from ecosystems (B7) could be achieved over 16 years in the period 2009 to 2025. Change of B7 values over the period are illustrated in Figure 3.

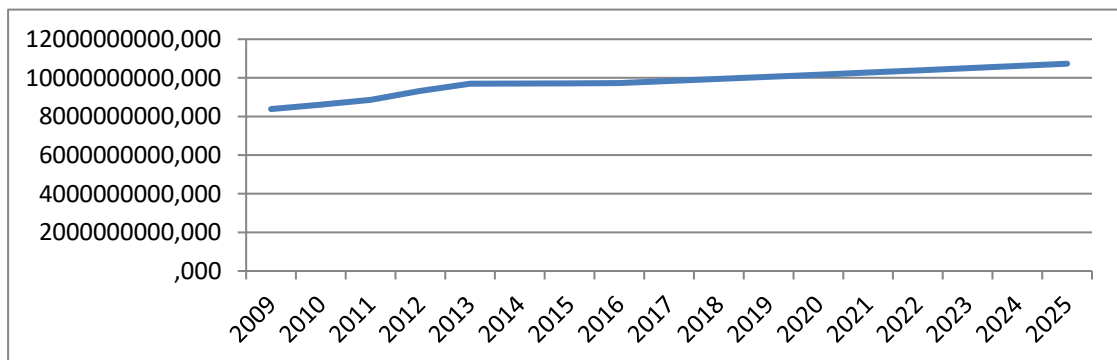


Figure 3. Changes in Indirect Use Values Provided by Water as a Result of Implementing WDM, 2009-2025

Source: Estimated by the authors

Chart in Figure 3 shows that this benefit value has slightly increased over the years. Water-related indirect use values by WDM implementation in comparison with the total value achieved is not much but it is very important value which helps the

economic analysis and management perception of WDM approach as comprehensive and significant.

In addition, the implementation of WDM will create a large financial savings to the State, water providers and consumers, reduce energy cost thereby contribute to reduction in greenhouse gas emissions over the years described in Figure 4 below. Reduction in greenhouse gas emissions are one of important considerations that should be taken into account when assessing the performance of WDM in Hanoi urban area.

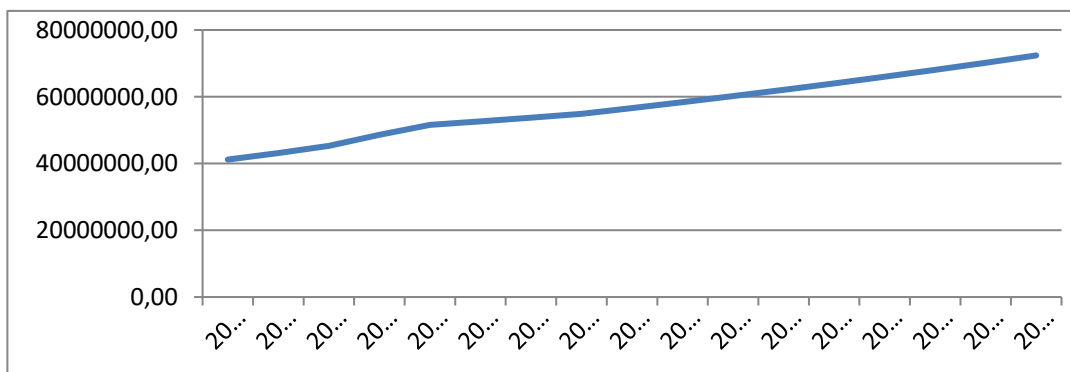


Figure 4: Benefits in Greenhouse Gas Emissions Reduction as a Result of Implementing WDM, 2009-2025

Source: Estimated by the authors

Estimated Costs of WDM Implementation

Investment costs for program of increasing water tariffs (C1): Based on the statistics from HAWACO associated with reference from the consultancy company on water pricing policy (Vietnam Water and Environmental Joint Stock Company, No. 5, DuongThanh Street, Hanoi), the investment costs of the program for raising water tariffs in Hanoi urban area is averagely VND 500,000,000; costs of propaganda program on raising water tariffs in 3 months is VND 200,000,000.

Investment cost of water loss prevention program (C2): Based on the data on volume of water supplied during the period from 2009 to 2015 and cost of loss prevention provided by HAWACO, a linear relationship between the cost of loss prevention (VND/m³) and total volume of water supplied (m³) presented in Figure 5.

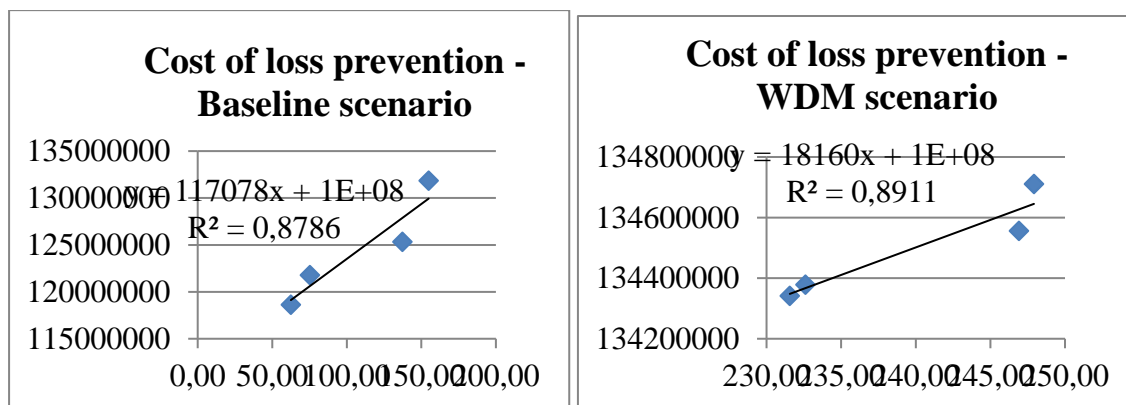


Figure 5. Linear Relationship Between the Cost of Loss Prevention and Total Volume of Water Supplied in 2 Scenarios

Source: Regressed by the authors

Linear equations are as below:

$$y_{CS} = 117.078 x + 10^8$$

$$y_{wdm} = 18.160 x + 10^8$$

Where y: volume of water supplied annually (m³)

x: cost of loss prevention (VND/ m³)

Based on estimated volume of water supplied over the years of two scenarios, the estimated cost of wastewater management is shown in Table 2:

Table 2: Estimated cost of wastewater management under WDM program

Years	Cost of loss prevention management (C2, VND)	Years	Cost of loss prevention management (C2, VND)
2009	125,290,428.89	2018	478,151,231.83
2010	329,498,459.96	2019	802,471,903.54
2011	186,145,594.77	2020	647,427,281.33
2012	279,917,781.64	2021	1,015,357,214.03
2013	281,185,718.64	2022	1,230,155,141.26
2014	95,629,579.58	2023	1,315,613,723.61
2015	261,735,765.44	2024	1,439,402,231.88
2016	627,203,104.41	2025	909,064,865.98
2017	1,344,348,144.98		
Total:	11,368,598,171.76		

Source: Estimated by the authors

Having the costs and benefits estimated, the NPV was calculated with the discount rate of 8 and 10 percents.

With the discount rate $r = 8\%$, NPV is relatively significant at VND 363,736,065,583.77. When the discount rate $r = 10\%$ applied, NPV value is still greater than zero, at VND 133,111,871,437.80.

4. Discussion and Recommendations

Employing a Cost Benefit Analysis framework, the authors have tried to identify and estimate as much as possible the costs and benefits of WDM application in Hanoi. Although there still under and/ or un-estimated values, such as health costs, landscape, natural capital or other social benefits, the results of NPV calculation showed positive signals to support the application WDM. Water demand management could be a good choice for the city like Hanoi and others to overcome the challenges of scared water resource in the context of growing urbanization and climate change.

In the coming time, it is suggested that Hanoi, step by step, introduce new policies and comprehensive solutions to promote the application of WDM. Learning from other countries' experience, the authors propose the introduction of an appropriate water price and water tariff that should: (1) Be comprehensively and accurately accounted to full costs by taking into account environmental and social costs, to minimize negative externalities; (2) Continue to apply progressive tariffs to increase the savings and efficient use of clean water in urban areas; (3) Increase water price by a proper roadmap and consensus of consumers; (4) Improve wastewater fees and forest environmental services fees to raise the revenues for environmental protection.

Besides, others opportunities of urban water demand management should be continued and improved such as: water metering; reticulation leakage detection and repair programs and pressure reduction; customer advisory services; use of incentives for installation and/ or retrofitting of water efficient equipment; reduction of water use by the water utility; regulation of the efficiency of water using appliances, especially in new buildings; use of reclaimed water (e.g. waste water/grey water) to reduce the need for fresh water supplies; water use restrictions, either on a temporary or permanent basis.

In addition and may be the first for urban water demand management to be more effective, it is necessary to have a communication strategy, including community

education campaigns/ alternatives to raise awareness on water users for the people living in new developed residential areas. Experience from urban water demand management framework by POLIS Center, Canada, has shown some of the concrete solutions for Hanoi as following:

- Integrate water-saving education into school education programs. *Implementing agencies* for this include: schools, education and training departments, water provider, natural resources and environment department. These programs should involve experts and teachers as resource persons to provide students with knowledge and skills on water saving and efficient use.
- Raise public awareness through public mass media and advocacy campaigns on water saving and efficient use. These programs should be activities for broadcasting and social organizations (for example: women's union, youth union, veterans association, etc.). Beside to the provision of information on the importance of clean water through the mass medias, there should be creative activities such as contests on water saving ideas....
- Apply “water saving label” for home appliances (washing machines, sanitary equipments, shower taps...) to provide users with information/ signals supporting their choices.

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HOMESTEAD ENVIRONMENT IN SHATAPRU IN MYITKYINA, KACHIN STATE, MYANMAR

Seng Aung (PhD)

Associate Professor, Geography Department, Myitkyina University, Myanmar

Email: sengaung@gmail.com

Introduction

This study primary research of homestead in Shatapru and it is to illustrate environmental highlight on home gardens in Shatapru. As traditional history, homestead is the backbone of almost all indigenous societies. Homestead products contain rich amount of diets. Fruits and vegetables from homesteads provide seasonally needs for human body and mental happiness. Home garden establishment in Shatapru is satisfactory environmental perspective due to almost everywhere be shading with fruit trees and seasonal crops. Age old people always establish home garden for many purposes include gathering seasonal fruits, medicinal useful, vegetables, fodder, culture useful crops, and shade for their environment. Environment is thinking about a beautiful scène such as a stream flowing through a wilderness area or a rain forest canopy alive with blooming flowers and holding monkeys include nature world as well as things produced by human, it is a complex web of relationships that connects us with the world we live in (Social science). As Environmental perspective of this study, is the impact of humans on the environment. An organism cannot survive without a constant supply of energy and where an organism's energy come from, and ecosystems does are constantly changing. We need to know these are full of amazing facts and ideas about homestead environment by means of observation.

Homestead contains an extraordinary variety of species and the complex relationships between them. So environmental perspective of Shatapru, Myitkyina University is situated in there, need to be explore a particular articles.

Keywords: *generate seasonal income, homestead, indigenous, sound environment, sustainable,*

Aim and Objective

Theme of this paper is to observe environmental situation of Shatapru, closely to Myitkyina University campus and database on establishment of fruits and varieties of seed which preservation in homestead.

Objectives of study are:

- To study homestead gardens situation
- To construct database on varieties of home garden crops
- To fine more environmental sustainability in Shatapru

Materials and Methodology

Primary data: Field observation and interviewed age old people, who are working in Myitkyina University, wear carried out. Documentary photographs are taken to be used and the qualitative and descriptive research technique is used in this study.

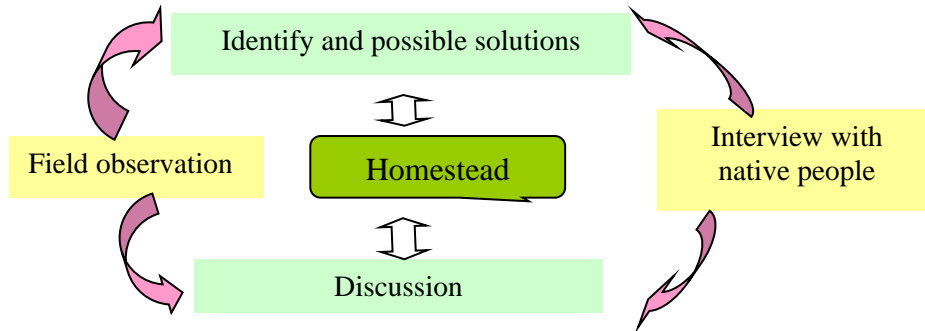


Figure 1: Design of homestead study in Shatapru, Myitkyina

Results: Creation of homesteads agro-forestry, serve as a model for small scale agro-forestry and micro-climate, stimulating appropriate urban socio-economic function through urban research.

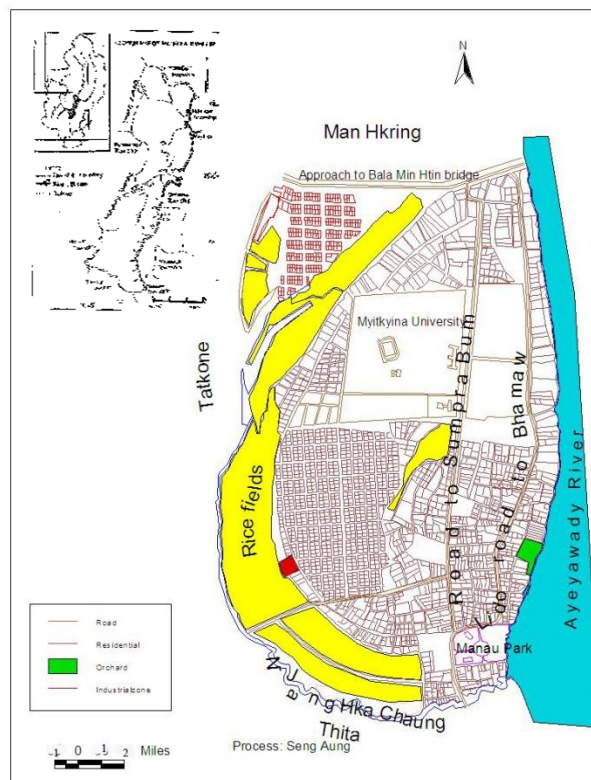


Figure 2: Location map of Shatapru

Geographical Overview

Shatapru was rebuilt in 1852 after the Anglo-Myanmar war. Shatapru means rising the moon (Moon rise) (vxGufaom ae&m). Shatapru is one of the (28) quarter in Myitkyina and is situated on the bank of Ayeyawaddy River and on Ledo road to Bala Min Htin Bridge and road through Myitsung (the confluence of Mali Hka and N'Mai Hka) to Puta Oo and Sumpra Bum. It adjoins the Manhkring on the north, Tatkone on the west, Thida on the south. It is covered by N'Jang Hka stream on the south and mostly the west and by Ayeyawaddy River on the eastern side and the Road to Bala Min Htin Bridge on the north.

Shatapru is composed of flat and fertile soil in rice fields, gradually higher on northern part. Some time (about 5 years duration) Shatapru is flooded by Ayeyawaddy River and silt deposition occurred in rice field and residential areas. There are (14) sub-quarters and population (9652) living in there.

The drainage pattern can be seen as N'jang Hka Chaung takes his source from northwestern part of Shatapru then flow down into Ayeyawaddy River. Climate Weather is fair situation.

Climate

Tropical monsoon climate can be experienced and maximum temperature is 38.3 °C and minimum temperature is 4.5°C. Yearly rainfall and maximum temperature is described as figures.

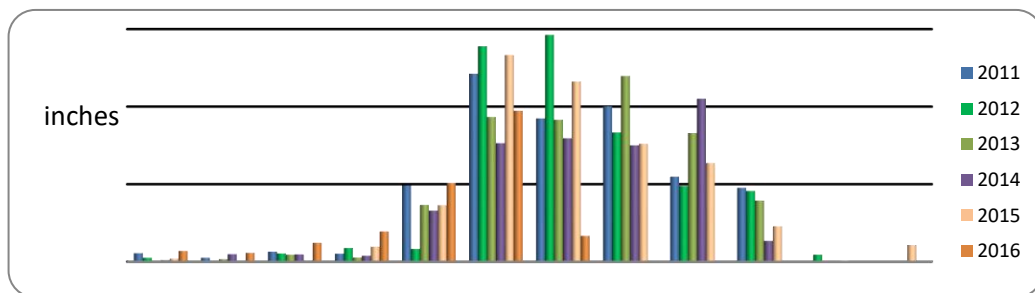


Figure 3: Rain fall of Shatapru, Myitkyina

Source: Meteorological Department, Myitkyina, Kachin State

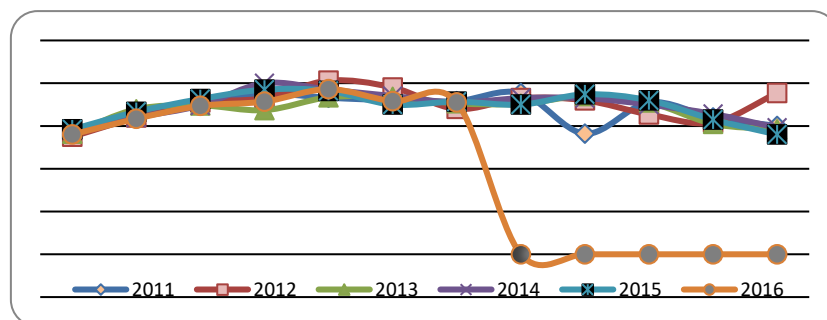


Figure 4: Minimum Temperature of Shatapru, Myitkyina

Infrastructure

There are two main roads which are Ledo road and shortcut road (University road) across in Shatapru and easily approach to Bala Min Htin Bridge and to Myitsone (Confluence). Road transportation especially tar road which approach to Myitkyina University was upgraded. The road passes through Bala Min Htin Bridge across the Ayeyarwady River to and from Wai Maw, China border area through Mandalay.

Homestead garden assessment

Local people establish homestead gardens to grow varieties of seasonal crop such as fruits, citrus, aquilaria, banana, ornamental, teak, medicinal plants and vegetables, spices and cultural crops at least cost lead to sound environment.

Flowers, medicinal plants, seasonal vegetables, lichee, rambotan, dog fruit, pine apple, banana, peach and lemon, traditional spices etc. are grown. More than ten of varieties of medicinal plants can be studied around Myitkyina University.

Homesteads are providing shade and moisture, household income, and good agro-forest which are reflected in environmental, cultural and socio-economy. It is suitable for many aspects of human activities and solving variation of climate in any way. The plants can be classified by use into more than ten groups, such as fruit trees, vegetables, dyes, food crops, fences, medicinal, fibre, ornamentals, religious plants, culture usage and fodders. Home gardens at the backyard of the house are fenced to keep animal out. Fruit trees like Litchi, damson, pine apple, papaya, banana oranges, peach, guava tree, and mulberry usually form shading layer component and vegetables form the second layer and are planted near the fence. Medicinal plants, spices and ornamental plants are usually undergrowth of homestead gardens. Home garden at the backyard is the main part and important for family. It supports their daily needs with many varieties, and some are even sold at the local market. Another important part is the garden around the house where pig, chicken and cattle are allowed together with bamboo, banana, papaya, mangoes, oranges, banana, star apple, garcinia, cassava, and some other fruit trees grown around there. Under these trees climbers and root crops such as sweet potato, taro, tomato, chili, and kitchen needs are grown.

Fences are an important part of homestead gardens. Homestead garden always consists of a house, frequently surrounded by bare front space, well. The local people grow these plants in home gardens so that they may harvest the plants whenever necessary and protect them from chickens, pigs and other domestic animals. Seedling nursery or plant nursery is popular in home gardens where these are transplanted in taungya or orchard etc. The ornamental plants include cockscomb, orchid, golden

bamboo, roses, hkong yan, gladiola/ gladiolus/ titsa etc. are grown for fencing purposes and are very conspicuous.

Homestead gardens provide dense vegetative cover, which supplies a comfortable climate environment for both household and livestock. Garbage, waste and manure are often scattered throughout the home garden so that they can be decomposed by microorganisms in the soil and are absorbed by the roots of plants or crop trees that provide the organic matter flow and recycling in ecosystem. Soil is fertilized and improved with fallen leaves, rotten vegetation, garbage, manure and waste. In these functional systems, the home garden will become a sustainable system in all kinds of factors. Traditional home garden has been changed to special gardens such as Litchi orchard, mixed fruits gardens. Most common vegetables are mustard, sweet potato, cabbage, ginger, chilli, maize, spices, cassava, and cucumber. Some home garden crops found in Shatapru can be listed in Table. The home garden is necessary to explore as a unit of an ecosystem, a source of household seasonal income, and appropriate socio- economy. Home garden possesses a special historical background of culture, religion and socio- economy and it is most important with respect to traditional indigenous knowledge. Native women know this very well and they have accumulated sufficient experience and knowledge about garden crops. A wide variety of food crops including roots, tuber, teams, fruits, oils and fats, spices and condiments, vegetables and forest trees are grown together. The waste materials from crops and homes are used as feed for animals and burnt waste is used as manure for crops. Banana, dog fruit, coffee, Litchi, pineapple etc are seasonal income crops.

Table 1: Varieties of crops grow in home garden in Shatapru

Local name	Botanical name	Common name
Masa si	<i>Dillenia indica</i> L.	
Ting-gaw	<i>Livistona Jankinsiana</i> Griff.	
Dali n'gang	<i>Oroxylum indicum</i> vent.	
Mashaw lap	<i>Euonymus Kachinensis</i> prain	
Nga dang ban	<i>Coccinear</i> Juss.	
Tung-shat	<i>Morus Laevigata</i> Wall	
Yahkawm ban	<i>Rrunus nepacilensis</i> steud.	
Langa	<i>Musa Sanguinea</i> Hook	
Ya-pye	<i>Eugenia diospyrifolia</i> Wall	
Kin-la	<i>Sacharum</i> spp	

Local name	Botanical name	Common name
Machyang si	Piper Wgrum L.	
Mai saw hpun	caoe boat of (Shorea assamia Dyer)	
Kawa	Cephalostachyum flavescent Ky.	
Machyang	Piper nigrum L.	
U lai	Caryotamitis lour Bot	
Shalap/mahkri lap	Begonia coccinea Hook	
Mai-hting	Mesua fera L (Guttifirae)	
Malu si	Ficus Semicordata (Moraceae)	
Sumring si	Luffa acutangula Roxb.	Angled loofah
Na saga si	Potentilla fragioides L/ wild berry	
Lahpaw (Hpawgoi)	Phay mum capitatum wild/giganteum	
Shaba lap	Cardiao crinn giganteum(Wallich) with flowermakin	
Lachyut	Carthamus tinctorius L.	Safflower
Kumbang ban	Cymbopogon citratus Stapf	lemon grass
Ju hka si	Salanun nigrum L.	Solanece
Nai hpagoi	Canna edulis ker	Arrow root
naisam	Sechium edule Sw	Sweet potato
Nai ninghkun	Dioscorea alata L.	Yam
Nai kadung	Manihot esculenta	Cassava
Nai	Colocasia esculenta Schott	Taro
Mam	Oryza satival L.	Rice
Langu	Musa nana Lour	Banana
Lamung si	Mangfera indica L.	Mango
Malang si	Artocarpus heterophllus Lam.	Jack fruit
Umay si	Nephelium ;appaceum L.	Rambutan
Miwamahkaw si	Litchi chinensis Sonn	Litchi

Local name	Botanical name	Common name
Shata si	<i>Chrysophyllumcainito</i> L.	Star apple
Shalui si	<i>Tamarindus indica</i> L.	Tamarind
Sanghpaw si	<i>Carica papaya</i> L.	Papaya
Jahkya si	<i>Actinidia chinensis</i> Planch	Gooseberry
Kum gyin si	<i>Cucumis sativus</i> L.	Common cucumber
Shalau pa	<i>Gomphrena globosa</i> L.	Globe Ameranth
Jinghkrang makai	<i>Brassssica chinensis</i> L.	Chinese cabbage
Tau ba si	<i>Benincasa hispida</i> Cogn	Wax gourd
Hkum pak si	<i>Cucurbita moschata</i> (Duch)	Pumpkin
Wa hkum si	<i>Cucurbita pepo</i> L.	Marrow
Sum ring si	<i>Luffa acutangula</i> Roob.	Angled loafah
Bin sap si	<i>Luff cylindrica</i> Roem.	Smothed loafah
U jauban pan	<i>Celosia argentea</i> L	
Kumshu	<i>Saccharum arundinaceum</i> Retz	Sugar cane
Kawa	<i>Dendrocalamus asper</i> Kurz	bamboo
Shagrang	Ori	Amarylliaceae
Kumgyin si	<i>Cacumis sativus</i> L.	Common cucumber
Ang nam	<i>Mentha cordifolia</i> Opiz	
Majap	var. <i>acuminatum</i> Fingerh	Chilli
Shaba si	<i>Solanum melongena</i> L.	Egg plant
Bahkri si	<i>Lycopersicon escutentum</i> Mill	Tomato
Naw hpu shapre	<i>Glycine max</i> Merr.	soybean
Nawkyu si	<i>Phaseolus vulgaris</i>	Common bean
Mahkaw nam	<i>Polygonum odoratum</i> Lour	PAAK Pai
Panji ban	<i>Coriandrum sativum</i> L	coriander
Hkau-myin .	<i>Curcuma domestica</i> valetton	Turmeric
Shanam	<i>Zingiber officinale</i> Rosc	Ginger
Jangwawm si	<i>Ananas comosus</i> (L)merr.	Bro melia ceaw/Pineapple

Local name	Botanical name	Common name
Maitau si	Lagenaria siceraria Stand L.	Bottle gourd

Source: Seng Aung (2006).

Discussion

Shata Pru nearly middle part of Myitkyina Myo is composed of (14) sub-quarters and an area of 2236 acres. Study area also is well known by made up of Myitkyina University, Industrial Zone and Bala Min Htin Bridge with scenic beauty of River Ayeyawaddy and Kachin National Manau Park. Significant rich of homestead garden resources serving as a foundation for the household economic life of the indigenous people and they establish homesteads which provide both climate change solving and sustainable family income generation development opportunities. Local people adapt to its geographic conditions, environmental conservation, appropriate structure and management activities on homestead garden in Shatapru.

In Shatapru, under the homestead environment, hotels like Palm Spring, Sumpra, and restaurants with mountain fresh foods, traditional foods and cultural foods are situated at the bank of Ayeyawaddy River with scenic beauty under shading fruit trees.

Kachin National Manau Park including culture buildings decorated with meaningful patterns telling descendant history. Kachin National Manau Park Park is culture heritage of Kachin ethnic people and potential for tourism attractive cultural buildings and potential socio-cultural network area. People celebrate yearly Manau festivals on diverse occasions. Manau festival is holding on 5th to 10th of January in every year.

Rich indigenous culture is symbols of natural resource, crops maintaining system and richness of biodiversity that indicates on cultural buildings and Manau Pillars and celebrate as these patterns. This culture landscape can be studied in the eco-friendly homestead environment.

Seasonal fruits and vegetables are important part of family diet needs and income generation. Homesteads provide green, clean, moisture, shade and absorbing carbon dioxide produce by urban vehicles and are directly related to climate situation.

There are many possible models of agro-forestry systems resulting from combination of home garden practice as the crops cultivation including seasonal, perennial and raising animals in traditional arrangement that offers food and earning for family who produce them. They have been cultivating fruit trees and vegetables which include more than 200 annual crops such as taro, maize, chili, pumpkin, mustard, potato, yam, cow-peas, beans, cotton, citrus fruits (lemon, lime, oranges,

grapefruit, rambutan, peach, papaya, pine apple, buffalo berry, and Aquilaria, take, bamboo, tea, coffee, etc. These models are typical agro-forestry systems with reasonable levels of sustainability in Shatapru.

Development of sustainable homestead will represent a feasible alternative in view of its capacity to create new jobs. The generations of appropriate indigenous technical knowledge contribute to environmental conservation or preservation of crop diversity.

Agro-forestry provides beneficial effects of interaction with crops and animals to obtain sustainable production. Multi-cropping improves the productivity and conserves the environment, control soil, moderates soil temperature, suppresses, recycles nutrients and preserves moisture. Homestead is environmentally-friendly and serves as an income and food-generating for local people.

The homestead garden products are daily kitchen needs, honey, flowers for religion and culture decoration, medicinal usage, cultural useful materials, fodder etc. Indirect benefits of homesteads are pollination activities, to enhance high yield and improve seed quality of several fruits.

Beekeeping in homestead is also helping to conserve biodiversity enhancing the carrying capacity of different micro-ecosystems, create micro- climate and mountain evolutionary processes as primary functions. Traditional bee keeping, and breeds of animals are small scale but important family income is provided.

Sericulture and mulberry farm can be studied in Shatapru and should be promoted.

Green outcomes from homestead maintain soil organisms, soil moisture, control runoff water in rainy season, increasing water storage in subsoil, fodder, and fuelwood available. Bamboo variety is also grown in some households homesteads to be used easily.

Teak agro-forest can be seen in the Myitkyina University campus that provides micro-environment in the university campus. Research need to be listed crop diversity, culture and traditional usage, potential economic variety such as aloes, indigenous methodology and modern innovation and creation are needed.

Improve infrastructures stimulate the increasing agriculture activity and economic function in Myitkyina. Seasonal diet, fresh foods and some cash crops especially aloes cultivation and nursery establishment in home gardens provide higher income.

Homestead gardens research on different perspectives is needed to classify varieties of crop. Establishment of home gardens is popular practice of local people and traditional agroforestry management.

Kachin National Manau Park needs to be defined as culture heritage site and link to with indigenous homestead culture of local communities.

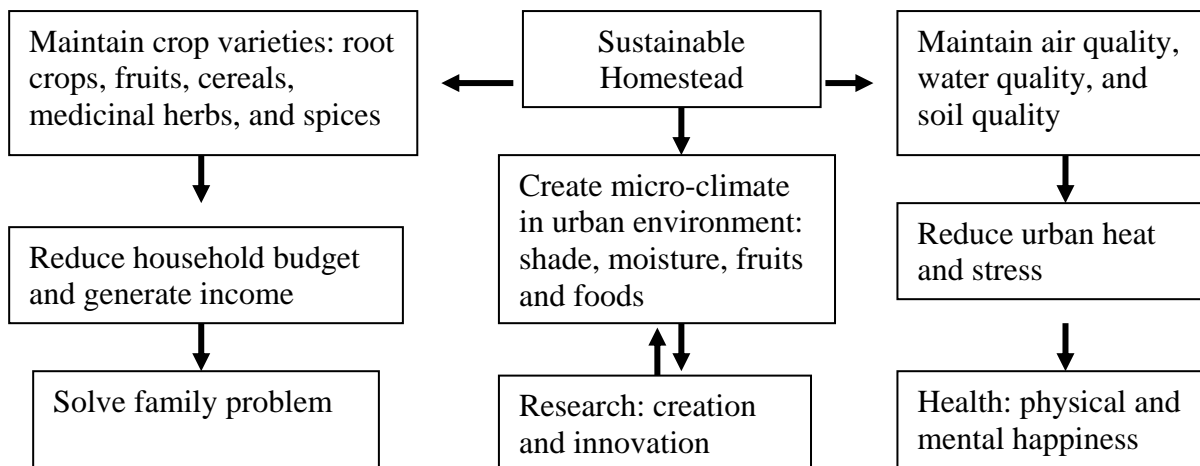


Figure 5: Necessary research flow for homestead study in Shatapru.

Conclusion

Some of endangered species of local crops will be preserved by cultivation at homesteads, innovative marketing locally. Creating homesteads supplies will present a model of crop resource co-management, and as such will be locally and region wide relevant. This model can serve as an example for homestead establishment in Shatapru also in the Kachin State.

The indigenous people have been a primary agent in the development of mature cultural homestead landscapes of the agro-forested through their own efforts. They begin the process of transforming the cultural landscapes with a system of home garden establishment. It is considered today that the characteristic of homestead garden cultivation is an integral part of sustainable agriculture and environmental conservation. The cultural diversity is closely related to crops cultivation and natural environment which contribute to natural resource management and traditional preservation. Local crop diversities, diverse culture, traditional agro-ecosystem, traditional medicinal plants, and homestead landscape are great potential for socioeconomic sustainability. Their knowledge of forestry and land use, traditional medicine and their skill in crafting are valuable form of management. The people are accustomed to establish homestead and crops cultivation, health care and other social activities by means of homestead agriculture. Elderly women always establish homestead in their backyard cause physical and mental happiness. Fresh fruits, vegetables, spices, traditional medicinal leaves, fodder and daily kitchen needs can

be obtained from homestead gardens. Homestead gardens are socio-economically profitable, environmentally sound, and low cost investment practice in family.

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**THE STUDY OF IDENTITY IMPLEMENTATION TO INCREASE
THE VALUE-ADDED INDIGO DYED FABRIC: A CASE STUDY OF
THE GROUP OF INDIGO DYED FABRIC PRODUCERS IN BAN
NON SA-NA, NA NGUA SUB-DISTRICT, NAWAH DISTRICT,
NAKHON PHANOM PROVINCE**

Dr. Kriangkrai Pasuta

kriangkrainpu@gmail.com

Dr. Kanlaya Mikhama

kanlaya.mikhama4@gmail.com

And Ms. Pawadee Pantharuk

pawdee2014@gmail.com

Faculty of Education, Nakhon Phanom University, Nakhon Phanom, Thailand.

Abstract

This article investigates 1) local wisdom of weaving, indigo dyeing, and identity of indigo dyed fabric, and 2) the process of indigo dyed production in the community. The tools used in the research were in-depth interview with semi-structured interview guideline, and focus group discussion. The results showed that group members inherited traditional knowledge from ancestors, and the traditional knowledge is unique. Regarding indigo dyed fabric production, all processes of indigo dyed fabric production are made by the community. Indigo dye is extracted from natural indigo tree which grows within the community. Producers in the community prefer natural indigo dye to the synthetic indigo dye because the natural one offers a good material quality. In addition, Identity of indigo dyed fabric is used to present the fabric in the modern market.

Keywords: *dyed, identity, indigo, and indigo local.*

1. Introduction

Indigo dye is a natural dye which has its history more than 6,000 years. Indigo dye is extracted from the leaves of indigo plant which has been in cultivation worldwide, and the quality indigo dye has a production source in India. However, indigo dye nowadays is the synthetic dye, while the natural dye production is decreasing down to 4 percent of total dye production in the world. In Thailand, it is

unclear to indicate history of indigo dye usage. However, indigo dye is presented through old photos of people in rural area and the dressing style of people in rural community until it becomes one of the symbol of people in rural area (Saithong et al, 2006: 34)

Indigo dyed fabric is a local fabric which is well-known to domestic and international markets. The fabric is an eco-friendly product decorated with colorful designs. Indigo dye fabric is made by cotton which dyes with natural indigo, and harden to washing. To produce the indigo dyed fabric, the cotton would be soaked in a pot which contains the dissolved-indigo, and soaking would be done again and again until the producer pleased the indigo shade. Due to the fact that indigo dyed fabric production process is complicate and takes long time to produce, today there are high number of low and medium quality of indigo dyed fabrics are produced for selling in the market. In addition, a price of indigo dyed fabric is higher than fabric dyed with other plants, so it convinces the locals producing indigo dyed fabric. By the way, the locals nowadays do not produce the fabric by handmade anymore. They prefer the fabric produced in the factory to the fabric made by themselves. This local wisdom of indigo dyed fabric production is disappearing (Kulchittiwirat, 2014)

Nakhon Phanom province implements the indigo dyed fabric production in the provincial strategic plan, with the cooperation from Nakorn Panom University, in order to improve the local fabric production to meet with international production standard. The plan focuses on Non Sa Ad village, where is a famous indigo dyed fabric production site of Nakhon Phanom province. After contextual analysis, it is found that the village is dealing with problems in production. Regarding production process, lack of raw materials becomes a circumstance that is challenge the producer. Area of indigo tree plantation is decreasing. While knowledge on the dyed fabric is not able to transfer to other persons in deeply details, so it results in the standard issue. In addition, designs of indigo dyed fabric is limited. No one or group attempts to create new design. Although the markets still need indigo dyed fabric of Non Sa Ad village, knowledge on fabric production and value-added method are still limited.

The provincial strategic plan regarding the indigo dyed fabric development provides suggestions that improvement of indigo dyed fabric should be operated as soon as possible in order to strengthen the marketing effectiveness in both domestic and international market. The improvement should be operated based on the combination of local wisdom and the updated production technology. Creating the value-added dyed fabric based on community identity is an effective way to increase product price in the market. Additionally, Non Sa Ad village locates in the region that have high demand of indigo dyed fabric, so the village should use this advantage point to expand the market and create other products dyed indigo. This paper is

written based on a research question that what are the identities of indigo dyed fabric of Non Sa Ad village, and how the community improves product quality and standards.

This research investigates theories, concepts and related research. Summarize the essence of the concept of how to create value for money and reliability. The strategic concept of branding. As detailed below.

How to create product value and reliability ???

Strategies to build value and reliability for the product. Considered very important. Doing business today, especially with new products. Want to report on the market. The way to strengthen the value and reliability of the product is the principle.

1.1. If it will strengthen the value and reliability of the product. Things to consider and focus on. The first is the feature. Because the product is of no value and can not respond to the credibility of the consumer, if the product can not prove itself in terms of features claimed. Therefore, entrepreneurs must test and develop their products to better meet the needs of consumers. The features that claim to market and advertise must be empirically substantiated. It will ultimately help to create value and reliability for the product. This method is most commonly used with products that are relevant to the health of the consumer or can not be launched for testing, such as toothpaste, soap, shampoo, contact lenses etc. etc. The product that we want to present as a testimonial is a way to add value and reliability. The reliability of the product will be more or less dependent on the expert who certifies that he has a good social background.

1.2 Reference research is another popular way to do things with vitamins, health drinks. And products that are relevant to the health of consumers. Where there is a selling point, the benefits that the body will receive from using such products. This method will be able to create value and reliability better than the expert certification model. In addition to its value and reliability, it also contributes to a good image and elevates the product by default. However, there is a downside that the research methodology will cost a very high price. Be sure to check the breakthroughs of the business before deciding to use this method.

1.3 Bring people who try out real products to show and tell them about the features and experience of using the product. Considered to be able to create value and reliability for the product at a very high level. This method also provides the opportunity for consumers to prove the features and compare the differences with the competitors as well. The case of shampoo often uses the method of telling through the experience directly from the user. The advantages of this method is that

it is the easiest, most convenient, and most economical of all the aforementioned methods. But there is a downside that this method of business is used so many times that it may not be able to create novelty in the view of the consumer as much as it should.

1.4 Value creation and reliability of products in a variety of ways. Whether it is a refund, if not satisfied repair products, free replacement products, etc. is a very useful and popular way to expensive products such as electrical appliances. The limitations of the product are not volumetric but quality and durability for a long time. In addition to the warranty, it adds value and reliability and also helps to close sales quickly. It is suitable for products with a very high price.

1.5 is one of the easiest ways to replicate is to create value, availability, reliability, speed and cost as little as possible. The feedback received from the consumer will be satisfactory and will further elevate the product. It can build confidence and grade the product up with it.

1.6 It is true that business is based on the principle of confidence is the main work. But sometimes the confidence that exists, if it is too much, becomes a veil that often deludes entrepreneurs into their own minds, especially in the confidence they have in their products. Sometimes consumers do not come to understand or directly recognize what your product features are. It is important to strengthen the value and credibility of the product that is passed on to consumers, as it will directly influence sales. Because if you think on the other hand, the entrepreneur would not think to buy products that do not know the background and lack of reliable use of course.

The strategic concept of branding.

To promote Thai brand strength. Competitive power under open market conditions.

Not only in the country, but also paving the way for the future of the brand to compete in the long-term in regional and global boundaries. Branding of Thai manufacturers and builders is as follows:

Create creative products or services The world of competition is getting hotter. Doing business will have to "think" to the stage than ever before. Create a product or service that is creative. This will be summed up here. "Creative business" creative business Here refers to a business that uses creativity to add value to one, so that consumers gain "value" (Values) from the consumption of products or services is higher. Be it physical or emotional,

With this definition, it will be noted that those who decide that. The "added value" increased. It is meant to be converted to "value" or not "consumer" and

consumer group. The perception of "value" is different. How many consumers all like the same product? But the truth is. Consumers tend to have similar tastes in a group as individuals, as individuals are unique. But the basic people. Or in a similar context Usually there is a tendency of similar taste or liking.

2. Method

Qualitative research methodology, specifically Participatory Action Research (PAR), is adopted in the study in order to collect the primary data from key informants who are members of the indigo dyed fabric production group in Non Sa Ad village, where locates in Na Ngua sub-district, Nawah district, Nakorn Panom province.

Population and sample 30 members of the weaving group. Tools used in research and collecting basic data were semi-structured interviews. Group discussion and observation

Semi structured interview To study the local wisdom of weaving, indigo dyeing. By expert interviews and Experienced people who have the knowledge to obtain information about indigo dyed fabric and indigo dyed fabric.

Part 1 Interview with community context The issue is the general information of the interviewer. History of community formation. Important Places and Resources Public Interest Benefits in the Community. Local knowledgeable or local philosopher. Especially, experts in the production of indigo dyed fabrics. In the past, the community has a picture of how to produce indigo fabric. How is the indigo cloth used in the community used? What are the beliefs and traditions associated with indigo fabric production in the community?

Part 2 interviews contextual information on the production of indigo dyed fabrics. The knowledge of the various types of fabric in the community and the identity of the fabric pattern indigo dye. The issue is the experience of dyeing indigo indigo. Learn from the knowledge of fabric dying and how or how to learn how. The reason for deciding to become a member of indigo dyed fabric manufacturer How to prepare fiber for dyed indigo fabrics? How are the production processes and methods of production? In case of buying fiber from traders or middlemen or people in the community. How are the procedures and procedures in the purchase process? The design of fabric patterns. What are the types of stripes? How many patterns do you produce? How are you doing? Where do you come from? It is a bundle of traditional or modified traditional patterns, or you think new. What are the unique identities of the indigo dyed fabric in the community? Indigo production The varieties of indigo used for planting, soil preparation, planting methods, storage care. How to make indigo, indigo, indigo, and how to care for indigo. The process of dyeing indigo. Problems in Settle Indigo and Solution

Focus Group is defined by the conceptual framework. Group discussion guidelines are as follows:

1. Trends in cost-effectiveness of indigo dyeing Farmers of Non Naka House
2. The process of planting, care, storage, distribution of products.
3. Trends of fiber and indigo trends of farmers in indigo dye production in the community.
4. Perception of the impact of market competition among producers in other communities.

Group discussion questions

1. Trends in cost-effectiveness of indigo dyeing Farmers of Non Naka House
 - 1.1 What is the trend of indigo dye farmers?
 - 1.2 What is the trend in indigo area?
 - 1.3 What are the benefits of using indigo dyed cloth to invest?
 - 1.4 What is the situation of integration of indigo producers in the community?
2. The process of planting, care, storage, distribution of products.
 - 2.1 How to make indigo? Both the preparation and planting process.
 - 2.2. What is the process?
 - 2.3 How to maintain fertilizer application?
3. How to keep indigo and care?
 - 3.1 How to store indigo?
 - 3.2. Where to store
 - 3.3 How to deal with indigo leaves?
 - 3.4 How to produce indigo?
4. Perception of the impact of market competition among producers in other communities.
 - 4.1 Are other communities producing competing with our community?
 - 4.2 How do those communities compete with the community?
 - 4.3 How did the competition impact?
 - 4.4. How to fix the problem?

Observation guidelines

1. General characteristics in the community map community.
2. The occupation of people in the community. Calendar of agricultural activities in the community year round.
3. Community Collaboration
4. Relationship of the members in the family chart.
5. Collaboration with government officials Local government Community

leaders focus on the production of indigo dyes as well as social capital and ethnic identity in the community. This can be used to help illustrate the activities of indigo dyeing in the community.

6. Participants' behavior during group discussion. In-depth interview
Brainstorming And activities While conducting research

3. Results

Context of the group of indigo dyed fabric producer in Non Sa Ad village

Non Sa Ad village locates in Na Ngua sub-district, Nawah district, Nakorn Panom province. Rice farming is a major economic activity, while other activities, for instance, animal farm, vegetable plantations, and fabric production are optional. Most productive activities in Non Sa Ad are for living purpose. In case the living products are oversupplied, the villagers then buy to the others in nearby community. The annual household income of Non Sa Ad village is 54,350 Baht. It is above the poverty line, and is sufficient for livings.

In 1996, the villagers established a group of indigo dyed fabric producer in order to empower the group for marketing purpose. Indigo dyed fabric production processes are divided based on individual's specialties, for instance, process of indigo tree growing, dyeing process, and weaving. Production materials used in fabric production are found within community. Fabric designs are associated with individual's livelihoods which appear in the community for a long time. Currently, the indigo dyed fabric producer group focuses on a high quality production, and creates new designs of the fabric in order to meet customer's demand. They improve a production process which is eco-friendly to customer and environment. In addition, the group has a strong network of indigo dyed producer with other production groups in nearby community, so it results in the effectiveness of production and marketing. Today the indigo dyed fabric of Non Sa Ad village, aka the pineapple-designed fabric, is considered as the 5 star community product.

Group of indigo dyed fabric producer in Non Sa Ad village officially established on March 8, 1996. Knowledge of fabric production has been inherited from seniors in

community for a long time. At first, indigo dyed fabric was produced for household used, or community traditional event. The government agency later supported indigo dyed fabric production by sending the experts to provide production technology knowledge and marketing channel. Group of indigo dyed fabric producer in Non Sa Ad village then was established with a support from the government agency, and followed by the establishment of the housewives group of family loved-network in 2000. These 2 groups cooperate to each other in producing the indigo dyed fabric. Majority product of the groups is the indigo dyed Mudmee fabric. Group members received financial support and skill improving support from government agency and private agency since 2001-2012 as following details.

1) In 2001, supported by Na Ngua Local Administrative Organization with total 10,000 Baht.

2) In 2001, supported by a project of Land Empowerment with total 1,123,708 Baht. The financial support has been divided into 2 parts which are the Government Saving Bank Community Fund (933,708 Baht), and the Community Fund (189,910 Baht) to construct infrastructure.

3) In 2005, supported by Na Ngua Local Administrative Organization with 47,000 Baht for infrastructure development, and 6,000 Baht for production purchasing.

4) In 2012, supported by the Nakorn Panom Provincial Agriculture Office under a name of the housewives group of family loved-network with total 50,000 Baht for infrastructure development and production purchasing.

Due to the previous supports from both government agency and non-government agency, group of indigo dyed fabric producer in Non Sa Ad village is able to operate the fabric production effectively. More group members are recruited to meet with high demand from the markets. Currently, Ms.Raterr U-Saprom is a group leader.

Organizational structure

Group of indigo dyed fabric producer in Non Sa Ad village has the administrative organizational structure which is divided into 3 groups of the committee as following details.

1) The advisory committee, includes the community leaders.

2) The Administrative committee, includes group leader, vice-group leader, group secretary, and one of the general committee.

3) The internal affair committee, includes group leader, vice-group leader, group secretary, and one of the general committee.

The group committees of indigo dyed fabric producer in Non Sa Ad village are appointed based on the government advice. The group firstly had 30 members. They issued group regulations, group policies and procedures, and elected the group committees. In theory, the group has a clear organization structure which covers all administration and production sectors. However, practically, roles and functions of the group committees are flexible. For instance, job assignment is assigned to the group member clearly, but, in practically, the group member is able to voluntarily choose own role and function in production, based on individual's specialties. In addition, functions of the group are charitable to leaning exchange among the group members.

Role and function of the indigo dyed fabric producer group member

Based on the group member interviews, all the group members are able to do all roles and functions depending on their specialties. The group consists of 2 main operational functions as following details.

Production

Group of indigo dyed fabric producer in Non Sa Ad village generally uses indigo which grows within community. the group has a stock of indigo which is estimate 100 Kilograms annually. The fabric design is created in 2 ways which are 1) traditional design, and 2) marketing design. The focused products made by the group are shawl and whole piece of fabric. In addition, Mudmee-style fabric and plain fabric are produced as well with a production capacity of 60 pieces/month and 40 pieces/month respectively. In 2004, the pineapple-designed Mudmee fabric was considered as the 5 stars OTOP product. Production roles are divided based on individual's specialties. Compensation is provided to the group members as a piece rate basis. Products are sold to the customers with the representation of the group. Income the group received from fabric selling will be returned to the group members, and some compensations are deducted as the group administration cost. The group issues production cost and the selling price of indigo dyed fabric for the group member's acknowledgement as following details.

- Production cost of indigo dyed fabric production per piece = 300 Baht.
- Large-scale Mudmee fabric = 700 Baht
- Indigo dyed Mudmee fabric (warp yarn and filling) = 900 Baht.
- Small-scale indigo dyed Mudmee fabric = 600 Baht.
- Large-scale indigo dyed plain fabric = 500 Baht.
- Synthetic Mudmee fabric = 500 Baht.

Marketing

Products made by the group will be stored for selling at the handicraft exhibition center and OTOP exhibitions, organized by the government agencies in Nakorn Panom province, for instance, the Provincial Agriculture Office, and the Provincial Community Development Office. In addition, selling channel is operated through agent representatives in Nokorn Panom and nearby province, for instance, Mukdaharn, Sakon Nakorn, and Nong Khai. Designs of the fabric will be made by orders from the selling points. Regarding public relations and marketing promotions, product information will be broadcasted through the village's broadcasting post, and brochures.

4. Discussion and Conclusion

Identity on the designs of the Mudmee traditional fabric of Non Sa Ad village

There is a variety of indigo dyed fabric design that is available in the Non Sa Ad fabric production group. Fabric designs are created based on producer's imagination and traditional livelihoods among Non Sa Ad people. The traditional design is created more than 100 designs by Non Sa Ad people, however, many designs are disappearing. Process of fabric design creation has considered as a vital process which needs to be recorded because some designs are unique and only few people are familiar with. Based on traditional knowledge documents and interviews, indigo dyed fabric design can be divided into 2 patterns as following detail.

The traditional design; is a design inherits from ancestors in the village. Based on the senior interviews, fabric designs are created based on geometric patterns and natural resources such as animals, plants, or objects in household. The traditional designs have its unique names including Kong thong, Chat Lek, Chor Tawee, Ton Tien, Toom Pong, Nak Kor, Bai Sri, Look Sorn, Sapparod (pineapple), Nok An Lieng Look, Pla Kam, Ta Kway, Mong Toom, Mee Kok Ma, Ta Kor, and Toom Kreu.

The temporary design; is a design created by producers in modern era. Fabric producers create new designs by themselves, or modify the traditional design into new design. The temporary design is created with a marketing reason to meet the customer's demand. The temporary designs have its unique names which based on producer's imagination, living practices, or even the customer's name. The names are including Nak Ton Son, Sao Noi Ban Non, Tai Yai, Pradit, Kao Tom Mud, Dok Or, Mak Jub Wang, Chor Ton Son, and etc

Identity on indigo dyed fabric production

Non Sa Ad village is famous on indigo dyed fabric weaving especially the Mudmee fabric which is the 5 stars OTOP product. Group of indigo dyed fabric producer operates all functions of fabric production. The group focuses on a quality

of indigo which is extracted from natural indigo tree in the community. All of 30 group members share traditional knowledge on indigo dyed fabric production together in order to strengthen the group empowerment. Traditional knowledge on indigo dyed fabric production is divided into 4 issues which are the growing of indigo tree, dyed indigo processing, indigo dyed fabric production method, and fabric designs. These sets of tacit knowledge embedded in individuals, and transferred to the others generation to generation. This paper attempts to summarize the traditional knowledge by using academic research methodology in order to collect knowledge on indigo dyed fabric production.

In conclusion, indigo dyed fabric is unique and represents identity of Non Sa Ad village. the fabric is generally used in traditional events, and for welcoming the visitors. In addition, indigo dyed fabric is promoted as the district product by the government agencies in Nawah district, Nakorn Panom province, and it results in broader selling channel in domestic and international markets. However, nowadays the temporary designs tend to be more popular than the traditional designs, so it is challenge for Non Sa Ad fabric producers to create fabric designs which meet the customer's order,

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TOURISTS' WILLINGNESS-TO-PAY FOR THE IMPLEMENTATION OF PAYMENT FOR FOREST ECOSYSTEM SERVICES IN BACH MA NATIONAL PARK, THUA THIEN HUE PROVINCE, VIETNAM

Abstract

Hue has been a popular tourist attraction site for both domestic and international tourists. In recent years, more attention has been paid to develop nature-based tourism. According to the development strategy for tourism of Thua Thien Hue, Bach Ma National Park will play a key role in the development of nature-based tourist sites. The implementation of Payment for forest ecosystem service mechanism in Bach Ma National Park would contribute to the development of green tourism in Thua Thien Hue. Tourists' willingness to pay (WTP) for improvements in forest protection in relation to the implementation of PFES was estimated using the choice experiment approach. The estimation of tourists' WTP helps to provide not only economic values of the implementation of PFES in tourism, but also suggestions for reasonable increases in tourist service prices that tourists can accept. If there are improvements in forest protection in relation to the implementation of PFES, tourists will be willing to pay for acceptable levels of increases in tourist service prices: (1) Increase in entrance ticket for a person is about 11,000 – 18,000 (VND); (2) Increase in hotel room rate for one room is about 50,000 – 100,000 (VND). Given the current service prices at Bach Ma National Park, the acceptable increases in entrance ticket account for 25% - 47% of the current entrance ticket; and the acceptable increases in hotel room rate are equivalent to 6,7% - 13.4% of the hotel room rate paid by tourists.

Keywords: *stated-preference methods, choice experiments, payment for environmental services*

1. Introduction

Thua Thien Hue locates in the middle part of Vietnam with two other ends are Hanoi and Hochiminh cities which are two major economic centres of Vietnam. Thua Thien Hue has a long coast line of 126km, Tam Giang lagoon with the area of 22,000ha that is the biggest lagoon ecosystem in Southeast Asia, and the border line of 81km with Laos. Transportations from and to Thua Thien Hue are convenient with Phu Bai international airport and railway system. In term of forest resources, about 65% of land area of Thua Thien Hue are covered with forests (Statistical Office in Thua Thien Hue, 2014), and Bach Ma National Park with the elevation of 1400m

above sea level is famous for its natural landscape and biodiversity. Thua Thien Hue is also famous for its ancient imperial quarters in Hue which have been recognized as world heritages by UNESCO since 1993. With the UNESCO-awarded world heritages, Thua Thien Hue has got a good position in the world tourism map. All those factors have provided big advantages for the development of Hue tourism.

Hue Tourism has been a popular brand name for both domestic and international tourists. According to Thua Thien Hue Department of Culture, Sports and Tourism, in 2014 the total number of tourists visiting Thua Thien Hue was 1,850,293 people, among whom 58% of the total number were domestic and 42% of the total number were international tourists. The number of tourists visiting Thua Thien Hue increased annually at the average rate of 11% in the period of 2000 – 2014.

To develop Hue Tourism, the master plan for tourism development in Thua Thien Hue toward 2030 indicates that green tourism will play an important role in order to achieve the green growth strategy of Vietnam. The development of tourism in nature-based attraction sites, such as Bach Ma National Park, Tam Giang – Cau Hai lagoon system, Phong Dien Nature Reserve will be a critical part in the development of green tourism in Thua Thien Hue (Hue Department of Tourism, 2013).

The development of green tourism requires the conservation of natural landscape and biodiversity. Forests provide beautiful landscape and biodiversity supporting several types of forest-based ecotourism. The protection of forests and their natural values could help to ensure sustainable development of forest-based tourism. Decree 99/2010/ND-CP on payment for forest environmental services defines “protection of natural landscape and conservation of biodiversity of forest ecosystems for tourism services” as one of five forest services entitled payment for environmental services. The Decree requires organizations and individuals doing tourism businesses that benefit from forest environmental services to pay 1-2% of their revenue for the forest environmental services. However, the implementation of the Decree has faced a number of challenges and has not been applied widely in reality in Vietnam. This study was conducted with the aim of contributing to improvement of Payment for Forest Ecosystem Service implementation in tourism in Thua Thien Hue province. Payment for forest ecosystem service mechanism in tourism would contribute to the development of green tourism in Thua Thien Hue.

2. Overview of Bach Ma National Park

2.1. Natural characteristics

Bach Ma National Park has total area of 37,487ha (34,380ha in Thua Thien Hue province and 3,107ha in Quang Nam province), in which the core and strictly protected section is 12,065 ha, the section of ecosystem recovery is 20,234ha, and the administrative and service section is 5,188 ha. The buffer zone of Bach Ma Park has the area of 58,676 ha.

Bach Ma Park locates in the tropical monsoon region. The average annual temperature is about 25°C (in the base area), the summit area has temperature of 19°C (the elevation >1.200m). The average humidity level in Bach Ma Park is 85%. The annual rainfall level is recorded at 3.440 mm. The summit area of Bach Ma mountain has highest level of rainfall in Thua Thien Hue and the Central region of Vietnam. The rainy season is from September to December with the rainfall intensity of more than 70% of total annual rainfall.

Bach Ma Park is the center of natural forest area spreading from the East sea to the Vietnam – Laos border, which is the only natural forest area left in Vietnam. Bach Ma Park has the forest area of 32,428.2 ha, including the natural forest area of 31,845.3 ha (about 86,5% of total land area of the Park) and the plant forest area of 582.9 ha (1,65%).

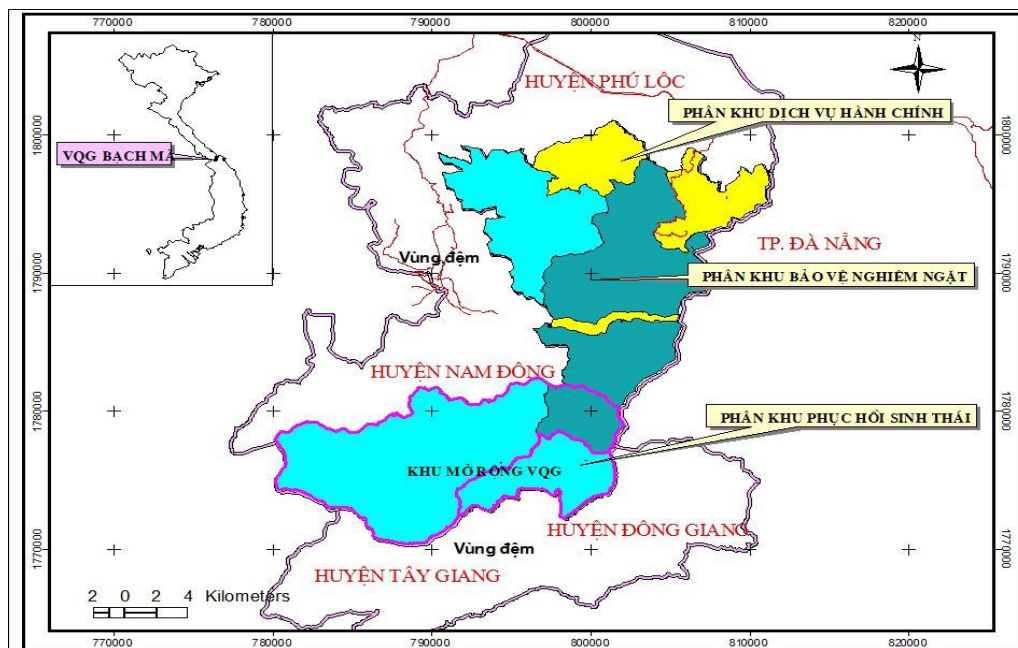


Figure 1. Map of Bach Ma National Park and its buffer zones (Bach Ma National Park, 2012)

2.2. Tourism in Bach Ma National Park

Bach Ma Mount with the elevation of 1450m above sea level, locating in Phu Loc District, away 60km from Hue city to the south, is rich natural beauty and landscape. With the cool temperature of 18° – 23°C during summer time, Bach Ma

is an ideal place to avoid the heat in inner city areas. High rate of rainfall helps to develop a system of springs and beautiful waterfalls in Bach Ma Park. The sound of water run mixing with the sounds in the forests would make the stay in Bach Ma Park unforgettable. Views from the summit of Bach Ma Mount spread widely from Hai Van Pass, Tuy Van Mount, Tam Giang-Cau Hai lagoon, beautiful beaches to Hue city with colorful lights at night. In a half of century ago, French discovered the beauty of Bach Ma Mount. Within 5 years, 139 villas were build up in this region which became a popular summer retreat in the Indochina region. Nowadays, tourist companies have invested to restore a number of villas serving tourism purposes.

Tourist services in Bach Ma Park have been improved in recent years. The tourist information center (near the entrance gate) has been developed as the first attraction site in the Park. In the Center, tourists can buy entrance tickets, transportation and accommodation services and get all information about the attraction sites in the Park. Bach Ma National Park has three accommodation places with 31 rooms with modern facilities at reasonable prices. Since 2014, the Park management board has cooperated with Thanh Tam Company in operating restaurant and accommodation services in Bach Ma Park. With the involvement of the professional tourist service provider (Thanh Tam Company), the tourist related infrastructure in Bach Ma Park have been maintained in better conditions and the quality of services has been improved. After closing three years for the development of infrastructure, the Park has re-opened since 2013 and attracted 13,280 tourists in 2013, and 12,670 tourists in 2014 (among the total number of tourists, the proportion of domestic tourists is 80% and of international tourists is 20%).

The scope of our study focuses on tourism in Bach Ma National Park. The master plan for development of Thua Thien Hue tourism with the aim toward 2030 has identified Bach Ma National Park as a key nature based tourism site representing the trend of green tourism in Thua Thien Hue (Hue Department of Tourism, 2013). Moreover, Bach Ma National Park has a number of important factors supporting the implementation of PFES:

(1) The tourism activities are clearly related to the protection of forest landscape and biodiversity in Bach Ma National Park;

(2) In relation to the payment ability of demand side, Bach Ma National Park has been a popular tourist site, so that it is possible to raise fund from tourism businesses for implementing PFES. This is a main advantage of Bach Ma National Park over other forest-based tourist sites (i.e. Phong Dien Nature Reserve, Sao La Nature Reserve) in Thua Thien Hue;

(3) In relation to the supply side, Bach Ma National Park has sufficient conditions to maintain and improve services for protection of forest landscape and biodiversity serving tourism purposes.

3. Research design and Method

In tourism activities, tourists are stakeholders directly enjoying forest landscape beauty and biodiversity. Survey on tourists' willingness to pay (WTP) for the implementation of PFES in tourism shows value of PFES in forest-based tourism activities. In this study, the tourists' WTP was estimated based on survey of tourists' opinions about their acceptable increases in tourism service prices in order to implement PFES in tourism.

To estimate the WTP of tourists, the choice experiment method was applied in this study. *Choice Experiment (CE)* is a stated preference method which has been increasingly applied in the field of natural resource and environment (Hoyos, 2010; Mahieu et al., 2014). In relation to PFES, a study in Finland applied CE to estimate WTP for forest landscape and biodiversity (Tyrväinen et al., 2014). In this study, the design and implementation of CE exercise are presented in more details in the following sections.

3.1. Determination of attributes

In a CE exercise, goods and services under valuation are described to respondents using a number of important attributes of the goods and services. To determine relevant attributes for describing the PFES policy, we undertook interviews to ask relevant respondents what they think about the most important attributes of the PFES policy. Figure 2 shows three important attributes of the PFES policy that most of respondents selected: creating additional income for local household participating in the forest protection, maintaining forest areas, and financial reporting mechanism applied for Funds receiving the payment for forest ecosystem services. Therefore, in the CE survey of tourists, the PFES policy was described to respondents using 4 attributes: an extra payment in tourism services (hotel room rate per night or entrance ticket); number of local households participating in the forest protection; number of forest land patrols per month; mechanism for financial reporting (Table 1)

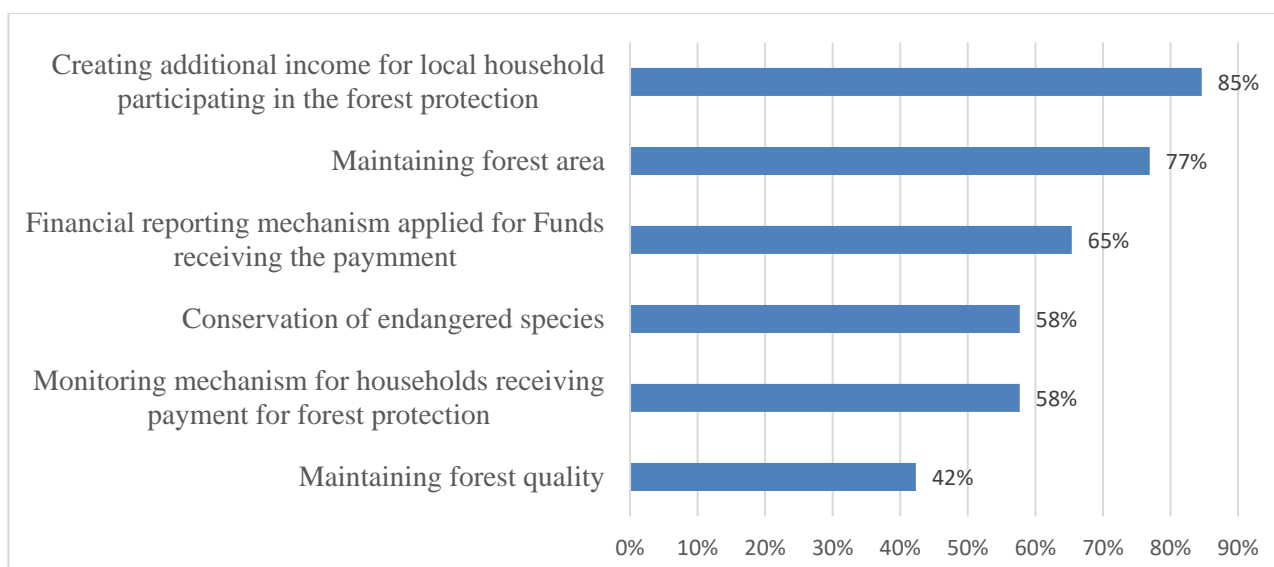


Figure 2: Results of pilot study on relevant attributes of the PFES policy

Table 1: Attributes of the PFES implementation

Attributes	Levels
AN EXTRA PAYMENT in hotel room rate per night	No extra payment (Keeping the current level) 50.000 VND 250.000 VND
AN EXTRA PAYMENT in the entrance ticket	No extra payment (Keeping the current level) 10.000 VND 30.000 VND
NUMBER OF LOCAL HOUSEHOLDS participating in the forest protection	50 (Current level) 65 80
NUMBER OF FOREST LAND PATROLS per month	2 (Current level) 4 6
MECHANISM FOR REPORTING how the payment is used and paid for forest protection	In accordance with government regulations; Additionally, having independently audited financial reports

In protected areas, forest land patrols by both forest rangers and local households play a critical role in efforts to prevent illegal use and forest fires. There might be a comment that number of illegal use offenders caught should be used to assess the effectiveness of forest protection activities. However, objectives of forest protection activities are to prevent not only illegal use of forests but also forest fires. Hence, number of illegal use offenders caught may not holistically represent the effectiveness of forest protection activities. Besides, number of illegal use offenders caught is related to not only the capacity of forest rangers but also the offenders' ability and number of illegal uses. In this study, number of forest land patrols was used to represent efforts of forest rangers to protect forests from illegal use and forest fires; moreover, number of forest land patrols is a feasible criterion to monitor commitments of forest service providers.

3.2. Levels of attributes

In this study, levels of attributes of PFES policy were determined based on the survey conducted in 8/2015 on tourists opinions, current status of tourism activities, plans for development of tourism in Bach Ma National Park and expert consultations.

In relation to tourism service prices, the survey in 8/2015 showed that tourists were willing to pay the maximum increase of 10,000 – 20,000 VND in the entrance ticket and the max increase of 100,000 – 200,000 VND in the hotel room rates in order to implement the PFES policy (that helps to protect forest landscape and biodiversity). With the results of the survey in 8/2015, the levels of extra payment in the entrance ticket were 10,000VND and 30,000VND; and the levels of extra payment in the hotel room rates were 50,000VND and 250,000VND (Table 1). The CE approach suggests that the highest level of cost attribute should be sufficiently high in order to choke off demand (demanded quantity is equivalent to 0); hence, the highest levels of 30,000VND and 250,000VND were higher than respondents' WTP in the survey in 8/2015.

In concern with number of households participating in forest protection, the annual reports in 2012 – 2014 and the plans for the development of Bach Ma Park in 2010 – 2020 showed that on average the number of households engaging in forest protection was about 50 households. The consultation with experts in Bach Ma Park indicated that number of local households is expected to be doubled. Besides, the estimates of revenue from PFES in tourism would help to pay for an extra of 32 households to participate in the forest protection in Bach Ma Park. In this CE exercise, the levels of number of households participating in forest protection, therefore, were là 50, 65 and 80 households.

In relation to number of forest land patrols, Bach Ma Park applies a requirement of at least 2 times per month, and the patrol activity will be higher in the case of high risk of forest fires or other requests. The experts in Bach Ma Park provided information that households receiving PFES from hydropower plants have undertaken patrols of additional 2 times per month with the monitoring of forest rangers. Therefore, levels of forest land patrols applied in this CE exercise were 2, 4, 6 times per month; among the levels, the level of 6 times is applied in the case of high risk of forest fires. It is also feasible to undertake the patrol frequency of 6 times per month, since all households receiving the PFES to engage in forest protection can carry out the patrols in shifts.

To ensure the PFES payment is used and paid for forest protect in accountable ways, mechanism for financial reporting have two qualitative levels: (1) the reporting mechanism must be in accordance with government regulations; (2) In addition to government regulations, the reporting mechanism has independently audited financial reports.

3.3. Design of choice tasks

Different choice tasks with different mixes of attribute levels presented in the questionnaire represent options for implementation of PFES in tourism. In this CE exercise, 8 choice tasks were designed using Ngenue (<http://choice-metrics.com/index.html>). It would be a cognitive burden on respondents to answer all 8 choice tasks, especially when tourists have limited time to enjoy the forest landscape and biodiversity of Bach Ma Park. The choice tasks, hence, were divided into two sets of 4 choice tasks; and each tourists participating in the survey randomly responded to a set of 4 PFES choice tasks. An example of choice task is presented in Figure 3.

	Option A (Current situation)	Option D
AN EXTRA PAYMENT in the entrance ticket (The current ticket is 40,000 VND/person)	No extra payment	An extra of 10,000 VND
NUMBER OF LOCAL HOUSEHOLDS participating in the forest protection	50	80
NUMBER OF FOREST LAND PATROLS per month	2	4
MECHANISM FOR REPORTING how the payment is used and paid for forest protection	In accordance with government regulations	Additionally, Having independently audited financial reports
Which of these options would you choose?	<input type="checkbox"/>	<input type="checkbox"/>

Figure 3: An example of a choice task

4. Results of field surveys on tourism in Bach Ma National Park

4.1. Overview of field surveys

The surveys on opinions of tourists and tourist companies were conducted in the middle of October 2015. Total number of tourists participating in our survey was 94 people, including 83% of tourists were domestic and 17% were international tourists. Among the 94 tourists, the number of tourists staying overnight in Bach Ma Park was 43 people.

Table 2: Information about tourists participating the survey

Characteristics	Statistics				
	Mean	Standard Deviation	Min	Max	Mode
Age	35,30	10,27	19	60	35
Male	0,61	0,49	0	1	1
Years of education	16,21	1,98	10	18	16
Monthly income (million VND)	13,29	8,11	0	25	12,5

The results in Table 2 show that the average age of respondents is 35,3 and the most frequent age in the sample is 35. In relation to gender, the sample included 61% male tourists and 39% female tourists. The information about education indicates that most of tourists in the sample attained university degree, and some tourists had graduate degree. The average monthly income of tourists participating in the survey is 13,3 million VND and the most frequent income level in the sample is 12,5 million VND per month.

4.2. Estimating tourists' willingness-to-pay

The tourists' WTP discussed in the following sections are the estimates of economic values of the PFES implementation in tourism with the service of protecting forest landscape and biodiversity for tourism purposes. Results of the survey indicate that the main purposes of tourists when visiting Bach Ma Park were to enjoy beautiful landscape and forest biodiversity, which are equivalent to 80% of tourists' values of Bach Ma Park. The majority of tourists (96% of respondents) supported the idea of PFES that stakeholders benefiting from forests should contribute to the forest protection.

When implementing the PFES policy in tourism, the forest protection would be improved in order to maintain forest landscape and biodiversity to serve tourism purposes. In a CE exercise, utility (U_i) associated with benefits that tourist i could get from the implementation of PFES in tourism is estimated using a function with

variables of attributes representing increase in tourism service prices and characteristics of the PFES policy as follows::

$$U_i = \beta_k x_{ki} + \varepsilon_i$$

where: β is parameter vector; and X_k is the vector of independent variables that are observed by the researcher; ε_i is the stochastic unobserved component. The vector of independent variables (X_k) includes 4 attribute variables: an extra payment in tourism services (hotel room rate per night or entrance ticket); number of local households participating in the forest protection; number of forest land patrols per month; mechanism for financial reporting. Results of the CE exercise are presented in Tables 3 and 4.

Table 3: Results of CE models for sightseeing tourists

Attribute variables	Coefficient (β)	Standard deviation	P-value
An extra payment in entrance ticket	-0,081***	0,010	0,000
Local households participating in the forest protection	0,025**	0,011	0,030
Forest land patrols	0,291***	0,089	0,001
Independently audited financial reports	0,535**	0,215	0,013
R ²	0,133		

Notes: *** = Significance at 1% level ; ** = Significance at 5% level

Table 4: Results of CE models for tourists staying overnights in the Park

Attribute variables	Coefficient (β)	Standard deviation	P-value
An extra payment in entrance ticket	-0,013***	0,001	0,000
Local households participating in the forest protection	0,048**	0,020	0,016
Forest land patrols	0,332**	0,150	0,027
Independently audited financial reports	0,112	0,387	0,773
R ²	0,267		

Notes: *** = Significance at 1% level ; ** = Significance at 5% level

The sign of all attribute variable in Tables 3 and 4 confirming the prior expectation that the likelihood of choosing a PFES option decreases as the increased payment in the tourism service prices rises; the likelihood of choosing a PFES option increases as the forest protection activities are improved in term of increases in number of local households participating in the forest protection and in number of forest land patrols; and as financial reports are independently audited, the likelihood of supporting a PFES program increases. Except for the variable of *Independently audited financial reports* in the model for overnight tourists all variables are statistically significant at the 1% or 5% level, confirming effects of the independent variables on tourists' choices of supporting the PFES implementation.

The important research question is how much tourists' acceptable levels of increase in tourism service prices are. Results from the CE models about the tourists' acceptable levels of price increases are presented in Table 5.

Table 5: Tourists' willingness-to-pay estimates from the CE approach

Willingness-To-Pay	No adjustment		Certainty adjusted estimates	
	High level	Low level	High level	Low level
Increase in entrance ticket for a person (VND)	30.392***	18.502***	18.843***	11.471***
Increase in hotel room rate for one room (VND)	211.320***	105.660***	99.320***	49.660***
Increase in hotel room rate for a person (VND) ^a	79.744***	39.872***	37.479***	18.740***

Notes: *** = Significance at 1% level; High levels were estimated with high level of improvements in forest protection (30 additional local households, 4 additional patrols, and having independently audited financial reports). Low levels were estimated with low level of improvements in forest protection (15 additional local households, 2 additional patrols, and having independently audited financial reports); ^a: the information about the average number of people sharing a room, which is 2.65 in the surveyed sample, was used to estimate the increase in hotel room rate for a person (= Increase in hotel room rate for one room/ the average number of people sharing a room).

A main disadvantage of the CE approach is hypothetical bias which leads to differences in WTP estimates between hypothetical payment settings and real market settings. Since payment in a typical SP survey is hypothetical, it is likely that hypothetical bias generates WTP estimates that exceed those elicited in a real market or actual payment experiment. To minimize the hypothetical bias, this research

applied a follow-up certainty question, by which respondents could state how sure they were about their choices. The results of certainty question show that with the changes in entrance ticket, 62% of respondents chose “certain” and “very certain” about their choices of supporting the PFES implementation; and with the increase in hotel room rate, 47% of respondents felt certain” and “very certain” about their choices of supporting the PFES implementation. It has been shown in experiments that an individual had lower stated certainty were more likely to switch to the "No" option in the real payment setting. Therefore, the above percentages of respondents “certain” and “very certain” about their choices were used to adjust the tourists’ WTP estimated from the CE models (Table 5).

4. Conclusions

Hue has been a popular tourist attraction site for both domestic and international tourists. According to Thua Thien Hue Department of Culture, Sports and Tourism, in 2014 the total number of tourists visiting Thua Thien Hue was 1,850,293 people, among whom 58% of the total number were domestic and 42% of the total number were international tourists. Thua Thien Hue is famous for its ancient imperial quarters in Hue and Hue ceremonial imperial music, which have been recognized as world heritages by UNESCO. Cultural tourism has been a long-term strength of Thua Thien Hue.

In recent years, more attention has been paid to develop nature-based tourism. Given that forest area is more than 50% of total area, Thua Thien Hue has potential for forest-based ecotourism. Currently, most of forest-based ecotourism activities are related to national parks and protected areas. Only at Bach Ma National Park, entrance ticket system is applied and hotel services are provided. According to the development strategy for tourism of Thua Thien Hue, Bach Ma National Park will continue playing a key role in the development of nature-based tourist sites. Bach Ma National Park, therefore, was selected as a pilot site for developing a PFES mechanism in tourism in Thua Thien Hue. Results from the case study of Bach Ma National Park can be summarized and drawn lessons for the implementation of PFES in other forest-based tourist sites in the future.

Tourists’ willingness to pay (WTP) for improvements in forest protection in relation to the implementation of PFES was estimated. The estimation of tourists’ WTP helps to provide not only economic values of the implementation of PFES in tourism, but also suggestions for reasonable increases in tourist service prices that tourists can accept.

The survey of tourist opinions showed that the main reasons for their trip to Bach Ma National Park was to enjoy the forest landscape and biodiversity. If there

are improvements in forest protection in relation to the implementation of PFES, tourists will be willing to pay for acceptable levels of increases in tourist service prices: (1) Increase in entrance ticket for a person is about 11,000 – 18,000 (VND); (2) Increase in hotel room rate for one room is about 50,000 – 100,000 (VND).

Given the current entrance ticket at Bach Ma National Park is 40,000 VND/person, the acceptable increases in entrance ticket account for 25% - 47% of the current entrance ticket. In the tourist survey, the hotel room rate paid by tourists on average was 740,000 VND/night. The acceptable increases in hotel room rate are equivalent to 6,7% - 13.4% of the hotel room rate paid by tourists.

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ECONOMIC AND SOCIAL DEVELOPMENT IN BAN NONG-YARD COMMUNITY FOUNDED NAKHON PHANOM UNIVERSITY

Aphiradi Khaeso

aphiradi.ks@npu.ac.th

Suvimon Khamnoi

suvimon.k@kkumail.com

Faculty of Education, Nakhon Phanom University, Nakhon Phanom, Thailand.

Abstract

The aim of the article is to examine 1. The impact of expansion on economic and social development in Ban Nong-yard community, 2. The consequence founded by Nakhon Phanom University to examine economic and social life in Ban Nong-yard community.

The result shows that factor that lead to related in Ban Nong-yard community distinctively is Nakhon Phanom University founded on A.D.2005, population increasing, government policies, capitalism related of investment, transportation-information system development and technology of Agriculture. These rapid changes and new development affected the life of local people, especially those living around Nong -yard areas. Economic expansion results in more infrastructure, expansion of city and service sector associated with city's life, such as hotel, dormitory, restaurant minimart, retail shop, laundry etc,. It also brings about social and cultural changes together with social problems such as drug and so on.

Keywords: *development / economic /social// social problems*

1. Introduction

"Nakhon Phanom" is a small border town in northeastern Thailand. It is about 150 kilometers from the Lao Bao border of Vietnam. This is the route in the most direct connecting Thailand to Vietnam. From archaeological evidence shows that The Song kram river, the main river of Nakhon Phanom appears had signs of settlement of prehistoric human society about 3,000-4,000 years ago. By the ancient community found a piece of metal tools, a piece of pottery and there is a burial tradition, which is contemporary with "Ban Chiang culture" Udon Thani Province,

Thailand. Such as Ban Tha-Rua community and Ban Na-wa etc. It also found that some communities had relationships with other communities beyond. Such as in the district of Nakae discovered the drums point out that is influenced "Dong Son culture" in Vietnam.

Nakhon Phanom is important in the 17-18th Buddhist century and more importantly, in the Lan Chang Kingdom (Laos) around the 19th Buddhist century. By acting as a commercial junction between Laos, Cambodia and Vietnam. As a result, Nakhon Phanom city is very prosperous. Until about the 24th Buddhist century it was part of the kingdom of Siam. From the center of the region becomes a distant and underdeveloped border town.

However the economic development under National Economic and Social Development Plan, started in 1961 has led to the social change of Nakhon Phanom and many provinces in the Northeast. Development of modern communities by building utilities such as road, electricity, water supply. Encourages the expansion of the urban area into outer space. By the area of agriculture and natural areas were transformed into official places accommodation, industrial and market place. Along with the change of physical appearance like this. Consumption culture has come to replace the original local culture. This impact on the behavioral modification and the will of the people in society. Be aware importance from outside values. Forget the culture, traditions and historical roots inherited from the ancestors. To ignore the public consciousness that had been together. It causes moral and mental degradation, pollution problem, destruction of the environment and public space. Examples of communities affected by the development, such as the Ban Nong Yard community and its far from Nakhon Phanom University about 2 kilometers.

Ban Nong Yard community there is a public swamp called "Nong Yard". In the past, from the narrative, Nong yard has wide area of 1,956 Acre. Has been encroached by the surrounding people, dredging and government office construction such as construction of the district office in 1999, Construction of the municipality of Nakhon Phanom in 2005. There are also aquariums, Skill Training Center, Nakhon Phanom Provincial Administrative Organization, OTOP Product Center, Sub-district Administration Organization and public park. These are matters of space raiding has been a problem nest since the year 1973 onwards. That is just one of the factors that contribute to change within Ban Nong Yard community impact on the concept of people in the community. But from observing that another factor influencing the change of Ban Nong yard community is: After the establishment of Nakhon Phanom University in 2005. This resulted in a pronounced expansion of the urban community

in Ban Nong Yard community. It has a profound impact on the economy, Social structure. As well as the cultural changes of the Ban Nong yard community today.

However, the study of Ban Nong Yard community should be in the form of community needs. Has importance of "knowledge" and "how to think" comes from "people" in the community. It has clear and profound insights into the story of their own community. In terms of experience,lifestyle, people's relationship with each other or the relationship of people in the community to environment. As well as the changes that occur in the community.To access this information is very necessary that requires a participatory learning process among people in community who owner of knowledge and from outsiders who are responsible for analyzing and synthesizing information. To fuse and develop knowledge that is beneficial to the community.

Objectives

1. This article aims to study factor have affected on economic and social development in Ban Nong-yard community.

2. This article aims to examine consequences founded Nakhon Phanom University to economic life and social in Ban Nong-yard community.

Hypothetical

Nong Yard is important and central areas including politics, government or central administration.Seen from the establishment of government offices such as construction of the district office in 1999, Construction of the municipality of Nakhon Phanom in 2005.There are also aquariums, Skill Training Center, Nakhon Phanom Provincial Administrative Organization, OTOP Product Center, Sub-district Administration Organization and public park. It is a source of income for the villagers in Ban Nong Yard community. However, the presence of these places. Did not cause economic changes of the Nong Yard municipality because of discontinuous administration.

Until many educational institutions in Nakhon-phanom joint to found Nakhon-phanom University in 2005, as a representative of the urban community. Because when the university was founded, it resulted in the expansion of the city.Such as increase in the number of citizens (students attending university), increase in infrastructure. There is also a service sector forexamples dorm, store, laundry and salon etc. These are the key factors that cause change. Impact on the subsistence of life, including the economy,social structure as well as the cultural aspects of the Ban Nong Yard community.

2. Method

This study uses historical research as the main input. By collecting data from both early and secondary documents. Including related research to analyze with the information obtained from the anthropological method. Field-based information derived from participatory processes of local people in Ban Nong Yard Community and interviews. Primary contributor has taken the leader and sage or elders in the community. The observations are compiled into a research report by descriptive analysis.

3. Results

3.1 Factors and impacts on the economic and social development in Ban Nong-yard community Socio-economic change after the founded of the Nakhon Phanom University in 2005. Ban Nong-yard community has been changed. Especially economy is changing rapidly. Society has changed but not as much as the economy. For any cause or factor that causes the change. From Observation in area and in addition to the educational work that has already been studied. Can be summarized as follows:

3.1.1 State policies and the influence of capitalism. The obvious effects of state policy and capitalism influence are that the government offices are located around the Nong Yard swamp as mentioned above. Various locations have been established, resulting in various developments. Especially in economics but many places has been established there is no further action may be the result of politics. Thus the path of prosperity of the Ban Nong Yard is slowed down. Both in terms of space utilization and surrounding area also has conflicts between some villagers and the government led to the dispute. However in the last 4 years its have been developed to the rest place. There are many more opportunities for economic development.

3.1.2 Population Growth leads to an increase in the number of workers.

When is the economic expansion any where so people will flock to there. To leads to income earning opportunities through various occupations. Is moving rural labor to industry, commercial and urban services that economy grows relentlessly. The resulting problems followed. Including changes in the social structure.

3.1.3 Modern Agriculture Technology. The result of the agricultural development, for example production of modern farming tools, machine, Chemical fertilizer make a farmer turned to modern agriculture. That requires a lot of capital to buy modern equipment. When income from agricultural production is insufficient it becomes a liability. So abandoning his old career turned to a new career in the urban community that replacement of the rural community in Ban Nong Yard community. Most people turn to trade. Some of those who do not have enough capital are in the

service sector. Its continuous growth direction. For example, from a farmer turned to a career as a trader. This may cause problems, followed by social problems, labor problems etc.

3.1.4 Capital formation is influenced by the concept of W. Arthur Lewis. The development sector is divided into two sectors. Rural and urban, agriculture and industry. This concept points that economic expansion, in addition to looking at capital accumulation and savings. Expansion is a result of increased labor both quantitatively and qualitatively, technology development including land for investment. Looking at economic growth as a result of input factors include land, labor, and technology. To leads to productivity expansion. The concept of economic expansion. There is one important factor is capital formation means investment in land, infrastructure and human resources. From observation in the area found that has land conversion from agricultural areas to industrial construction, commercial and service sector such as salon, laundry, garage and dormitories. Especially in Ban Nong Yard community are many dormitories. Make land are expensive, expansion of the market and production systems for sale. Meanwhile agricultural land and subsistence production systems have declined. Allowing local influential groups and traders to accumulate capital. There is an important pattern that is the loan, winnowing and being a middleman for purchase of agricultural products along with the sale of industrial products from the outside.

3.1.5 Development of communication and information systems of the state. Ban Nong Yard There are two highways through Nakhon Phanom - Sakon Nakhon. And the Nakhon Phanom – Nakae. Transportation development led to more trade between villages and other communities. And the goods that come with the growth in this communication, whether it is consumer goods or fashion items. This may be influenced by information through various media. It is part of cultural change like eating, dress change from the original.

3.1.6 Founded of Nakhon Phanom University 2005. Not all factors bring change to Ban Nong Yard community. From the data collection, it was found that although more students are studying at Nakhon Phanom University, there are not enough dormitories per students. Thus the capitalists in Ban Nong Yard started to invest in building a dormitories for business-service sector to accommodate students.

Therefore, the founded of Nakhon Phanom University is considered the main factor and it is a turning point that pushes the economy of Nong Yard fast growing economy. And there are other factors that contribute to the rapid growth of the Nong Yard economy. That is state policy and the influence of capitalism accounted for 20 percent, population increase is 24 percent, adoption of modern agricultural technology is 3 percent, Capital formation is 12 percent, development of

communications and information systems of the state. 4 percent and the founded of Nakhon Phanom University in 2005 accounted for 37 percent.

3.2 Founded Nakhon Phanom University to the economic and social life in Ban Nong-yard community

3.2.1 Economic impact: The rapid economic growth after the founded of Nakhon Phanom University in 2005. Make economic activity (i.e. production, consumption, marketing and Distribution of income). Commerce and services change to a new career.

- Agriculture: Infrastructure changes. Especially convenient transportation distribute external products into the community. The capitalism has transformed the concept that ever focused on production for household consumption as a focus for commercial production. So it depends on the proximity to the market. In the past, what influenced to local life was weather. It becomes to capitalism that has a "currency system". This is an important medium to influence local people instead. The beneficiary group is the middlemen. They are a middleman in the trading of goods between rural and urban people. Both agricultural products, such as fertilizers, pesticides and consumables, modern technology such as shoes, flashlights, garments and electricity.

- Industry: Based on observations in the area of the study found that capitalist groups invest in small businesses like rice mill, ice factory, dormitories, resort and restaurant.

- Commerce and services: Proportion of trade and services sector increased. Observed by the number of establishments. Such as dormitories, resorts, restaurants, convenience stores with a full product. To meet the needs of the community and students from different habitats.

- New careers: Economic prosperity in capitalism that people is importance to the currency system. It has created new careers for people in the Ban Nong Yard community. Most of the occupation is due to the economic expansion of the industrial sector, commerce and services sector. For examples, labors in the restaurant, careers in hotel services, dormitories, laundry facilities and hair salons.

3.2.2 Impact on social structure: Economic growth bring to many infrastructure developments to support growth. On the contrary the social structure change quite bad. That is the society and way of life of local people is linked to the development of capitalism. Therefore, understanding the way of life and society is necessary understand the process by which urban societies begin to instead rural societies. Economic growth has become a part of the capitalism. The change and adaptation of the capitalist economy that is link to the global market.Its affect local development direction and local agricultural and social change.

- The economic expansion change from society in which production was made for subsistence to trade. To bring products to the larger market. This results in decreased self-reliance and community independence. Lives and livelihood of the villagers are affected by external volatility. Capitalist interventions in the local area increased. Causing New Formation and Social gap, degradation of production systems for subsistence, increase in rural debt and distribution of income inequality. As well as the conflicts and struggles of local people. The result is agriculture and rural society are transforming into a more urbanized society. There is a shift in surplus in terms of output and labor leaving the locality. Capitalism grew and infiltrated into rural society. The mechanism of excess migration from the agricultural sector appears in various forms like a commercial, bank and loan. Leads to a gap between the villagers based on land acquisition and the use of new inputs in the agricultural sector. These changes lead to conscious growth, conflict and class struggle in rural.

- The change in social structure: There is a difference in capital formation, complex relationships and lifestyles. Sell land to capitalist so debt ratio and poor people are rising. And there are more and more employed workers in the service sector.

- The changes of lifestyle: Economic change triggered the movement in lifestyle and adaptation of people in Ban Nong Yard community. It is a urban socio-economic system. The material prosperity that comes with this development. Impact on the way of life of local people directly. The accumulation of private local surplus capital that has made the local rich. There are many adaptations in the way of life of the villagers in Ban Nong Yard community. And adaptation to external stimuli By teenagers and students causing social problems and other problems followed. For example drug problems Or even the problem of utilities is not enough such as electricity, water supply. Because the students who live in the dormitory in Ban Nong Yard did not move the census to Ban Nong Yard. The public utilities budget responds only to the population shown in the Ban Nong Yard census.

4. Discussion and Conclusion

In summary, it was found that Ban Nong Yard was founded around 1918.

About 14 villagers have migrated from Ban Na Ratchakaoy. It was located in Ban Dong Sarn. (Area goh field), later the outbreak of cholera (cholera). So moved to set up at Ban Dong Hang Kwang. Later in 1926 the village headman was renamed "Nong Yard". By the name of a public swamp near the northeast.

The founded of Nakhon Phanom University 2005 is not the only factor that brings the change to Ban Nong Yard. From the data collection, it was found that although more students are studying at Nakhon Phanom University. There are not

enough dormitories per students. Thus, the capitalists in Ban Nong Yard started to invest in building dormitories, business service sector to accommodate students. Therefore, founded of Nakhon Phanom University is considered the main factor. And there are other factors that contribute to the economic in Ban Nong Yard is grow fast as mentioned above. Although economic growth will bring prosperity, employment and the spread of the currency. But no one denied that this economic development also led to the ruin of local resources and local life styles. These things were neglected and overlooked. Conversely, the sight is comfortable. Production potential and local economic growth. Impact on both cultural Social and environmental is the short term relocation of students, drug problem and most importantly is economic disparity of Ban Nong Yard and neighboring areas. In the research of Thai academics, the majority will focus on studying the economic and social conditions of each country. To find the potential and avenues for investment and tourism promotion more than studying the impact or loss on local people.

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**PART 3: HUMANITIES, EDUCATION
AND SOCIAL DEVELOPMENT**

HOUSEHOLD CHARACTERISTICS AND DISASTER MANAGEMENT PRACTICES IN DISASTER PRONE AREA OF MT.SLAMET, INDONESIA

Diah Setyawati Dewanti, M.Sc., PhD (Cand)^{1,3}

ddewanti@umy.ac.id

Assoc. Prof. Dr. Dusadee Ayuwat^{2}*

dusayu@kku.ac.th

Assoc. Prof. Dr. Sekson Yongvanit¹

sekyon@kku.ac.th

¹ *Department of Development Science, Faculty of Humanities and Social Sciences,
Khon Kaen University, Khon Kaen, Thailand*

² *Department of Sociology and Anthropology,
Labour and International Migration Service Center,
Faculty of Humanities and Social Sciences,
Khon Kaen University, Khon Kaen, Thailand*

³ *Faculty of Economics and Business, Universitas Muhammadiyah Yogyakarta,
Indonesia *corresponding author*

Abstract

The research is aimed to compare household characteristics that support the disaster management practices of households located in the disaster prone area of Mt. Slamet in Indonesia. These practices are employed in Pemalang and Banyumas districts which are located in the disaster prone II area. The disaster prone II area was settled by the Indonesian government as a most risky area as it is located near to the peak of the mountain. To achieve the research aim, quantitative research was supported by qualitative observation research methods to fulfil this study. Two hundred and forty six households in Pemalang and Banyumas districts were selected to be sampled using systematic random sampling design. Qualitative sampling was employed. In this study, the disaster management practices are divided into mitigation, preparedness, response and recovery phases. The result found that Pemalang district's practice preparedness phase (82.1%) was better than others. While Banyumas district's practice recovery phase (76.7%) was best. The weakest disaster management practice in Pemalang was shown to be the mitigation phase (55.6%); but Banyumas district's response phase (52.7%) was the weakest disaster management practice. Based on household characteristics,

Pemalang district employment was mostly in farming (64.1%). Conversely, households in Banyumas district worked as farmers (32.6%) and farm laborers (36.5%). Those located in the disaster prone II area, had agriculture as their main work because of the good quality of soil from Mt. Slamet. However, Pemalang district (94.0) had the healthier households when compared to Banyumas district (79.1).

Keywords: *Disaster Prone; Household characteristics; Indonesia; Mt. Slamet; Volcano Disaster Management.*

1. Introduction

Indonesia is located geographically in ‘the ring of fire’ which brings about many natural disasters, one of them being volcanic disasters. More than 150 active volcanoes are found in Indonesia and are spread throughout all the islands. Mt.Slamet is the second highest volcano located in the Central Java province, and has been active from 1772 until recently. However, the pattern fluctuates and it started to calm down during the 1980s. In early 2009, Mt.Slamet again began to show signs of explosions, with long periods of eruption. This also occurred during 2014 and was accompanied by large earthquakes and explosions heard more than 20 km away.

Since 2004, Indonesia has established a National Agency for Disaster Management (abbreviated in bahasa indonesia as “BNPB-*Badan Nasional Penanggulangan Bencana*). BNPB divides disaster prone areas in to three zones relating to the distance from the risk source. The highest risk is disaster prone III, located 4 km from the peak or 2 km from vegetated land. This area is prohibited for human settlement and/or activities (Republic of Indonesia Ministry of Energy and Mineral Resource regulation, 2011). Disaster prone II is the closest area which could be settled by people for their livelihoods. Consequently it is important, to enact disaster management in the highest risk areas. Disaster management practices comprise four phases that take place before, during and after disasters occur. These phases are mitigation, preparedness, response and recovery. Disaster management plays an important role in decreasing the destructive impacts of disaster, being necessary to improve the lifestyle of those who stay in the most risky areas and to protect their property from hazardous events (Sutton and Tierney, 2006).

The disaster prone II areas of Mt.Slamet are in Pemalang, Banyumas and Tegal districts. A previous study by Dewanti&Ayuwat (2016) describes disaster management practices in those villages. Sawangan district carried out volcanic disaster management practices independently, without support from the government. Conversely, Guci was supported by the government to improve their disaster

management practices. There are different perspectives and practices for disaster management based on experiences of coping with the impact of Mt.Slamet's eruptions in 2009 and 2014.

In the most dangerous areas the strongest disaster management capabilities need to be applied by households. However, different areas display different household characteristics, therefore, this study continues previous study, in other districts, to compare their household characteristics and disaster management practices with Pemalang and Banyumas districts. Thus the researcher's interest is in knowing "What are the household characteristics and disaster management practices in Pemalang and Banyumas districts?"

2. Method

This paper aims to compare the household characteristics in support of disaster management practices by households in the disaster prone II area of Mt.Slamet, Indonesia. The researcher's household characteristics concept belong's to Adger (2006) and Zhao (1999) which is determined by: 1) occupation of the head of the households, 2) dependency ratio of households, 3) number of household members of labor force age, 4) proportion of less healthy household members, 5) amount of machanical equipment and vehicles owned by households, and 6) the size of plantation land. Consequently, disaster management practices consist of mitigation, preparedness, response and recovery phases, divided by the time line of the disaster occuring, pre-; during; post-disaster (Khan et al, 2008).

The mitigation phase focuses on warning systems and the evolution of household practices for disaster management. It aims to reduce hazard risks and stipulates human actions in keeping their lives and property safe (Sutton&Tierney, 2006). The preparedness phase is the action of the household in monitoring and preparing for the emergency survival of their house (Coppola, 2007). The preparedness phase aims to minimize the hazardous effects through taking precautionary measures. In this study, the researcher proposed questions concerning household practices during the eruption of 2014, and the preparation of the household prior to the eruption (McDermott. R., 2013). The response phase was applied during the eruption and referred to the human actions in keeping their household safe during periods of very high hazard (Coppola, 2007). The response stage was to recognize household practices concerning communication during the emergency period and taking action during the the alert status announced by the government. The last phase is the recovery phase which refers to the re-establishment of the economic, social and cultural life of the households who were impacted by disaster (Bolin and Trainer, 1998 and Hadi, 2011, 2008). Recovery action was carried out for one year after the Mt.Slamet's eruption. This study revealed disaster management practices and measured the level of disaster

management during each phase. The manner of measurement of disaster management was the sum score of each phase, from mitigation, preparedness, response and recovery.

This study used quantitative research methodology to compare the household characteristics and disaster management practices of Pemalang and Banyumas districts. It used the household as the unit of analysis, and systematic random sampling as the sampling design. The total sample was 246 households, 117 households in Banyumas district and 129 households in Pemalang district. The researcher used structured interviews to collect the data and used ordinal, interval and ratio data scale to support the study. Qualitative research was employed to strengthen the findings in comparison of both districts.

Study area

The study took place in the disaster prone II area which has a distance of 4-6 km from the vegetated area, near to the peak of Mt.Slamet. Mt. Slamet is located on Java island, Central Java province. The mountain is adjacent to five districts, being. Brebes, Banyumas, Purbalingga, Tegal and Pemalang. However, Banyumas, Pemalang and Tegal are the nearest districts to the top. Pemalang is located on the west side of Mt.Slamet and Banyumas is located on south side (Figure 1). The reason for choosing these locations was that during the eruptions of 2009 and 2014, the wind blew to the west and south side. Moreover, lava flowed to the west side and the explosion of incandescent rock was spread to the south side of the mountain.

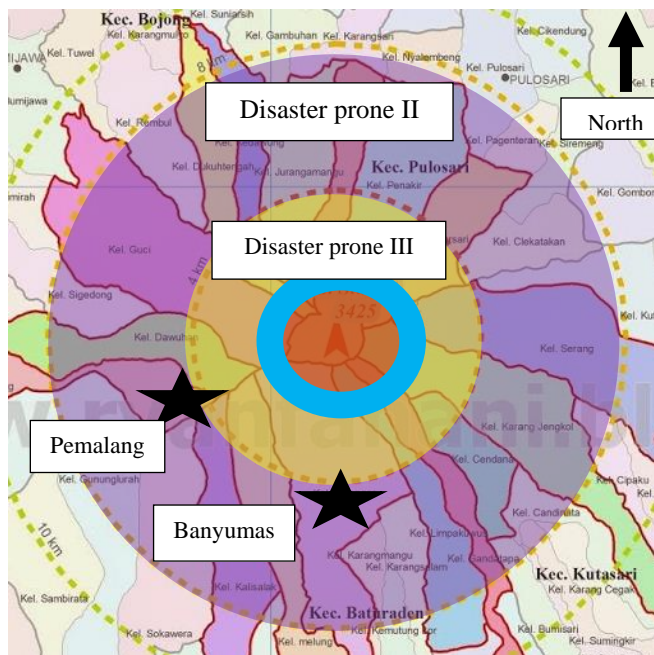


Figure 1. Map of study area, Pemalang and Banyumas district

Pemalang district has 14 sub-districts with an area of 11,153,000.0 hectare. Total population of this area is approximately 370,896 households on various geographical structures. On the other side, Banyumas district has 27 sub-districts with a total population of 440,796 households. The area of Bayumas district is 132,759.6 hectares of a mountainous and hilly structure. Natural resources are well-known in this district, due to it being close to Mt.Slamet. This study only examined the disaster prone II area, hence, Kedawung village represented Pemalang district and Banyumas district was represented by Gunungsari village.

3. Results

The aim of this study is to compare the household characteristics and disaster management practices between two districts, Pemalang and Banyumas. Household characteristics consist of the occupation of the head of the household, dependency ratio, proportion of households who have unhealthy household members, number of household members who take part in migration, number of machine equipment owned by the household, number of vehicles owned by the household, and the size of plantation area. Each household characteristic is explained in (Table 1).

Most occupations in Pemalang district concentrate on farming (64.1%). The good soil quality provided by the volcanic ash bringing improved livelihoods to the households situated in the area. Sellers or traders (14.5%), were households who distributed the harvest from the agriculture in the area. Identical with Pemalang, Banyumas district found most households working in farming (69.1%) and as private employee (10.1%).

The dependency ratio refers to the proportion of children (0-14 years) and elderly (over 65 years) compared to those of working-age (15 - 64 years), per household multiplied by 100. Household members who have children and elderly are stated as the dependent group, meanwhile, the household members of working-age are the independent group. When the dependency ratio is 100 it means that the numbers of the dependent group are equal to the independent group. It shows the household has the same number of members who can work compared to household members who cannot, based on their age group. Conversely, a dependency rate less than 100, means that the numbers of the dependent group are less than those of the independent group. A household that has a dependency ratio ≤ 100 means fewer people of non-working age, the youngest and oldest members of a household, often considered to be the most vulnerable group members of the household (Eurofound, 2012). Both districts had a similar pattern for their dependency ratio. Over eighty percent of households had a dependency ratio less than 100, meaning that the number of vulnerable or dependent group members was less than independent group.

Moreover, to recognize the members of the vulnerable group in a household it is necessary to recognize the number of household members with poor health condition. In this study, the head of the household had to identify each of the household members who had disabilities and/or chronically diseases. Chronic diseases include household members who may have asthma, high-blood pressure, stroke, heart-disease, and respiratory disorders. Pemalang district consists of 94, fully healthy household members. However, in Banyumas district, there were 20.9% of households who had unhealthy members. Based on qualitative observation, the researcher found that Banyumas district had lots of incidences of respiratory disorders among the young. The migration pattern in both districts were have the same pattern which bring proportion more than 50.0 percent on having migration member. It was found that the maximum number of household member in Pemalang district has a higher number on migration up to 8 members. Pemalang household's who have migration members was up to 69.8%.

This study also measured the ownership of mechanical equipment, vehicles and the size of the plantation area. The researcher described 11 basic electrical goods to support activities in the house, such as television, cell phone, telephone, computer, radio, iron, washing machine, water pump, water heater, electric stove, gas stove and DVD player. Among those items, Pemalang district had almost the same number of households having 0-3 machines (49.6%) and 4-7 machines (47.9%). Meanwhile, in Banyumas district, when compared to Pemalang district, Banyumas had a higher number of households (17.8%) who owned more than 7 electrical products. However, Pemalang district has owned the maximum total number of machine goods in household up to 12 goods.

Furthermore, the number of households who owned a minimum of one vehicle was higher in Bayumas district (86.0%) compare to Pemalang district (71.8%). Both districts mostly had 1-2 vehicles per household. As both districts were working in farming, hence, this study measured the size of the plantation owned or rented by the households. In Pemalang district, most households had 0.01 to 0.50 hectares of farm land (89.8%) and few households did not own or rent plantation area (10.2%). However, in Banyumas district, there were more households who did not own or rent plantation area (See Table 1).

To summarize, there were several differences in the household characteristics, such as occupation, proportion of households that had an unhealthy household member, and the size of plantation land. The head of household in Pemalang district was more likely to be a farmer compared to Banyumas district, this was due to higher numbers owning or renting plantation land in Pemalang than in Banyumas.

Disaster management measurement consists of four phases of measurement, i.e. mitigation, preparedness, response and recovery. Overall disaster management practices in Pemalang district had an average score of 52.1 percent. During inspection

of each phase of disaster management, it was noticed that the preparedness phase had a high level as a percentage of the average of the whole score, of up to 82.1 percent. It was implied that during the eruption of 2014, households had practiced an evacuation exercise, they had recognized the early warning alarm sound, had prepared a survival bag, rice and dried food during the rain season, and had created a network with other households who lived in the safety zone. When looking at the other phases of disaster management practices in Pemalang district, it was discovered that the average of the combined scores was more than 50 percent. Particularly, the secondary level of disaster management practice, the response phase, had an average whole score of 59.0 percent that was not distinctive when compared to the level of other phases (Table 2).

Disaster management practices in Banyumas district had an average whole score of 53.5 percent, higher than for Pemalang district. Specifically, the recovery phase was the highest average whole score at 76.7 percent. The recovery phase encompasses their practices, one year after the disaster occurred in 2014, which concerned planning land utilization for farming, having more independence to start planting or working to support their living, sending household members to work outside the village to earn more money, and having the usual activities as before the eruption. Regarding the other phases of disaster management practices, Banyumas district practiced mitigation at a level over 50 percent, for the preparedness and response phases. However, the response phase was the lowest average of all scores in Banyumas district at 52.7 percent. In contrast, Banyumas district mitigation phase was higher than Pemalang district (Table 2).

Measured the t-test for the disaster management practices in Pemalang and Banyumas districts found response phase which had no significance of differences between both districts (Sig. 0.062, $p > 0.050$). Response phase is the phase during volcano eruption appear. There was no any significance difference between Pemalang and Banyumas district because during this phase, government support both districts in the same ways. During response phase, there were lots of supporting institutions to reduce the impact from Mt. Slamet, which bring they were got attention in the highest risk area, which is the border of disaster prone II (Table 2).

Specifically recognize practices of mitigation levels of disaster management, Banyumas district has a different pattern in having observation of evacuation signs. Banyumas district was found to never have had observation for the evacuation signs, up to 51.2 percent. Seventy two percent of households in Banyumas district had been active to volunteer as lifeguards, different to Pemalang district which stated almost the same number of households had never volunteered as lifeguards, sequentially at 45.3 percent and 40.2 percent. The pattern of households in Banyumas district were less active when compared to Pemalang district in having experience of the warning

system. The same pattern appeared for disaster management involvement in both districts. Pemalang district had 73.5 percent of households involved in the meeting to share their disaster management knowledge. The difference appeared on their participation in building an evacuation sign/board which found that Pemalang districts was more active at up to 59.0 percent (Table 3).

Based on previous findings, an average of the whole scores on the preparedness phase, Pemalang district was found to have the strongest practices among other phases in disaster management. To recognize specifically the preparedness phase in disaster management practices, the researcher describes the scoring calculation. Pemalang district households were more practiced in evacuation training, up to 73.5 percent compared to Banyumas district. However, other than for evacuation training, the pattern of disaster management practice in Pemalang district was similar to Banyumas district (Table 3).

The response phase consisted of emergency communication system and response to the alert status as the valuation of the disaster management practices. As an average of the whole score for disaster management, Pemalang and Banyumas districts were both in the range on 50 percent. In more detail, the households in Banyumas district rarely carried their cellphone with them during the eruption in 2014, up to 81.4 percent. The researcher presented negative questions to the households, then found that the households in Pemalang and Banyumas district went to the *Ketua RW* during the eruption of Mt.Slamet.. Based on the follow-up responses to this question during interview, most of them were confused by what to do and how to act when Mt.Slamet erupted. Pemalang and Banyumas districts updated their information, mostly from the government staff who patrol in their village, raising the level to more than 60 percent. Fifty three percent of households in Banyumas district stated that they did not receive updated information from NGOs during the eruption of Mt.Slamet (Table 3).

The pattern of practices in the response phase in Pemalang and Banyumas districts were no different to the response during the alert status. However, there were some practical differences found regarding the patrolling activities in their village during Mt.Slamet eruption. The households in Pemalang district received help from the government to patrol and monitor the safety of their village, up to 75.2 percent. However, fifty six percent of the households in Banyumas district never carried out patrolling in their village (Table 3).

The last phase of disaster management practice was after the eruption of Mt. Slamet occurred, this was the recovery phase. It measured the ability of households to revive from the hazards that descended on them during the Mt.Slamet eruption. The researchers measured the recovery by how they revived, dealt with the damage from

the hazards. As an average of the whole scoring, Banyumas district had the strongest recovery implementation of their disaster management practices. Specifically, Banyumas district applied planning for their land utilization for farming after the eruption occurred, at up to 86.8 percent. Households in Banyumas district relied less on loans to start farming after the eruption and rarely sent household members to work outside the village. It suggests that Banyumas district were able to independently revive from the impact of the hazard by setting up a plan to once again utilize their farming land (Table 3).

Disaster management practices, as whole, in Banyumas district were higher than in Pemalang district. Evacuation training was held twice in Banyumas district, during 2014. Both districts received government and NGO support and collaboration for their disaster management practices. Therefore, during the eruption, most of them received and updated information to the local government, whether *Ketua RW* (head of village), *Lurah* (head of sub-district), *Camat* (head of district), and including NGOs who came from the same district or province. Most of all, more than fifty percent in Pemalang and Banyumas districts practiced disaster management supported by government and other institutions.

4. Discussion and Conclusion

Pemalang and Banyumas districts are recognized as disaster prone areas around Mt.Slamet but have different household characteristics which result in different disaster management practices. Households in both of districts were mostly working in farming, but households in Pemalang district were farmers rather than farm laborers. Banyumas district has an equal number of households who work as farmer or farm laborers, which number thirty percent. However, comparing their ownership of mechanical goods and the number of vehicles, Pemalang district has a lower number when compared to Banyumas district. Since households who lived in Banyumas district were mostly working as farm laborers, forty four percent of households did not have plantation land.

Disaster management levels in both districts had almost similar averages in practice. Pemalang district was stronger in the preparedness phase of disaster management practices, while, Banyumas district was stronger in the recovery phase. Pemalang district received more evacuation training, and more often, when compared to Banyumas district. Based on the qualitative reviews of documents from the government office in Pemalang district, this district had already received evacuation training twice in 2014, prior to the eruption occurring. Conversely, Banyumas district had only received training once before the Mt.Slamet eruption, only a small part of the village joined in with this training.

Moreover, Banyumas district was stronger in the recovery phase indicated by their independent plan to reclaim and utilize their farming land. Banyumas district did not send their household members out to gain more money to support their livelihood after the impact of the Mt.Slamet eruption. Furthermore, most of the households in Banyumas district stated that they did not need to loan money in order to support restarting their farming after the destruction of their farming land.

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Table 1. Frequency analysis for household characteristics of Pemalang and Banyumas districts

Occupation	Pemalang (%)	Banyumas (%)
Government staff	2.6	4.7
Farmer	53.8	32.6
Labor farming	10.3	36.5
Private employee	6.0	10.1
Seller/trader	14.5	3.9
Stay home	12.8	12.4
Total	100.0 (129)	100.0 (117)
Dependency ratio		
Less than 100	84.6	81.4
More than 100	15.4	18.6
Total	100.0 (129)	100.0 (117)
	Mean: 71.87 S.D.=64.64 Min=0.00 Max=300.00	Mean: 78.94 S.D=110.27 Min=1Max=667.00
Proportion of household who have unhealthy household members		
All were healthy	94.0	79.1
There was unhealthy member	6.0	20.9
Total	100.0 (129)	100.0 (117)

Occupation	Pemalang (%)	Banyumas (%)
Household member who do migration		
Having migration	69.8	53.8
No migration member	30.2	46.2
Total	100.0 (129)	100.0 (117)
Number of machine goods owned by household		
>7 machine goods	2.6	17.8
4-7 machine goods	49.6	53.5
0-3 machine goods	47.9	28.7
Total	100.0 (129)	100.0 (117)
	Mean: 5.6 S.D.=2.6 Min=1 Max=12	Mean: 3.5 S.D.=1.6 Min=0 Max=9

Table 2. Frequency analysis for household characteristics of Pemalang and Banyumas districts (Continue)

Number of vehicles owned by household			
>2 vehicles		2.6	8.5
1-2 vehicles		69.2	77.5
Do not have		28.2	14.0
	Total	100.0 (129)	100.0 (117)
		Mean: 0.9 S.D.=0.6 Min=0 Max=3	Mean: 0.8 S.D.=0.6 Min=0 Max=3
Size of plantation land			
0.51-1.00 hectare		0.0	3.3
0.01 – 0.50 hectare		89.8	52.5
Do not have		10.2	44.3
	Total	100.0 (129)	100.0 (117)
		Mean: 0.1 S.D.=0.2 Min=0.0 Max=0.8	Mean: 0.4 S.D.=0.7 Min=0.0 Max=0.5

Table 3. Disaster management practices in Pemalang and Banyumas districts

	Pemalang district					Banyumas district					t-test	Sig.
	\bar{X}	SD	Min	Max	% average of whole scores	\bar{X}	SD	Min	Max	% average of whole scores		
Mitigation	6.89	3.59	0.0	14.0	55.6	5.61	3.69	0.0	14.0	65.1	2.78	0.006
Preparedness	5.15	1.68	0.0	8.0	82.1	3.88	1.99	0.0	8.0	64.3	5.43	0.000
Response	11.68	3.56	3.0	18.0	59.0	10.75	4.16	0.0	19.0	52.7	1.88	0.062
Recovery	2.27	1.68	0.0	6.0	58.1	0.47	0.96	0.0	4.0	76.7	10.49	0.000
Disaster management	25.99	7.86	9.0	41.0	52.1	20.69	7.81	4.0	39.0	53.5	5.29	0.000

Table 4. Frequency analysis of each phase of Disaster Management in Pemalang and Banyumas districts

Phase of Disaster Management	Pemalang district				Banyumas district			
	Always	Sometime	Never	Total	Always	Sometime	Never	Total
	(2)	(1)	(0)	(n=129)	(2)	(1)	(0)	(n=117)
Mitigation								
Plan to move	6.0	6.0	88.0	100.0	7.8	19.4	72.9	100.0
Receive information of red-zone	31.6	41.9	26.5	100.0	58.1	21.7	20.2	100.0
Recognize disaster map in village	43.6	42.7	13.7	100.0	56.6	17.1	26.4	100.0
Observe evacuation sign	50.4	23.1	26.5	100.0	28.7	20.2	51.2	100.0
Volunteers as lifeguards	40.2	14.5	45.3	100.0	14.7	13.2	72.1	100.0
Involved in village meeting to share disaster management knowledge	43.6	29.9	26.5	100.0	30.2	30.2	39.5	100.0
HH has experience working to collaborate with institutions in disaster management	31.6	20.5	47.9	100.0	14.0	10.9	75.2	100.0
Volunteers build evacuation sign/board	35.9	23.1	41.0	100.0	15.5	11.6	72.9	100.0
Preparedness								
Recognize early warning alarm	50.4	35.0	14.5	100.0	58.9	9.3	31.8	100.0
Experience of network collaboration with other households who live in the safety zone	63.2	29.1	7.7	100.0	63.6	6.2	30.2	100.0

Phase of Disaster Management	Pemalang district				Banyumas district			
	Always	Sometime	Never	Total	Always	Sometime	Never	Total
	(2)	(1)	(0)	(n=129)	(2)	(1)	(0)	(n=117)
Evacuation training	73.5	18.8	7.7	100.0	33.3	9.3	57.4	100.0
Prepare survival bag	61.5	26.5	12.0	100.0	73.6	4.7	21.7	100.0
Prepare rice and dried food in rain season	6.8	29.9	63.2	100.0	7.8	10.9	81.4	100.0
Response								
Carry cellphone	52.1	31.6	16.2	100.0	7.8	10.9	81.4	100.0
Stay at home and updated news through TV or radio	46.2	42.7	11.1	100.0	44.2	23.3	32.6	100.0
Gather together in safety zone	78.6	19.7	1.7	100.0	45.7	41.1	13.2	100.0
Share observation information with government	29.1	11.1	59.8	100.0	18.6	7.0	74.4	100.0
Go to the Ketua RW *)	30.8	35.9	33.3	100.0	62.0	20.9	17.1	100.0
Updated information through								
a. Television	53.8	38.5	7.7	100.0	52.7	22.5	24.8	100.0
b. Radio	3.4	12.0	84.6	100.0	31.8	32.6	35.7	100.0
c. Government staff who patrol in the village	70.9	21.4	7.7	100.0	62.8	23.3	14.0	100.0
d. University staff	1.7	5.1	93.2	100.0	4.7	42.6	52.7	100.0
e. NGOs	44.4	34.2	21.4	100.0	11.6	34.9	53.5	100.0

Table 5: Frequency analysis of each phase of Disaster Management in Pemalang and Banyumas districts (Continue)

Phase of Disaster Management	Pemalang district				Banyumas district			
	Always (2)	Sometim e (1)	Neve r (0)	Total (n=129)	Alway s (2)	Sometim e (1)	Neve r (0)	Total (n=11 7)
Stock dried food	6.0	34.2	59.8	100.0	8.5	10.9	80.6	100.0
Obey gov' instruction	83.8	13.7	2.6	100.0	69.8	10.1	20.2	100.0
Help government to patrol in the village	39.3	35.9	24.8	100.0	28.7	15.5	55.8	100.0
Refuse to evacuate	70.9	0.9	28.2	100.0	71.3	3.9	24.8	100.0
Eruption impacted on daily life activities	25.6	20.5	53.8	100.0	33.3	14.7	52.0	100.0
Recovery								
Set plan for land use utilization for farming	47.9	12.8	39.3	100.0	86.8	3.9	9.3	100.0
Loan money to start farming	3.4	21.4	75.2	100.0	3.1	7.0	89.9	100.0
Send HH member to migrate for work	34.2	22.2	43.6	100.0	3.1	4.7	92.2	100.0
Do usual activities	72.6	12.8	14.6	100.0	64.3	7.0	28.7	100.0

THE USE OF SOCIAL NETWORKING SITES AMONG THE UNDERGRADUATE STUDENTS OF NATIONAL ECONOMICS UNIVERSITY, VIETNAM

Dr. Doan Quang Minh

doanquangminh69@gmail.com

MSc. Vu Hung Hai

vuhunghai@yahoo.com

MSc. Pham Van Minh

minhvp@ad-tek.com.vn

Faculty of Economic Informatics, National Economics University, Hanoi, Vietnam

Abstract

This study was carried out to investigate the use of social networking sites (SNS) among the undergraduate students of National Economics University (NEU), Vietnam. The results showed that Facebook, YouTube, Zalo, and Instagram were the most favorite social networking sites used by NEU students. Most students used SNS more than four times a day and they devoted an average of 30 minutes in each of their entries to these websites. The results also indicated that the main reasons for students being active on SNS were: To stay in touch with friends and relatives; to stay up-to-date with news and current events; to search and share information about topics that they were interested in. Furthermore, regression analysis pointed out that there was no relationship between the use of SNS and students' academic performance. Finally, the paper also proposed several recommendations on how to use SNS for educational purposes.

Keywords: *National Economics University, social networking sites, students' academic performance.*

1. Introduction

The advances in information and communication technology have made marvellous changes in how people communicate with each other. Instead of face to face interactions, it seems that nowadays individuals have often communicated in online environments through social networking sites. According to Tinmaz (2013), in recent years, young people spend a substantial time for social network utilization online, which is more than the time they spend with their friends face to face. Due to this fact, a number of studies have been conducted to

investigate the use of social networking sites in the daily life among young generations.

Social networking sites are defined as the websites that provide people with an environment for creating profile with personal information, developing new friendships from all over the World, maintaining existing friendships in an online environments, sharing and commenting on something, and organizing events (Alican & Saban, 2013). With these advantages, a number of social networking sites have been developed, including Facebook, Twitter, YouTube, Instagram... In social networks, people have chances to introduce themselves, to express their opinions freely, to communicate with people from all over the World, or to become a part of a group that have common interests.

According to Selwyn (2011), the use of social networking sites had high impacts on university students as it influenced significantly the students' natural behaviour. Students had a tendency to be a more flexible, multitasking and self-organized people. It also changed the nature of learning. Based on the opportunities provided by social networks, learners have become active producers of knowledge rather than consumers of the available content and learning have become a more collective activity where the individuals learn from each other. With these educational opportunities and challenges, many higher education institutions in the World have conducted a number of researches to explore how long and for what purposes their students use social networks. However, this issue is very rarely mentioned in Vietnam, especially at National Economics University, those questions are still not answered yet. Thus, our research will address this issue. In more detail, the research intends to achieve the following objectives:

1. To specify the most favourite social networking sites used by the undergraduate students;
2. To explore how long the undergraduate students use social networking sites;
3. To investigate how often the undergraduate students use social networking sites;
4. To discover the main reasons the undergraduate students use social networking sites;
5. To examine the relationship between the use of social networking sites and students' academic performance.

The remainder of this paper is structured as follows: Firstly, the literature and related work to the research are reviewed. Secondly, the research methodology is described. Thirdly, the data analysis and results are given. Finally, the paper concludes with further discussion of the findings, limitations of the research, and possible directions for future works.

2. Literature Review and Theoretical Framework

2.1. The Significance of the Use SNS to Undergraduate Students

According to Michikyan et al. (2015), undergraduate students need to develop new networks of support, especially for those with new academic experiences such as first-year students or immigrant students. These students may use social networking sites to develop the support network they need (Deandrea et al., 2012). Furthermore, social networking sites also help in establishing peer-support networks prior to first-year students arriving to campus. Moreover, for first-year students, who lack parental emotional support, social media is very important because it offers emotional support and confidence from their friends (Rienties & Tempelaar, 2013). Besides, social networking sites also help in facilitating the art of learning by providing a media to share ideas which allow students to collaborate with others through building their own virtual communities (Karpinski et al., 2013).

2.2. The Impact of the Use SNS on Students' Academic Performance

It seems that social networking sites are very helpful tools; however, it was found by numerous studies that a negative impact of social network sites usage on students' academic performance could occur (Paul et al., 2012; Karpinski et al., 2013; Wentworth and Middleton, 2014). Some students claimed that SNS usage did not affect their marks, while others admitted that SNS permanent usage can be a distraction, time consuming, and lead to academic postponement (Karpinski et al., 2013; Ozer et al., 2013). Paul et al. (2012) pointed out that there was a negative impact of online social media usage on students' academic performance; therefore, as time spent on social networking sites increases, the academic performance of the students is seen to decline. In addition, Junco (2015) found that the use of Facebook affected Grade Point Averages (GPA) negatively for freshmen and juniors but not for seniors. Seniors spent less time on Facebook, and they were less likely to post status updates, comments, chats, posts, videos or photos than others.

2.3. Theoretical Framework and Hypothesis

By reviewing the literature, it is noticed that there is a need to examine if the use of social networking sites among NEU students could impact their academic performance. Therefore, the theoretical framework represented in Figure 1 is developed. In this model, the independent variable is measured as the duration and frequency of social media usage together with how much time the students devote to social media utilization, while the dependent variable is measured as the students' perception on extent to which they have obtained the learning objectives since they started using social networking sites (Feride, 2015).

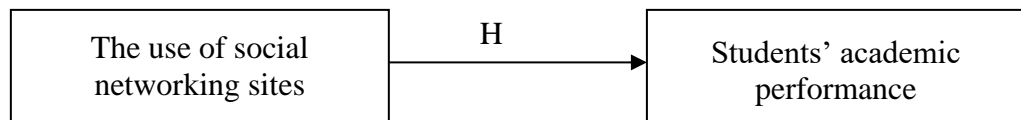


Figure 1: Proposed theoretical framework

In order to test the research model of the relationship between the use of social networking sites and students' academic performance, the study is hypothesized as follows:

H: There is a significant impact of the use of social networking sites on students' academic performance.

3. Research Methodology

3.1. Sample and Data Collection

The sample of the study consisted of undergraduate students studying in different disciplines at National Economics University. 550 questionnaires were sent to the respondents. The survey was carried out in two weeks, from the 25th of February to the 10th of March 2017. As a result, 460 usable responses were received. The response rate was approximately 84%. The detailed characteristics of the sample are presented in Table 1.

Table 1: Characteristics of the Sample (N=460)

Sample Characteristics	Frequency	Percent
<i>Gender</i>		
Boys	109	23.7
Girls	351	76.3
<i>Grade Level</i>		
First-year student	105	22.8
Second-year student	168	36.5
Third-year student	99	21.5
Fourth-year student	88	19.2
<i>Accommodation</i>		
Living with family or relatives	156	33.9
Living without family or relatives	304	66.1

Sample Characteristics	Frequency	Percent
<i>Disciplines</i>		
Economics	210	45.7
Business Administration	20	4.3
Finance & Banking	69	15.0
Accounting	37	8.0
Statistics	7	1.5
Management Information System	25	5.4
Law	2	0.4
Computer Science	1	0.2
Mathematics	4	0.9
Human Resource Management	8	1.7
Marketing	38	8.3
Real Estate	22	4.8
Others	17	3.7

3.2. Questionnaire Development and Measures

The questionnaire was developed using prior measurements corresponding to each variable in the literature and taking the context of the Vietnamese higher education into account. 5-point Likert scales questions were used for measuring the variables. The survey composed of 4 multiple items/questions trying to measure the independent variable and one multiple item/question measuring the dependent variable (taken from Feride, 2015). Firstly, respondents were asked to identify the level of their use of social networking sites. Then, respondents were asked about their level of agreement with the question used for measuring students' academic performance. The statistical results indicated that the internal consistency (Cronbach's alpha) of the 4 multiple items measuring the independent variable was 0.616, According to Kline (1998), it was acceptable.

3.3. Data Analysis

For analysing the data, several descriptive statistics including frequencies and percentages were conducted. Moreover, a multiple regression analysis was also implemented in order to test the hypothesis.

4. Results

4.1. *The Social Networking Sites Used by Undergraduate Students*

The result of the descriptive analysis presented in Table 2 indicated that Facebook (N=457, 99.3%), YouTube (N=395, 85.9%), Zalo (N=322, 70%), and Instagram (N=262, 57%) were the most favourite social networking sites used by the undergraduate students, while the use of Twitter and other social networking sites was not popular at National Economics University (with only 14.8% as well as 9.8% respectively).

Table 2: The Social Networking Sites Used by Undergraduate Students (N=460)

Social Networking Site	Frequency	Percent
Facebook	457	99.3
YouTube	395	85.9
Zalo	322	70.0
Instagram	262	57.0
Twitter	68	14.8
Others	45	9.8

4.2. *The Students' Experience with Social Networking Sites*

To explore the experience of NEU students of using social media, the undergraduate students have been asked about how long they have been using social networking sites. As presented in Table 3, most students have more than 3 years of experience with social networks (N=359, 78%).

Table 3: The Students' Experience with Social Networking Sites (N=460)

Students' Experience with SNS	Frequency	Percent
Less than 6 months	8	1.7
6 months – 1 year	10	2.2
1 – 2 years	33	7.2
2 – 3 years	50	10.9
More than 3 years	359	78.0

4.3. The Frequency of Social Networking Site Utilization

Table 4: The Frequency of Social Networking Site Utilization (N=460)

Frequency of SNS Utilization	Frequency	Percent
1 time	7	1.5
2 times	19	4.1
3 times	53	11.5
4 times	34	7.4
More than 4 times	347	75.4

To discover the frequency of NEU students using SNS, the undergraduate students were asked about how often they use social networking sites every day. The results of the descriptive analysis showed in the Table 4 indicated that most of the students (75.4%) used social networking sites more than 4 times a day, while very few of them (only 1.5%) used SNS once a day. In addition, the students were asked about the average time they devoted to social networking sites in each of their entries. The results also pointed out that most of the students dedicated less than 30 minutes (N=143, 31.1%) or from 30 minutes to 1 hour (N=163, 35.4%) when they enter to these websites (Table 5).

Table 5: The Average Time Students Devoted to SNS in Each Entry (N=460)

Average Time in Each Entry	Frequency	Percent
Less than 30 minutes	143	31.1
30 minutes – 1 hour	163	35.4
1 hour – 1 hour 30 minutes	59	12.8
1 hour 30 minutes – 2 hours	44	9.6
More than 2 hours	51	11.1

4.4. The Purposes of Using Social Networking Sites

The statistical results of the descriptive analysis presented in Table 6 indicated that the main reasons for students being active on SNS were: To stay in touch with friends and relatives (N=425, 92.4%); to stay up-to-date with news and current events (N=390, 84.8%); to search and share information about topics that they were interested in (N=314, 68.3%).

Table 6: The Purposes for Using Social Networking Sites (N=460)

Purposes for Using Social Networking Sites	Frequency	Percent
To stay in touch with friends and relatives	425	92.4
To stay up-to-date with news and current events	390	84.8
To fill up spare time	201	43.7
To get people to click "Like" button	34	7.4
To find funny or entertaining content	299	65.0
To share personal opinions	133	28.9
To share details of everyday life	124	27.0
To share information about the topics interested in	314	68.3
To share information related to students' learning	292	63.5
To find jobs	229	49.8
To make money online	81	17.6
To find information about others	185	40.2
To share photos or videos with others	196	42.6
To establish new friendships	130	28.3
To come together with the people with common interests	111	24.1
To organize collective activities	137	29.8
Other reasons	10	2.2

4.5. Hypothesis Testing

To test the hypothesis, a multiple regression analysis was conducted in order to see how students' academic performance is predicted and explained by the independent variable. The statistical results presented in Table 7 indicated that there was no relationship between the use of social networking sites and students' academic performance ($\beta = -0.073$, $p > 0.05$). Thus, the hypothesis is not supported.

Table 7: Regression results of the joint impact of all variables on students' academic performance

Variables	Dependent Variable <i>(Students' academic performance)</i>
<u>Control Variables</u>	Beta
Gender	0.023
Grade Level	0.102*
Disciplines	-0.072
Accommodation	-0.103*
<u>Independent Variable</u>	
<i>The use of social networking sites</i>	-0.073
Adjusted R²	0.020
F Statistic	2.867*
Note: * p<0.05, ** p<0.01	

5. Discussion and Conclusion

The main objective of this study was to investigate the use of social networking sites among the undergraduate students of National Economics University. The results showed that Facebook (N=457, 99.3%), YouTube (N=395, 85.9%), Zalo (N=322, 70.0%), and Instagram (N=262, 57.0%) were the most favourite social networking sites used by NEU students. The large number of them used social networking sites more than four times a day (N=347, 75.4%) and they devoted less than 30 minutes (N=143, 31.1%) or from 30 minutes to 1 hour (N=163, 35.4%) in each of their entries when they entered to these websites. The results also indicated that the main reasons for students being active on social networking sites were: To stay in touch with friends and relatives (N=425, 92.4%); to stay up-to-date with news and current events (N=390, 84.8%); to search and share information about topics that they were interested in (N=314, 68.3%). Furthermore, regression analysis also pointed out that there was no relationship between the use of social networking sites and students' academic performance ($\beta = -0.073$, $p > 0.05$), thus the hypothesis is not supported. This result doesn't support the findings by Paul et al. (2012), who found that there was a negative impact of online social media usage on students' academic performance.

Interestingly, the statistical results indicated that two control variables including Gender and Disciplines had no connection with the dependent variable. This finding obviously proved that students who are boys or girls, or whatever disciplines they are studying in, had equal chances to study at National Economics University. The regression analysis also pointed out that since NEU students started to use social networks the academic performance of senior students have been slightly higher than those belonging to juniors and freshmen.

The findings of this study leads to several recommendations on how to use social networking sites effectively at National Economics University. Firstly, the university as well as the faculties should use Facebook as an official channel to interact with students since most of the students admitted that they already used this social networking site. Secondly, if the university want to post videos about the campus or student activities, then the YouTube channel would be a right choice. Finally, it might be helpful if National Economics University can offer training sessions across the school to educate undergraduate students (especially for freshmen and juniors) about how to use social media to support their learning activities.

Although the study has made a number of considerable contributions on both theoretical and practical perspectives, it still reveals several limitations that need to be mentioned. The sampling procedure was not totally random due to several reasons, such as lack of time and budget. Therefore, the sample may not be representative for whole population of the study. Future research should try to use random sampling method to validate the results. Furthermore, the data validity may have been strengthened if additional in-depth interviews could be implemented. Spending more time for interviewing respondents would have provided additional data for analysis to investigate deeper into the issues.

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CAPACITY OF THE TAI SONG DAM ETHNIC COMMUNITY: A CASE STUDY OF LAM YOONG VILLAGE, KIEN SA DISTRICT, SURATTHANI PROVINCE¹

Dr. Krishna Thongkaew

chayhistory@yahoo.com

Faculty of Education, Suratthani Rajabhat University, Suratthani, Thailand

Abstract

Over decades, research on the Tai Song Dam ethnic group has provided arguments considering culture of the Tai Song Dam ethnic group as an effective tool of community empowerment. This paper aims to investigate cultural dynamic among the Tai Song Dam ethnic group which is associated with community capacity building. Life-history approach is applied in this qualitative research, and together with observation, in-depth interview, and group interview are used as research instruments.

The results found that Laem Yoong community was established by the Southern natives in 1962, and the Tai Song Dam ethnic group evacuated to Laem Yoong community in following years. Community members have empowered the community based on cultural approach which is embedded in their livelihoods. In addition, cultural activities of the Tai Song Dam ethnic group are presented as the unique community activity, for instance, traditional dancing, and the Tai Song Dam dress cutting style. These activities contribute a strong community capacity, and provide a balance of social relations among community members.

Keywords: *Cultural dynamic, community capacity, the Tai Song Dam community*

1. Introduction

There are evidences indicate that the Tai Song dam ethnic group has evacuated from Don Mali community in Pun Pin district, surat Thani province to establish new community in Lam Yoong village, Surat Thani province. The Tai Song Dams settle up community along Mae Nam canal, where cover locations of Suptawee sub-district, Thasatorn sub-district, and Thakam sub-district. Some of the Tai Sog Dams,

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additionally, moved to Nasarn district and Kiriratnikom district in Surat Thani province.

In the past, Southern natives from Nakorn Srithammarat province moved to settle up community at Lam Yoong before the arrival of the Tai Song Dams from Central Thailand. A reason of settling up the Tai Song Dams community is explored. Geographical context of Lam Yoong community is suitable for fishing and rice farming, although they have to deal with flooding annually. Community settlement started with a movement of several households, led by Mr.Rai, Mr.Mai, and Mr.Lum. The Tai Song Dam households then bought lands from natives, and conducted agricultural activity for livings. They saved money much enough until they could buy more lands. Several households became landlord in Lam Yoong. However, due to cultural practices, they always kept the lands to their descendants rather than selling lands to the others. They might sell lands in case they decided moving their household to other places again (Group interview, 2016)

Lam Yoong community nowadays is full of rubber tree and palm tree plantations. The Tai Song Dams quite focus on those economic plants since the plants provide better household income than other occupations. However, many Tai Song Dams are still conducting the fishing, which is a traditional activity for the Tai Song Dams. The Tai Song Dam households are likely to build the houses in a low plain, and close to the canal. House of the Tai Song Dam is designed as a floor-lifting style in order to avoid flooding. The lower space is used for animal feeding. The Tai Song Dams has changed their productive activity since rubber tree and palm farming have arrived the community decades ago. These plants are considered as the economic plants which provide higher selling price than rice farming or fishing (Group interview, 2016).

Although the Tai Song Dam community has just settled up in Lam Yoong couple decades ago, but people in community help each other to strengthen community capacity through community resources especially cultural resource which functions the ethnic assembly within community. This paper aims to explore cultural dynamic among the Tai Song Dam ethnic group which associates with community capacity building. Qualitative research methodology is used to design paper's structure. Life-history approach is applied in this qualitative research, and together with observation, in-depth interview, and group interview are used as research instruments.

2. Methodology

Qualitative methodology approach is used to investigate cultural dynamic among the Tai Song Dam ethnic group which is associated with community capacity

building. Life-history approach, observation, in-depth interview, and group interview are used as research instruments to collect the primary data with 15 of the Tai Song Dam ethnic villagers in Laem Yoong village, Kien Sa district, Suratthani province. Additionally, triangulation method is used to check the results, and then the results are categorized and analysed by the content analysis method.

3. Results

Lam Yoong community has a variety of cultural resources. Culture in community is a combination of the Tai Song Dam ethnic culture and the southern culture, which later results in unique livelihoods among Lam Yoong people. However, Tai Song Dam villager is a majority in Lam Yoong community, so many of cultural activity are based on the Tai Song Dam culture. Details of the Tai Song Dam cultural activity are presented below.

Meaning of the Tai song Dam

Meaning of the Tai Song Dam is an issue that the ethnologists discuss for a long time. However ethnologists provide the meaning in several ways which are; the first meaning; some believe that a word Tai Song Dam has just created 10 years ago. Previous name of Tai Song Dam ethnic name is “Lao Song” which means an ethnic group which descends from a far place of origin, not from Laos. The second meaning; it is believed that Lao Song and Tai Song Dam are the same ethnic group because they share the same origin, where locates in China, and then move to Thailand. When the Tai Song Dam (Lao Song) arrived Thailand, they changed name of the group into “Tai song Dam”, since they always dress in Black during participating in traditional activity, for instance, the wedding, the funeral, and spiritual ceremony. The last meaning; it is believed that the name “Tai Song Dam” is derived from dressing style. Tai means Tai people, Song means “to dress”, while Dam means black colour. Therefore, these words are combined into “Tai Song Dam” (Tai dresses in black) (Group interview, 2016). In conclusion, the Tai Song Dam ethnic group in Lam Yoong community is the same group as Lao Song ethnic, and later change its name into “Tai Song Dam”. In addition, meaning of Tai Song Dam is derived from the dressing style which is in black colour.

The Tai Song Dam livelihoods.

The Tai Song Dam ethnic households is majority in Lam Yoong community. According to official record, 70 households among total 120 households are the Tai Song Dam households. Due to a high number of ethnic household, Lam Yoong community becomes a center of Tai Song Dam ethnic in Kian Sa district. Unity is considered as the Tai Song Dam identity, which is presented through the participation in local events. All the Tai Song Dams are willing to participate in the community

events, although some households already moved out of community. They still come back to participate in the event. In addition, community empowerment is quite strong. The Tai Song Dams are taught by the seniors about how to do good things to the others. The association with other groups of Tai Song Dam is performed through kinship system because they believe that they share the same ancestors and origins. In addition, relationship within household is nice. The seniors share the inheritance to their descendants equally. The descendants who take care of parents will receive more inheritance than others. However, there is no fight about inheritance issue within community, and it is rare to find the fighting case among the Tai song Dams in community (Group interview, 2016). Therefore, the living style of Tai Song Dam is associated with social relations until the present.

Economical dynamics in community

Rubber plantation and Palm plantation become vital economic activities in Lam Yoong community since 1957 when the Tai Song Dams moved to the community. Rice farming and fishing are also presented in the community, but number of production area is decreasing. Dynamics of economic in Lam Yoong community is based on agricultural activity. In the past the Tai Song Dam's productive activity was for living purpose. Family members helped each other to do farming. In case the product was over supplied, they would exchange products they had with other families. The exchange would conduct with non-monetary. The Tai Song Dams interacted with nearby community through trading. They generally went to the market at Ban Don Village to make trade with people from nearby community (Group interview, 2016).

In the present, estimate 70 percent of total community income is generated by rubber and palm plantations. The Tai Song Dams normally employ their relatives or migrant workers to work for them at the plantations. Employee takes compensation from the Tai Song Dams in 2 ways which are 1) the compensation is in a form of non-monetary. Employers share the rubber with workers with a ratio of 6:4, and 2) compensation is provided through the daily wage which is 250 Baht for migrant worker and 300 Baht for Thai worker (Group interview, 2016)

Economical dynamics in community

Culture of the Tai Song Dam ethnic group is based on the belief of ancestor spirit (Yimrewat, 2001). Traditional practices of the Tai Song Dam are about the Ka Lor Hong ritual, Sen Reun ritual, and Pad Tong Tam ritual (Chay Prasongkaew; interviewed, 2016), which still exist in modern society. However, some rituals are disappearing, for instance, Plaeng Kwan ritual, traditional wedding ceremony, and traditional funeral ceremony, due to high cost of

ceremony production. However, these practices currently are replaced by Buddhist ritual which is less cost of production.

The Tai Song Dam ethnic groups at Lam Yoong community still believes are the ancestor spirit. They connect the ancestor spirit through Pad Tong ritual and Sen Reun ritual. The Tai Song Dams in Lam Yoong community believe in spirit, although they are Buddhism. The ancestor spirit functions the Tai Song Dam community in term of the spiritual assembly. In addition, the Tai Song Dams worship a shrine of Por Ta Plean, where locates in Tung Tong abbey. The Tai Song Dams have annual worshipping ritual at the shrine in Songkrand festival. It is concluded that culture of the Tai Song Dam is performed as multicultural culture which is a combination between the Tan, the ancestor spirit, Buddhism, and spirits.

The inheritance of the Tai Song Dam tradition.

The Tai Song Dam traditions are performed in cultural event since 2005. The event was set up by the Tai Song Dams who observed the ethnic traditions at Nakorn Pathom provinces, and tried to create their own cultural event. Now the Tai Song Dams have set up the event 10 years in a row. They also invite other groups of the Tai Song Dam from Petchburi, Chumporn, and Nakorn Pathom to participate in the event.)Somyod Srathong-Un, interviewed, 2016(. Activities in the tradition event include traditional merit making, and traditional dancing. Regarding the traditional dancing, youths in nearby community are invited to join dancing performance, and organizers also invite a musical band from Chumporn province to play the traditional music. In addition, the Tai Song Dam traditional dress exhibition is presented in the event, since the community has a group of Tai Song Dam traditional dress. It is another way to present ethnic's identity (Somyod Srathong-Un, interviewed, 2016(.

Social dynamics in the Tai Song Dam community

Social interactions are performed through the cooperation among groups of the Tai Song Dam. “Singh” is a Tai Song Dam word which represents social class among the Tai Song Dams. Singh also represents group of relatives in the Tai Song Dam community as same as surname. However, Singh is not used to represent relatives group anymore, but replaced by Thai surname. It is noted that Singh is used only within the same ethnic community. Tai Song Dams are not likely to construct relationship with other ethnic groups especially the Chinese, who are leading groups in term of economics. Characteristics of the Tai Song Dam ethnic are simple. Most of the Tai Song Dams do agricultural activity for living purpose. They always help each other to do agricultural activity, for instance, rice farming (Group interview, 2016).

In addition, the Tai Song Dams use words of “Pee Yai” and “Phu Tao” as a mechanism for social mobility. Pee Yai is the descendant of the king, while Phu Tao is the ruled person. In case of wedding, if male “Phu Tao” gets married with female “Phu Noi”, social status of female will be mobilized upwardly. If female “Phu Tao” gets married with male “Phu Noi”, social status of female will be mobilized downwardly. However, it does not affect individual’s life style or having priority over the others. It is only the representation of family mobilization. There are different roles and functions in terms of Phu Tao and Phu Noi in traditional ritual. During Pad Tong ritual, Phu Tao has to participate in the ritual in every 5 days, while Phu Noi participates in the ritual in every 10 days. Another traditional ritual is raised as an example. Sen Reun ritual, Phu Noi would dress with traditional Thai dress in black colour. Ritual practitioner must be Phu Noi only, and pig is used for worshipping in the ritual. Phu Tao would dress with red silk dress. Ritual practitioner must be Phu Tao only, and buffalo is used for worshipping in the ritual. However, buffalo is difficult to find, and quite expensive, so the pig is replaced for worshipping (Group interview, 2016).

Regarding gender role in the Tai Song Dam community, gender roles are divided clearly in the traditional rituals. Male would have more significant role than female. The Tai Song Dam female is allowed to participate in the ritual, except female who got married with other groups of Tai Song Dam. In the Tai Song Dam belief, male would have more significant roles than female in daily life, since the Tai Song Dams have an idea that male would take care of parents, but female would have to take care of husband, who is a person from others (Group interview, 2016). However, female normally is assigned to save money for family because they believe that female would have better decision of money saving than male.

Dynamics of Buddhism in Tung Tong Buddhist Abbey

Tung Tong Buddhist Abbey established in 1978 by a monk named Koson, who moved from Petchburi province. At first, Tung Tong Buddhist Abbey located in Tung Tong forestry area, and later moved to settle in community with other 10 households (Monk Soonthorn Nitiko, interviewed, 2016). Tung Tong Buddhist Abbey is constructed by the Tai Song Dams, so head of the abbey is the Tai Song Dam monk. Role of the Tai Song Dam monk in community is as same as Thai monk. However, Tai Song Dam monks are generally invited to do the ethnic funeral ceremony. According to a traditional funeral belief, body of the Tai song Dam, who dies with a violent death, will be buried at the cemetery for 1-2 years before cremating the body ritualistically. In case of natural death, the body is allowed to do religious ritual at home. However, the villagers tend to conduct religious ritual at the abbey than at the house, due to the ritual convenience.

Regarding the monkhood ritual, there is no monkhood ritual in Tung Tong Buddhist Abbey because there is no the preceptor in the abbey (Monk Soonthorn Nitiko, interviewed, 2016). Ones who want to be the monk, they have to conduct the monkhood ritual at other temples where the preceptor is presented. Regarding wedding ceremony, in the past, monk is not associated with Tai Song Dam's wedding. However, Buddhist ceremony is included in the modern wedding ritual. Monks in Tung Tong Buddhist Abbey are invited to the wedding ceremony for conducting the Buddhist ritual (Monk Soonthorn Nitiko, interviewed, 2016)

There are several marvellous legends about the monk Koson, who is the first leader of Tung Tong Buddhist Abbey, which resulted in villager's faith. For instance, the exorcism, and the bulletproof magic. Tung Tong Buddhist Abbey once created the sacred amulet, which was made 4,000 pieces. It was very popular among Tai Song Dams in the community and other communities (Monk Soonthorn Nitiko, interviewed, 2016) Tung Tong Buddhist Abbey currently becomes an important Buddhism place to assemble the Tai Song Dam's consciousness. Many social actions are performed at the abbey.

Organizing the social group: the Tai Song Dam ethnic club

Club of the Tai Song Dam ethnic has been established in 2016 after the first Tai Song Dam culture conservation festival. Firstly, the Tai Song Dams in community started their idea to set up the traditional dancing group with the helps from villagers in community in recruiting club member. Villagers, both the Tai Song Dams and the Southern natives, helped together designing the dancing style, and implemented instrument "Kan" and Tai Song Dam's songs in the dance. Most of the Tai Song Dam songs are sung by Tep Toonjai, who is the Tai Song Dam singer. Tai Song Dam dancing club is well-known by Surat Thani citizen, and the club win several dance competitions. Currently, the dancing club has 3 subgroups including 1) adult group which has 15 members, 2) the secondary school group which has 35 members, and 3) the primary school group. Each groups perform the show in different events depending on time and place. Period of the show is 10 minutes which covers 2 songs. Female club members generally perform as the dancer, while male club members are playing local instruments.

In 2016, the dancing club changed the name, and registered as the club entitled "Ban Kao Tok Tai Song Dam Club" in 2016. 15 club members will be selected as the club leader committee (Prateung Srathongplung, interviewed, 2016). The club is still performing the show as same as in the past, and non-Tai Song Dams are allowed to member of the club. Additionally, the local dance is counted as Tai Song Dam community identity which strengthen local culture.

Tai Song Dam dance is implemented in a community development plan because the dance is famous to visitors and able to generate income to community. It is noted that the Provincial Administrative Organization sponsored the Tai Song Dam dancing annually 100,000 Baht)Somyod Srathong-Un, 2016(

Identity of the Tai Song Dams

Identity is considered as a common objectified or non-objectified action which represents common characteristics of the group. In this case, identity of the Tai Song Dam appears through the dressing, norms, and consciousness. The Tai song Dam dress style generally is in black. Dresses are made by the Tai Song Dam themselves since there are many specific details on the dress, so it is very difficult for non-Tai Song Dam to cut this kind of the dress)Group interview, 2016(. Dressing style of the Tai song Dam ethnic group in Lam Yoong community is different from other groups of the Tai Song Dam. A unique-style piece of fabric is wrapped up individual's neck or waist. However, this kind of fabric piece is imported from relatives at Nakorn Pathom (Prateung Srathongplung, interviewed, 2016(. The Tai Song Dams currently dress in traditional style when they participate in the traditional ritual, or perform the dance show, or some occasions that they need to represent their ethnic identity. The Tai Song Dams generally are kind person, and like staying in rural area or suburban area peacefully. Rice farming and coastal fishing are main productive activity which inherit from the ancestor for a long time. Activity played in Tai song Dam community mostly is associated with traditional ritual. Some violent activities such as cow fighting or chicken fighting or even gambling are not popular in the community. However, some villagers buy the government lottery sometimes. If they win the prize, they will buy foods to worship ancestors in return) Group interview, 2016(. Regarding the consciousness of Tai Song Dam identity. They are proud to present their own identity to public area. They always dress in black or call themselves as Lao Song without any shames during public appearance. When they meet other Tai Song Dam ethnic groups, they speak the Tai Song Dam language. They always have a conversation about relatives and origins while they are having conversation with other Tai Song Dam ethnic group.

4. Discussion and Conclusion

This paper presents an association between Tai Song Dam community and social interaction which includes definition of Tai Song Dam, community establishment, ethnic livelihoods, traditional rituals, and ethnic conservation. Social interactions of Tai Song Dam are presented through a world "Singh", class division, gender role, social organization, and ethnic identity. These conditions contribute Tai Song Dam community to have outstanding social interaction which lead to a strong ethnic livelihoods.

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E-VOTING ADOPTION IN THE PHILIPPINES: PRELIMINARY RESEARCH

Ikhsan Darmawan, M.Si

ikhsan_darmawan@yahoo.com

Faculty of Social and Political Science, Universitas Indonesia, Depok, Indonesia

Abstract

The Philippines has adopted e-voting in their national election since 2010. In 2010, they only implemented e-voting in one area. Then, they implemented e-voting throughout the Philippines in the election 2013 and 2016. The Philippines is the only country in Southeast Asia that has adopted e-voting in scope of national election. Despite receiving appreciations, the adoption of e-voting in the Philippines has just also raised the debates in the views of some stakeholders, such as NGOs. This paper seeks to answer the question: “Why the Philippines adopt e-voting in their national elections?” More specifically, what are the causal factors of e-voting adoption in the Philippines’ national elections? This preliminary research combines two methods of data collection: observation and secondary data collection. This research finds that there are two factors causing the Philippines adopts e-voting: the frauds in manual elections and the agreement of political elites in the Philippines to use electronic methods to improve the quality of national election.

Keywords: *e-voting adoption, the Philippines, national elections, frauds, political elites*

1. Introduction

This paper discusses about e-voting adoption in the Philippines’ national elections. The Philippines has adopted e-voting in their three national elections since 2010. They used e-voting as mechanism to vote in the national election for the first time in 2010. Then, they continued to use e-voting regularly in 2013 and 2016.

On May 10th 2010, the Philippines implemented e-voting. There were about 38.000 polling centers all over the Philippines (philstar.com) and approximately 50.723.733 voters were involved in the election (nap.psa.gov.ph). There were five kinds of technologies used for the nationwide in the 2010 Philippines general elections: DRE, the OMR-based precinct count optic scan (PCOS), central count

optical scan (CCOS), open election system and *botong pinoy* (Goldsmith and Ruthrauff 2011, 278).

Then, the implementation of e-voting continued in the elections of 2013 and 2016. The second national implementation of e-voting adoption took place on May 13th, 2013 in the midterm election. There were 52,014,648 registered voters electing the candidates in such various offices as Senate, Congress, party lists, and governor/ vice governor. (IFES 2013). In 2016, the e-voting election in the Philippines was held on May 9th. The Filipinos voters voted for the president, vice president, senators, district representative, party list representative, and provincial/ city/ municipal officials (thediplomat.com).

It is interesting to find out the reasons behind the adoption of e-voting in the Philippines. First, until early 2017, the Philippines is the only country in Southeast Asia that has adopted e-voting in scope of national election. Indonesia, the neighboring country of the Philippines, has just implemented e-voting at local level (village leader elections) in some provinces (Darmawan and Nurhandjati 2016). Second, despite receiving appreciations, the adoption of e-voting in the Philippines has just also raised the debates in the views of some stakeholders, such as NGOs. Two NGOs of AES Watch and CENPEG are among others. COMELEC, the Philippines National Election Body, goes on using e-voting and considering that electronic elections are better than manual elections.

This paper seeks to answer the main question: “Why does the Philippines adopt e-voting in its national elections?” More specifically, what are causal factors of e-voting adoption in the Philippines’ national elections?

This paper employs the concept of e-voting adoption and cause of e-voting adoption. What is e-voting adoption? E-voting adoption is the process of casting, counting, and recapping the votes using electronic devices. There are two categories of interpretation about what e-voting is. First, e-voting is a kind of voting in a polling centre supervised by other person (such as using DRE). Second, e-voting is voting from remote place, such as internet voting (Olusola, Olusayo, Olatunde, and Adesina, 2012, 8).

What are the causal factors of e-voting adoption? The most notable reason for adopting e-voting is that it has many benefits (Benoist, Anrig, and Jacquet-Chiffelle, 2007, 29). Different with manual method, e-voting is believed as mechanism that can make the election cheaper, quicker, and more costless (Oostveen and Besselaar, 2004: 73). Besides that, e-voting can reduce the malpractices and frauds rather than using manual method (Selker 2004; Debnath, Kapoor, Ravi 2017).

Another factor related with e-voting adoption is the context of each country (Kersting and Haldersheim, 2004: 276). Blanc (2007: 11) argued that some aspects to be considered before e-voting method is adopted are public and political support; appropriate technologies; operations and logistics, and consideration or alternatives.

If e-voting has many benefits, then why many countries have not adopted e-voting yet? The answer is because there are problems related with e-voting adoption (Alvarez and Hall 2008). E-voting, especially if cooperated with third party, can risk the election itself (Oostven 2010). Another cause of why a country still using manual method is the problem of secrecy and accuracy (McGaley 2008).

The researches related with e-voting adoption, especially in the Philippines have been conducted previously. Most researches tell about the problems in the e-voting practice in the election (Tuazon (Ed.) 2013; Quimba 2013; Crost *et.al.* 2013; Hicken *et.al.* 2015). Another research is focused on the history, structure, policies, and processes of e-voting adoption law (Mala and Pangilinan 2011). There is also research that endorse the usage of mobile phone to make e-voting more useful (Abamo, Abamo, Valerio 2016). Unlike previous researches, this research is important in terms of focusing on the causal factor of e-voting adoption in the Philippines while there are still doubts and protests coming from some stakeholders.

There are two objectives of this study. The first objective is to explain the process of election in the Philippines' national election in 2016. The second objective is to find out the causal factor of why e-voting is adopted in the national election in the Philippines

2. Method

This preliminary research employs the qualitative approach. Qualitative approach is chosen in this research because of its strengths, such that it can explain social phenomena naturally and can enrich concepts and theories to make social world more understandable (Hancock 2002, 2; Atieno 2009, 14).

To find out the causal factors of e-voting adoption in the Philippines, secondary data was collected from the internet. In addition, this research will seek to confirm whether the causal factor is right or not by doing observation on the Day of the Philippines's national election in May 2016. The observation was guided by using the observation instrument.

After being collected, data is analyzed by categorizing it into the similar groups. Every gained data is confronted to the theory to be analyzed in order to answer the research question.

3. Results

This section consists of three parts. The first part is about the process of election in the Philippines National Election 2016. The second part is the frauds in manual elections that resulted in e-voting adoption in the Philippines. The third part tells about the agreement of political elites in the Philippines to use electronic methods as the causal factor of e-voting adoption in the Philippines.

3.1 Process of Election in National Election 2016

Every Filipino voter can start to vote in the d-Day of election in the morning. They must come to the polling centre near to their home or address.

When a voter has come to the polling centre, they should find out their names in the list of voters outside the voting room (see Figure) 1 to ensure that a voter enter the proper room for casting their vote.

After that, every voter receives a ballot paper to be filled or casted before being put into the e-voting machine. In every ballot paper, every voter can vote for many candidates for many offices (president, vice president, senator, etc.)

Unfortunately, the secrecy of the choice of every voter is not ensured very well. It is because there was no special box as the place for voters. That condition can make another voter sitting near to a voter can have chance to see another voter's choice (see Figure 2).

Then, every voter must cast his or her ballot paper into the voting machine (see Figure 3). Every vote in each ballot paper, which is put into the machine, is automatically recorded in the machine.

After the polling centre is closed, the vote will be counted electronically by the machine. Next, when the machine has finished counting the result, it can send the result directly into the data centre in Manila (see Figure 4). If the function of sending the result does not work, the staff at polling centre should bring the memory card of every machine to Manila.

At night, after the voting stage has finished, COMELEC starts to recap the result from every polling centre (see Figure 5). The process of recap is functioned in order that the result of election can be known faster than before.

3.2 Causal Factors of E-voting Adoption in the Philippines

This research reveals that there are two factors leading to the adoption of e-voting in the Philippines: the frauds in manual elections and the agreement of political elites in the Philippines to use electronic methods to improve the quality of national election.

3.2.1 The Frauds in Manual Elections

Before election 2010, the elections in the Philippines got huge critiques because of many frauds practiced in every election. For example, in election 2004, it was found that there are many systematic electoral frauds. In 2004, when the election used manual method, Gloria Arroyo was facing political crisis related with accusation that she cheated in May 2004 (Tuazon (Ed.) 2006). In Philippines' election 2004, there were many categories of frauds: vote buying, voters' list inflation, stuffing ballot boxes with extra or manipulation ballots, *dag-dag bawas*, and replacing the formal results and canvass documentation by counterfeit material (Erben *at.al.* 2004).

Such was also the case for the election in 2007. The electoral fraud was practiced mostly in the Autonomous Region of Muslim Mindanao (ARMM). The most massive frauds are *dag-dag bawas* though it has not materialized (iper.org.ph; Crost *et.al.* 2013).

Generally, there are many kinds of frauds have ever been practiced in the Philippines' manual elections. In the registration process, the frauds are practiced in the registration of non-qualified voters and disenfranchisement of qualified voters. On the election day, it can take different forms of activities, such as: vote buying, waylaying of voters through fraud or stealth, stuffing of ballot box with fake ballots, ballots written by only one person or group of persons, voting by persons other than the registered voters, and misreading of ballots. Alternatively, it may be practiced in the forms of ballot/ballot box snatching or destruction, ballot/ballot box substitution, falsification of election returns, falsification of statement of votes of certificate of canvass in the municipal or city board of canvassers, falsification of statement of votes or certificate of canvass in the provincial board of canvassers (aceproject.org).

The aforementioned explanations about the frauds in manual election in the Philippines has led to the issuance of the policy of e-voting adoption since 2010. It does not mean that e-voting method is 100 percent better than the manual one. Nevertheless, it is much better than the election still using the manual method. According to former Chief of Justice of the Supreme Court of the Philippines, Reynato Puno, electronic method of election will not make the election totally clean. Nevertheless, the adoption can hopefully enhance and fix the problems commonly found in previous elections (manual method) (Phillips and Soudriette, 165-166). In

other words, e-voting is considered able to count votes and recap the results more quickly and more accurately.

The finding above is parallel with what Benoist, Anrig, and Jacquet-Chiffelle mentioned that e-voting adoption is preferred since the electronic method has more benefits more than the manual one. In addition, what happened in the Philippines as mentioned in subsection process of election in Philippines' national election 2016 above is related with what Oostveen and Besselaar stated that e-voting can make election quicker. Not only is it quicker, e-voting, as mentioned by Selker and Debnath, Kapoor, and Shamika, can minimize the possibility of frauds as commonly practiced in the manual method.

3.2.2 The Agreement of Political Elites in the Philippines to Use Electronic Methods

Although there are many frauds in an election, it does not mean that electronic method is automatically adopted in a country. It means that there should be another equally important factor to result in e-voting adoption. That factor is the agreement of political elites, especially national political elites.

From where can this research see that there is agreement of political elites in the Philippines to e-voting? The answer is located in the Republic Act (RA). The first Republic Act is RA 8436. It was approved in 1997. This Act regulates Commission on Election (COMELEC) to use an automated election system on May 11th, 1998 National or Local Elections and in subsequent National and Local Electoral Exercise. In addition, this Act provides funds therefore and for other purposes. As a policy, this Act was approved to ensure free, orderly, honest, peaceful, and credible elections, and assure the secrecy and sanctity of the ballot in order that the results of elections, plebiscites, referenda, and other electoral exercises are fast, accurate, and reflective of the genuine will of the people.

The RA 8436 then just becoming an Act does not oblige COMELEC to use e-voting since election after the release or approval of the act. It is because the Act is not really mandatory.

Ten years later, in 2007, the Parliament of the Philippines approved another RA: RA 9369. It was approved on January 23rd, 2007. This Act was released to amend RA 8436. This Act was entitled "An Act Authorizing the Commission on Elections to Use an Automated Election System on May 11, 1998 in National or Local Elections and in Subsequent National and Local Electoral Exercises to Encourage Transparency, Credibility, Fairness and Accuracy of Elections, Amending for the Purpose Batas Pambansa BLG 881, as Amended, Republic Act No. 7166, and other Related Election Laws, Providing Funds Therefore and For Other Purposes".

Unlike RA 8436, RA 9369 is more detailed. This Act regulates some aspects: qualifications, rights, and limitations of the special members of the Board of Election Inspectors, duties, and functions of the special members of the Board of Election Inspectors, Board of Canvassers, and authority to use an automated election system.

Since the release of RA, COMELEC then started to adopt and implement e-voting (automated election system) in election 2010. This RA is perceived to be more mandatory than RA 8436.

The finding above is parallel with what Kersting and Haldersheim mentioned before that context factor of every country is an important factor that should be considered. Especially, in the context of the Philippines, the agreement of political elites in the Philippines is like what Blanc means as the need of political support while a country wants to adopt e-voting.

4. Conclusion

This paper has explained why e-voting was adopted in the Philippines' national election from 2010 until 2016. As explained previously, the Philippines is the only country in Southeast Asia that has adopted e-voting. It was adopted in spite of bulk of protests and doubts from NGOs and academicians.

This research shows that there are two causal factors of e-voting adoption in the Philippines. The first factor is the frauds previously practiced in manual elections. The second factor is the agreement of political elites in the Philippines to use electronic methods.

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Appendix

Figure 1

A Voter Tried to Find Her Name in The Voter List



Source: Author collection.

Figure 2

Voters Casting Votes in Their Ballots



Source: Author collection.

Figure 3
A Voter Cast Her Vote in A Voting Machine



Source: Author collection.

Figure 4
A Polling Station Staff Send Election Result Using Voting Machine



Source: Author collection.

Figure 5

The Result of Election in the Election Centre in Manila



Source: Author collection.

**SOCIAL, CULTURE AND ECONOMIC CHANGES WITH
THE SURROUNDING COMMUNITIES AFTER CONVERGENCE
OF NAKHON PHANOM UNIVERSITY: A CASE STUDY BAN
NOEN SA-AT**

Na Rat Khwai, Muang Nakhon Phanom, Nakhon Phanom

Ms. Suvimon Khamnoi

suvimon.k@kkumail.com

And Ms. Apheradi Khaeso

aphiradi.ks@npu.ac.th

Faculty of Education, Nakhon Phanom University, Nakhon Phanom, Thailand.

Abstract

This research aims to study the Social, Culture and Economic Changes with the surrounding communities after Convergence of Nakhon Phanom University. The methodology is qualitative research by means of in-depth interview with 20 ordinary people and 10 students the data analysis is descriptive analysis. The results found that the way of life of the village people Ban Noen Sa-at changed from a farming community to a dormitory owner or store owner, the economy in the community with income from dormitories and shops. There is a community market that responds to the needs of students living in the community villagers become dormitory operators and the sale of land to outsiders to invest. So the impact of university convergence has made livestock farming a viable breeding ground for income generation and only a few families that also includes the subsistence farmers.

Keywords: *Social changes, Culture changes, Economic changes.*

1. Introduction

Ban Noen Sa-at, assigned as Mu 8 Na Rat Khwai District, is a village in Nakhon Phanom Province. A Former name was called “Ban Lao Yai” according to its upland and forest-covered character. In 1963, two families of “Kaewbudda” and “Trirayata” had early been practicing their farming on the “Ban Lao” land, before the others moved in. The geography of Ban Noen Sa-at is the great upland circled by flat plains and swamps where the villagers practiced their subsistence farming, and

normally cultivated in a period of May-December. Meanwhile, in summer, villagers practice animal farming on their own land in the area of “Ban Noen Sa-at”. In the past, the most part of the land was forest-covered with a wide diversity of tree species such as Yang, Indian Oak, Burmese Sal, Iron Wood, and Eucalyptus, so this was to afford the people from wild harvesting. Whereas natural water resources found as streams and ponds, the main water stream was “Huay Lam Nam Kor” which is the binary line of “Na Rat Khwai” and “Nong Yat” districts. Other useful natural water resources were local ponds “Nong Kam Pak Kud” and “Nong Bua” where the villagers essentially practiced their aquaculture. The ponds were dense of aqua animals such as shrimps, shells, crabs and fishes.

By the time, “Ban Noen Sa-at” had been the small local community, people moved in as relative families then the village became expanding for the large community. Nowadays the population of “Ban Noen Sa-at” is 1,117: 565 male, 552 female, and 348 families. (Information from Thailand Basic Minimum Need, Survey Date: May 24, 2010)

The data collected from interviewing local people at “Ban Noen Sa-at” showed significant increasing of the “Ban Noen Sa-at” population after a convergence of Nakhon Phanom University; a part of the village land was granted for the campus establishment, thus the village has directly become the expanding community. However, effects of expanding were also found and unavoidable.

The convergence of the university caused the increasing of “Ban Noen Sa-at” population in terms of students’ moving-in housing and dormitories and also changes on town’s geography and scenery where was the forest-covered to be the town-like village crowded by buildings of residences, convenience stores, food shops and groceries.

Purposes of the study

1. To investigate the changes of “Ban Noen Sa-at” community
2. To investigate the changes of “Ban Noen Sa-at” Economic Conditions

Hypothesis of the study

The researchers determined the following scopes of the study

1. The convergence of Nakhon Phanom University affects the “Ban Noen Sa-at” Societies, Economics and Cultural Traditions of the community.
2. Local people ways of Life have been changed depending on the changes of “Ban Noen Sa-at” community.

3. The impacts of “Ban Noen Sa-at” community changes are both in positive and negative ways.

Scopes of the study

Literature reviews

In this research, the researcher reviewed related literatures as following;

The changes of “Ban Noen Sa-at”, Na Rat Khwai, Muang Nakhon Phanom, Nakhon Phanom in terms of societies, Economics, Cultural Traditions of the community.

The Impacts of Societies, Economics, Cultural Traditions Changes of “Ban Noen Sa-at” community.

Area of the study

Mu 8 Na Rat Khwai Distirct, is a village in Nakhon Phanom Province.

Population of the study

Purposive Samples were selected to this study; There were 20 “Ban Noen Sa-at” local people, and 10 students from Nakhon Phanom University.

2. Research Methodology

This study was conducted by qualitative research methodology; Documentary Research, In-depth-Interview

Desk Study

Documentary Research was conducted by reviewing all related literatures of “Ban Noen Sa-at” community.

In-depth-Interview

Semi-Structured In-depth-Interviews were conducted for the data collection of the study. The interview structures were designed as the guided interviews in order to set up the direct goals of the questions. However, the interview questions were open-ended questions with keywords that allowed the interviewees to consider their answers or deliver their additional opinions in any dimensions of thoughts of the changes of their present local community environment “Ban Neon Sa-at” Na Rat Khwai, Muang Nakhon Phanom, Nakhon Phanom.

Instrumentation

The instruments of this study were semi-structure interviews form 30 purposive sampling participants on the changes of “Ban Noen Sa-at”, Na Rat Khwai, Muang Nakhon Phanom, Nakhon Phanom in terms of societies, Economics, Cultural Traditions of the community.

Part 1: Semi-structure interviews on the changes of “Ban Noen Sa-at”, Na Rat Khwai, Muang Nakhon Phanom, Nakhon Phanom in terms of Societies, Economics, Cultural Traditions

Part 2: Semi-structure interviews on the impacts of “Ban Noen Sa-at”, Na Rat Khwai, Muang Nakhon Phanom, Nakhon Phanom in terms of Societies, Economics, Cultural Tradition Changes

Data Collection

The changes of “Ban Noen Sa-at”, Na Rat Khwai, Muang Nakhon Phanom, Nakhon Phanom in terms of Societies

From the semi-structure interviews, “Ban Noen Sa-at”, Na Rat Khwai, Muang Nakhon Phanom, Nakhon Phanom in terms of Societies, the village itself has become the town-like expanding city which can be obviously seen compared to the past. The local community has been rapidly changing in terms of societies, economics, cultural tradition and also local education changes due to the convergence of Nakhon Phanom University. The local people ways of life have also been changed so that there were the significant changes on the “Ban Noen Sa-at” societies.

The following are some examples from the semi-structure interviews obtained from participants of “Ban Noen Sa-at” local people.

“In the past, “Ban Noen Sa-at” was forest-covered upland with dirt road and rough surface. There were no town-like supplies, facilities and accommodations. Local people mostly practiced agriculture or farming on their own land otherwise doing Laborer Jobs. Then, the convergence of Nakhon Phanom University caused the community been developed in a better way ways, there were increasing of students’ dormitories and residences, groceries, conveniences stores, and town-like facilities such as drinking water vending machines, ATM machines, Washing machines, and also the concrete and asphalt roads. The ways of life of “Ban Noen Sa-at” people have been better changed from practicing agriculture or farming on their own land or doing Laborer Jobs to having their own businesses of accommodations, groceries, and food shops.”

(Chaleaw Nasai: Ban Noen Sa-at Community Leader: Age58)

“In the past, “Ban Noen Sa-at” was not crowded by the community as seen from the present. Most of the village land was forest-covered, plenty of rice-fields, no town-like facilities. The local houses were mainly made of wood, basically built for family by economical costs of living, meanwhile, in the presence, houses have been built as students’ dormitories or residences. Local people own their student dormitory businesses, groceries, so they could earn or afford their living for better.

The societies were changed to the town-like with a growth of local population. Houses were built in modern style where the places for students' dormitory and residences”

(Amphorn Saengpromphan: Grocery Owner: Age 52)

“Ban Noen Sa-at” was not civilized as in the mean time. The road was a rough surface dirt road. The housing was two-storey wooden house standing high from the ground in order to protect residents from wild animals from the Ban's forest. Nowadays, after the convergence of Nakhon Phanom University, the local population has been increasing from the house registration of students, the village has become more civilization with town-like facilities, accommodation and residences for students, and houses were built in modern style with facilities”

(Amornsri Kaewwaen: Housewife Association: Age 52)

“In the present, “Ban Noen Sa-at” was obviously changed. The village has become populous from housing, student accommodations and residences. The roads were built for asphalt. The community environment has been changed, the transportations were better from the past, people walked, then the convergence of Nakhon Phanom University helped people afford themselves for transportations. That brought civilization to the village”

(Pakaorn Kotabin: Sri Roong Copy Shop 1 Owner: Age 36)

From the examples above, the changes of “Ban Noen Sa-at” society are agreeable from the interviewees in terms of village civilization and modernization, accommodations and residences have been built for students' dormitories, the growth of population: house registration from the university students. The changes were considered advantage for the village in bringing the village facilities, better transportations. That is to say, the advantages happed as soon as the convergence of Nakhon Phanom University was achieved.

3. Results

The Cultural Tradition changes of “Ban Noen Sa-at”

The Cultural Tradition changes of “Ban Noen Sa-at” were significantly found according to the moving-in of the university students from different places of birth. The changes were found in terms of different speaking accents, cultural traditions and religious ceremonies and activities majorly held by the university students. For example, Loy Kratong Festival was held by faculty of education at the Nakhon Phanom University campus annually. In this activity, the university students and local people from “Ban Noen Sa-at” community participated the festival together. Buddhist or religious activities were often held by the university students such as making merit on Buddhism religious days, candle donation on Buddhist Lent Day.

The following are some examples from the semi-structure interviews obtained from participants of “Ban Noen Sa-at” local people.

“The former “Ban Noen Sa-at” was less populous than the present. People who came for making merit were older people or seniors from the community. Nowadays, there have been the university students participated in religious activities, so the temple increased more religious activities such as annual merit ceremony, Kathin Ceremony, Circumambulation on Buddhist Lent Day. That is, the changes of cultural tradition of “Ban Noen Sa-at” were various and obvious, and also in terms of growth of housing and residences, village expanding of the community.”

(Phra Atikanjai Khantithammo: The Abbot of Sri Bun Ruearnng Temple: Age 75)

“The local culture and tradition of the community of “Ban Noen Sa-at” were remained. Local people pay respect to a great spirit of Phor Phu. Most people are Buddhism, and they continued holding all religious activities such as Circumambulation on Buddhist Lent Day, annual Kathin Ceremon , and more university students have been participating to those activities compared to the past. The changes were depending on periods of time, however cultural traditions; manners in speaking, dressing, eating, have been preserved.”

(Kong Trairin: Local Intellectual: Age 75)

“The local culture and tradition of the community of “Ban Noen Sa-at” were remained. The Local population was increased, and also the religious activities. The important religious ceremonies have annual been held. Even though the university students moving-in brought some different cultures and traditions, the obvious change was prior to speaking manners and accents.

(Chusak Saengpromchalee: Local Intellectual: Age 73)

From the examples above, the changes of “Ban Noen Sa-at” cultural traditions were obviously seen on population increase so as to the religious activities. People who came for making merit were increase, both were local people and most of them were university students. Local people took part in local culture and traditional preservations due to the increasing of religious activities held by the university such as making merit on the Buddhist holy days. The changes on speaking manner were also found in different ways in speaking and accents.

The Economics changes of “Ban Noen Sa-at”

From the semi-structure interviews found the evidences of changing in terms economics of “Ban Noen Sa-at” since the convergence of Nakhon Phanom Rajabhat

University. The increasing of housing, dormitories and residences, food shops, groceries, facilities were found. Later on, the Nakhon Phanom Rajabhat University was established to Nakhon Phanom University, thus the university became acquaintance to neighboring. The new faculties; Faculties of Education, Liberal Arts and Sciences, Management and Technology and International Aviation College were also established in the campus area. The university expanding supported the growth of economics changes of the community in positive way which were dominantly seen from the growth of housing, dormitories and residences, food shops, groceries, town-like facilities, Laundry shops and own businesses of local people that focused on the university students as the customers.

The following are some examples from the semi-structure interviews obtained from participants of “Ban Noen Sa-at” local people.

“The changes of economics of “Ban Noen Sa-at” were obviously seen from the development of economic systems determined by increasing of convenience stores and groceries. Not only the increasing of household businesses, but also the local population increased. Main incomes flew from purchasing and supplying to the university students’ expenses. That is, the economics system of “Ban Noen Sa-at” was improved. “

(Manus Pumpao: Local Community Business Association: Age 40)

“The great incomes of local people in “Ban Noen Sa-at” were from having housing, dormitories and residences on their own land. After the convergence of Nakhon Phanom University, the local people incomes were increased. The development of economics was notably found due to the increasing of university students as the local population

(Manlika Sakhwankraipong: Local Community Business Association: Age 50)

The impacts of social, economics, and cultural tradition changes of “Ban Noen Sa-at”

From the semi-structure interviews, “Ban Noen Sa-at”, Na Rat Khwai, Muang Nakhon Phanom, Nakhon Phanom in terms of Societies, the village itself has become the town-like expanding city which can be obviously seen compared to the past. The local community has been rapidly changing in terms of societies, economics, cultural tradition and also local education changes due to the convergence of Nakhon Phanom University. The local people ways of life have also been changed so that there were the significant changes on the “Ban Noen Sa-at” societies. Especially the university students were considered the important roles on the community’s changes.

However, there were some impacts on the changes of “Ban Noen Sa-at”, some were viewed as major problems affected the community, for example; water pollution, Wastes and drugs etc.

“The increasing of local population caused both advantage and disadvantage to the community More people caused more wastes and brought this to the major problem of the community. Water Supplies were not afforded enough to the whole population. Illegal Drugs were widely used in the community, however, some problems were solved by the community leader and the local people of “Ban Noen Sa-at” community ”

(Chusak Saengpromchalee: Local Intellectual: Age 73)

Meanwhile, another interviewee exposed the considerable problems were wastes, drainage systems, and water-supply shortage.

“ The local population was increased and caused the waste problem, drainage systems, and water-supply shortage to the community. Nevertheless those were prior problems of town-like expanding city”

(Manlika Sakhwankraipong: Local Community Business Association: Age 50)

That is to say, The convergence of Nakhon Phanom University impacted on the changes of “Ban Noen Sa-at”, viewed as major problems in three terms of water pollution and water supply, Wastes and Drugs.

4. Discussion

The changes of “Ban Noen Sa-at” Community

Nowadays ,“Ban Noen Sa-at”, Na Rat Khwai, Muang Nakhon Phanom, Nakhon Phanom, the village itself has become the town-like expanding city. The local community has been rapidly changing in terms of societies, economics, cultural traditions, local populations and also education changes due to the convergence of Nakhon Phanom University. The local people ways of life have also been changed so that there were the significant changes on the “Ban Noen Sa-at” as follows;

The local people ways of life

The local people ways of life have also been changed after the convergence of Nakhon Phanom University. In the past, local people mostly practiced agriculture or farming on their own land otherwise doing Laborer Jobs. Then, the convergence of Nakhon Phanom University caused the community been developed in a better way ways, there were increasing of students’ dormitories and residences, groceries, conveniences stores, and town-like facilities The ways of life of “Ban Noen Sa-at”

people have been better changed from practicing agriculture or farming on their own land or doing Laborer Jobs to having their own businesses of accommodations, groceries, and food shops.

Products and Customer Services

After the convergence of Nakhon Phanom University. The village became more civilized with conveniences stores, and town-like facilities such as drinking water, vending machines, ATM machines, Washing machines, and Laundry Service Shop.

Local People Population

The local population has been increasing from the house registration of students, mostly from faculty of Education, Liberal Arts and Sciences, Management and Technology, and International Aviation College which considered popular faculty of the university. This caused the village become more crowded and populous.

The Cultural Tradition changes of “Ban Noen Sa-at” were significantly found according to the moving-in of the university students from different places of birth. The changes were found in terms of different speaking accents, cultural traditions and religious ceremonies and activities majorly held by the university students. For example, Loy Kratong Festival was held by faculty of education at the Nakhon Phanom University campus annually. In this activity, the university students and local people from “Ban Noen Sa-at” community participated the festival together. Buddhist or religious activities were often held by the university students such as making merit on Buddhism religious days, candle donation on Buddhist Lent Day. However, the local culture and tradition of the community of “Ban Noen Sa-at” were remained. Local people pay respect to a great spirit of Phor Phu. Most people are Buddhism, and they continued holding all religious activities

The Economics changes of “Ban Noen Sa-at”

The changes of “Ban Noen Sa-at” economics was found since the convergence of Nakhon Phanom Rajabhat University. The increasing of housing, dormitories and residences, food shops, groceries, facilities were found. Later on, the Nakhon Phanom Rajabhat University was established to Nakhon Phanom University, thus the university became acquaintance to neighboring. The new 3 faculties and 1 college; Faculties of Education, Liberal Arts and Sciences, Management and Technology and International Aviation College were also established in the campus area. The university expanding supported the growth of economics changes of the community in positive way which were dominantly seen from the growth of housing, 42 dormitories, 24 food shops, 7 copy shops, 4 Laundry shops and 18 groceries. The

local people turned to run their own businesses focusing on the university students as the customers.

The impacts of social, economics, and cultural tradition changes of “Ban Noen Sa-at”

From the convergence of Nakhon Phanom University in terms of Societies, the village itself has become the town-like expanding city which can be obviously seen compared to the past. The local community has been rapidly changing in terms of societies, economics, cultural tradition and also local education changes. The local people ways of life have also been changed so that there were the significant changes on the “Ban Noen Sa-at” societies. Especially the university students were considered the important roles on the community’s changes. There were some impacts on the changes of “Ban Noen Sa-at”, some were viewed as major problems affected the community. There were water pollution, Wastes and drugs.

Cultural Impacts

The obvious impacts on cultural change were speaking with different accents and dressing manners which were affected from the university students’ lifestyles and fashion’s trends.

Economics Impacts

The growth of population caused the expanding of the village, and also in terms of economics system of the community. Some considered as both positive and negative ways in expanding village The growth of economics changes controlled the community business competitions, meanwhile; some products, services and facilities such as ATM, washing machines were considered shortage.

Recommendations

From the study, The changes of “Ban Noen Sa-at”, Na Rat Khwai, Muang Nakhon Phanom, Nakhon Phanom in terms of social, economics, and cultural traditions

1. To support further studies on the changes of a community in social, economics, and cultural traditions, then apply the research’s results in developing and enhancing any local community to be an efficient community of any area in the future
2. To apply the roles of in changing of social, economics, and cultural traditions to be the better social development and human security based on local community with associations of regional, central, and provisional governmental offices
3. To conduct further research and development studies in order to develop the changes of “Ban Noen Sa-at” community, or studies of the effects of changes to the village’s community in the future

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FACTORS AFFECTING THE DEMAND FOR STUDENT LOANS IN ECONOMIC UNIVERSITIES IN HANOI

Dr. Vu Duy Nguyen

vunguyentc@yahoo.com

Nguyen Quynh Anh

quanhyun191@gmail.com

Lang Thi Huyen Trang

langtrang2@gmail.com

Faculty of Tax and Customs, Academy of Finance, Hanoi, Vietnam

Abstract

The research systemizes the theories on student loans and sums up the results of domestic and international authors on the factors that affect the demand for loans of students. From that the group established the model theory to analyze the factors affecting the demand for student loans in economic universities in Hanoi. The authors have composed a paper-based survey questionnaire and online survey, inspecting 388 students from the 5 biggest economic universities in Hanoi, including National Economics University, Vietnam University of Commerce, Foreign Trade University, Academy of Banking and Academy of Finance in February, 2017. By performing multivariate regression, the group gives predictions following the Binary Logistics regression. The results show four statistically significant factors that affect positively the demand for student loans in economic universities in Hanoi, including (i) Expenses for student's studying, (ii) student incomes, (iii) Preferential Credit Programs for students, and (iv) Credit guarantees for student loans. In addition, the research also analyzes and suggests possible solutions derived from the results of the model.

Key words: *student loans, student credits, Binary Logistics regression.*

1. Introduction

Nowadays, in our flat economy, knowledge-based economy, education and training are becoming more and more important in development and growth. With the “*Human capital*” theory, Gary S. Becker and Theodore W. Schultz (1960) stated that spending on education was investment on human and was one of the social resources. Whereas in the Solow Growth Model by Robert Solow and Trevor Swan (1956), they affirmed the importance of technology and sciences in enhancing work

productivity and economic growth, requiring workers to be trained, elevate their skills and their ability to practice technology and creativity in production. Therefore, higher education and training are the essence of the society, the core factor of technological efficiency, work productivity and economic growth, as well as the most productive human capital investment. There are millions of students that pursue higher education annually. However, the studying payments, including tuition fees, accommodation, transportation, insurance etc. can be a more and more big burden on students. Only the minority of students get their expenses financed by their family or receive full scholarships from the government and sponsors, hence the majority of students rely on bank loans and support from credit institutions to afford their study. The demand for student loans is therefore crucial and common in most developed and developing countries.

In Vietnam, education and training have always played a vital role for thousands of years due to Vietnamese people's fondness of learning and Confucianism in Vietnamese culture. For a long period of time, the society has used academic qualifications and achievements as a measure of human values and family's nobility. The Vietnamese Communist Party and the State's policies have also affirmed investing in education and training is investing in development, (Article 13, the 1992 Constitution of Vietnam), as well as Educational development is prioritized in order to improve people's intellect, enhance human resources and nourish the nation's talents (Article 61, the 2013 Constitution of Vietnam). Therefore, college students are considered the society's elite, the main high quality human resource and the motivation of social development. However, students may encounter financial obstacle in enrolling universities as many institutions are becoming financially independent, causing the tuition fee to rise significantly. To continue their studying, students need to approach both official and unofficial funding. In the context of imperfect financial market, such as information asymmetry and limited resources, college students face difficulties getting loans, forcing them to leave school. According to the 2011 statistics from the Ministry of Educational and Training, 1.163 students (0,13%) dropped out of college due to their financial limit of affording higher education (Kinh te va Do thi Journal). Moreover, It is very hard for students, their families, commercial banks and banks for social policies to meet and reach an agreement in the official financial market. Therefore, analyzing the factors affecting the demand for student loans in economic universities in Hanoi is consequently essential both theoretically and practically. The research aims to not only the theoretical model of the factors affecting the demand for loans of college students but also estimation and regression of the factors affecting the demand for student loans of economic universities in Hanoi based on the research group's survey, and

suggestions on solutions which encourage economic majors in Hanoi to reach out for loans.

Subject and range of the research

- Subject of the research: Factors affecting demand for student loans in economic universities in Hanoi.

- Range of the research: Students of five largest economic universities in Hanoi city, which are National Economics University, Foreign Trade University, Vietnam University of Commerce, Banking Academy of Vietnam, and Academy of Finance. In February, 2017, paper-based questionnaires and online survey were handed out to randomly selected students from these 5 colleges and 388 evenly scattered samples were further inspected.

- Range of the research content: Estimation, regression and statistical test of factors affecting the loan demand of students in economic universities in Hanoi and some solutions proposed from the results of the model.

2. Research methods

The research is based on inspection of 388 random sample students, using the questionnaire composed by the research group and SPSS20 software to analyze, estimate, regress and test statistical hypotheses related to the model.

During the research, the authors used qualitative research methods such as dialectic materialism, historical materialism combined with analytical, synthesis, comparative and systematized methods. In particular, the team used a random survey based on the questionnaire developed by the research team and then utilized SPSS20 software for multivariate analysis, estimation and regression of Binary Logistics model according to the method of Maximum-Likelihood Estimation, forecasting and testing statistical hypothesis related to the model.

3. Model of factors affecting demand for student loans in universities

3.1. Theoretical framework

The theoretical framework of the model is based on the results of the following main researchers: (i) Gary S. Becker and Theodore W. Schultz (1960) proposed the theory of '*human capital*'; (ii) Gary S. Becker and Tomes (1986) enhanced human capital theory as personal behavior theory and treated the payment on educational services as an investment, not only from the view of government, but also from students and their families; (iii) Erik Canton and Andreas Blom (2004) advanced the Human Capital Model of Gary S. Becker and Tomes proposed in 1986. Investment in education is considered an investment in human capital. Payments for education

include tuition fees, spending on educational materials, and the opportunity cost of going to school. The benefits that an investor can achieve consist of higher levels of income, increasing in career assurance, and employed opportunities. The investment in human capital is hypothesized depending on a comparison between the two main aspects that are the costs and benefits of investment in education; (iv) D. Bruce Johnstone (2007) with the study of *'The Economics and Politics of Cost Sharing in Higher Education: Comparative Perspectives'* and the researches in 1986, 2001, 2002 developed the theory of human capital and proposed cost-sharing models in undergraduate training institutions for crucial stakeholders: government or taxpayers, students' families, students and donors. According to the surveys in many countries around the world, the tendency is to gradually reduce the cost burden of the government and to increase the burden of costs on families and learners through increasing tuition fees at public universities by the market price mechanism. Moreover, the propensity of families and students in accessing financial markets to get loans for payment of their tuition, living and studying fees has increased and become common; (v) Gregorio Caetano, Harry A. Patrinos, and Miguel Palacios (2011) with *'Measuring Aversion to Debt: An Experiment among Student Loan Candidates'*. According to those authors and Canton & Blom (2004), Lochner & Monge-Naranjo (2014) and Mark Kantrowitz (2016), student loans are high-risk credit activities. Investment in higher education is an important decision that everyone has to deal with. Each level requires a particular amount of money, so that financial issues such as financial resources of students and their families, borrowing constraints, etc. can affect their investment decisions; (vi) Sandy Baum (2003), *"The Role of Student Loans in College Access"*. Most of the discussions on student loan issues focus on students' difficulties. Dependence on loans when graduating high school has provoked waves of controversy, particularly among low-income and lower-class borrowers.

3.2. Proposed Model Study

In order to understand the factors that affect the demand for student loans in economic universities in Hanoi city, we propose the model that is based on dependent variable Y and independent variables Xi with regard to Binary Logistics regression model. In which:

Dependent variable Y (demand for student loans in economic universities in Hanoi) is measured in binary scale, in which $Y = 1$ if the student needs a loan and $Y = 0$ if the student does not need a loan. The values of Y are collected on the basis of survey from random students at some economics universities in Hanoi. Y is collected through the items (Q1 and Q2) in the survey form.

The Binary Logistics regression model was selected to examine the relation and impact of seven independent variables (factors) from X_1 to X_7 on the demand for student loans in economics universities. The general model is as follows:

In the Binary Logistics regression, the dependent variable Y has only two value states: 1 or 0. In order to convert it into continuous variable, we have to calculate the probabilities of the two states. If P is the probability that an event occurs (value 1), $(1-P)$ will be the probability that the event does not occur (value 0). Binary Logistics regression model demonstrates:

$$\text{Ln} \left[\frac{P(Y = 1)}{P(Y = 0)} \right] = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + U_i$$

$P(Y=1) = P$: Probability of students who need a loan.

$P(Y = 0) = 1-P$: Probability of students who do not need a loan.

X_i : Independent variables affecting students' demand for loans.

Odds coefficient is calculated by the formula: $Odds = \frac{P}{1-P}$

Substituting into the Binary Logistics regression model we get:

$$\begin{aligned} \text{Ln}(Odds) &= \text{Ln} \left[\frac{P(Y = 1)}{P(Y = 0)} \right] \\ &= \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + U_i \end{aligned}$$

This is a type of Logarit function. Hence, the Ln function of the Odds coefficient is a linear regression model with independent variables X_i .

The independent variables in the model are focused on 7 variables from X_1 to X_7 . The seven independent variables are measured through the 24 observation variables (items) from Q3 to Q27 in the questionnaire which was based on the previous studies and the results of the studies. In the questionnaire, we use the Likert scale of 5-point, focusing on the important factors affecting demand for student loans, including:

- Expenses for students' studying (X_1): Expenses is all of what is spent or waived to reach the education and training. Specifically, the cost of higher education includes tuition, living fees, learning materials and some other expenses (not include opportunity costs into this model). Expense is a key issue in choosing a university or loans. X_1 is measured through 3 items (Q3, Q4, Q5). It can be expected a positive (+) relationship between variables X_1 and $\text{Ln}(Odds)$.

- Student incomes (X_2): These are the financial resources that can be used to cover cost of learning. Those resources may come from different sources such as

student's family, social support, part time jobs, scholarship. X_2 is measured through 4 items (Q7, Q8, Q9 and Q10). It can be expected a positive (+) relationship between variables X_2 and $\text{Ln}(\text{Odds})$.

- Preferential Credit Programs for students (X_3): These are credit programs of credit institutions such as VBSP or commercial banks in the form of lower interest rates, loosening loan repayment period or convenient procedures in order to help students access to the capital more easily. With these programs, students can pay off their debt after graduation and their debt accumulation will be lower than the usual way of taking a loan. X_3 is measured through 4 items (Q11, Q12, Q13, Q14). It can be expected a positive (+) relationship between variables X_3 and $\text{Ln}(\text{Odds})$.

- Students' awareness of credit repayment (X_4): When deciding to take a loan, students and their families face the possibility of default if they cannot get jobs or work at low salaries after graduating. X_4 is measured through 4 items (Q15, Q16, Q17, Q18). It can be expected a positive (+) relationship between the variables X_4 and $\text{Ln}(\text{Odds})$.

- Students' experience in borrowing loans for studying (X_5): This is the experience which comes from the students' own credit activities in the past or from their families, relatives and friends. These experiences provide students with reliable information and effective knowledge of credit programs that are appropriate for them; or the better ability to estimate expenses and expected earnings when they access to financial markets. X_5 is measured through 3 items (Q19, Q20, Q21). It can be expected a positive (+) relationship between the variables X_5 and $\text{Ln}(\text{Odds})$.

- Universities' Support Policies (X_6): These are credit program's incentives which are information or credits guarantees coming from the University that the student attends. X_6 is measured through 3 items (Q22, Q23, Q24). It can be expected a positive (+) relationship between variables X_6 and $\text{Ln}(\text{Odds})$.

- Credit guarantees for student loans (X_7): According to previous studies, student credit brings a great deal of risk to the financial market due to the long time it takes to recover a loan, disproportionate information and the risk of student default when they are unemployed after graduating. X_7 is measured through 3 items (Q25, Q26, Q27). It can be expected a positive (+) relationship between variables X_7 and $\text{Ln}(\text{Odds})$.

4. Organizing research and results of the research

4.1 Organizing research

After designing questionnaire, the research team takes trial of 30 students to ensure the appropriateness and understandability of the questions, and adjust the

contents for the convenience in choosing the most suitable answers. Then, the team starts surveying randomly at five largest economic universities in Hanoi, which are National Economics University, Foreign Trade University, Vietnam University of Commerce, Banking Academy of Vietnam, and Academy of Finance. The survey receives 388 samples, in which 150 samples are surveyed randomly by paper-based survey and divided by five universities, each has 30 papers. 238 remaining samples are obtained by internet with the same contents as the papers but adding a question about answerer's university to control the number of questioned students from each university. Moreover, online survey is shared in major websites of these universities to ensure the random of the research.

Analyzing method of data: analyzing data bases on SPSS20 program and being progressed in 2/2017. The quantitative process is conducted through: Reliability Test Cronbach's Alpha, Exploratory Factor Analysis EFA, running Binary Logistic Regression model and testing statistical hypotheses related to regression model.

4.2 Results of the research

4.2.1 Statistical result of surveyed sample

According to proposed theoretic model and surveyed questions for 388 students of five largest economic universities in Hanoi, the research is processed through two steps: clearing data to eliminate unreasonable samples and utilizing SPSS20 program to determine descriptive statistic for 26 variables.

Table 1: Scale introduction and descriptive statistic

Variables	Questions	Significance and scale	Cronbach's Alpha coefficient	Average value	Standard deviation
Demand for student loans (Y)	Q1. Do you have demand of loans for tuition payments (curricular and extracurricular)?	1- Yes 0- No		0,177	0,38
	Q2. Do you have demand of loans for living fees and study vehicles?				
Expenses for students' studying (X₁)	Q3. Level of tuition fee (curricular and extracurricular) of your university	1- Very low 2- Low 3- Moderate 4- High 5- Very high	0,6	3,27	,957
	Q4. Level of monthly living fee? (food, fee of renting house,...)			2,59	,871
	Q5. Level of studying and living vehicle fee (laptop, books, vehicles)			2,06	,999
	Q7. Level of monthly money received from family	1- Very low 2- Low		2,37	,851

Variables	Questions	Significance and scale	Cronbach's Alpha coefficient	Average value	Standard deviation
Student incomes (X₂)	Q8. Level of your scholarship	3- Moderate 4- High	0,55	1,58	,913
	Q9. Level of income from part-time job	5- Very high		1,54	,875
	Q10. Level of received social security			1,18	,520
Preferential credit programs for students (X₃)	Q11. Receive information of preferential credit programs of Vietnam Bank for Social Policies (VBSP) or commercial banks	1- Never 2- Rarely 3- Occasionall y	0.936	2,05	1,014
	Q12. Level of preferential interest for students	4- Frequently 5- Always		1,95	1,083
	Q13. Level of preferential prompt for students			2,00	1,119
	Q14. Level of convenience of lending and borrowing procedure			1,99	1,124
Students' awareness of credit repayment (X₄)	Q15. Level of your academic and practical results in your university	1- Very low 2- Low 3- Moderate 4- High 5- Very high	0,54	3,28	,774
	Q16. Chance of job and income in your specializing major?			2,97	,852
	Q17. Level of understanding about credit policies for students			2,16	,988
	Q18. If borrowing loans, the voluntary level of payment			3,39	1,252
Students' experience in borrowing credits for studying (X₅)	Q19. You and your family have ever borrowed loans of VBSP or commercial banks for study purpose	1- Never 2- Rarely 3- Occasionall y 4- Frequently 5- Always	0,8	1,76	1,050
	Q20. You and your family have ever borrowed loans of other credit institutions for study purpose			1,56	,891
	Q21. Your friends have ever borrowed loans for study purpose			2,09	1,033
Universities' Support Policies (X₆)	Q22. Has your university ever cooperated with commercial banks for students' preferential credit programs?	1- Never 2- Rarely 3- Occasionall y 4- Frequently	0,81	2,90	1,137
	Q23. Has your university ever acted as a credit guarantee for student loans?			2,46	1,133

Variables	Questions	Significance and scale	Cronbach's Alpha coefficient	Average value	Standard deviation
	Q24. Has your university ever provided supporting credit information programs?	5- Always		2,68	1,164
Credit guarantees for student loans (X₇)	Q25. Guarantee by certificate of land use right and family income?	1- Never 2- Rarely	0,793	2,04	1,135
	Q26. Guarantee by the local government where your family resides?	3- Occasionall y		2,00	1,136
	Q27. Guarantee by your future income?	4- Frequently 5- Always		2,10	1,142

Source: Proposed by the research team

Descriptive statistic determines that among 388 surveyed samples, there are 69 sample having demand for student loan (Y=1 accounts for 17.78%) and 319 samples having not (Y=0 accounts for 82.22%). This rate exposures not only the low average value of Y (about 0,177), but also the fact that demand is still at a low level, mostly concentrating on student loans of Vietnam Bank for Social Policies.

Landmark of reference to likert 5 scale for variables related to students' expense and income, and student loans is set by basic income at 1,21million VND/month, issued by the State from 1/5/2016, in which: Very low❶ (below 1,21million), Low❷ (1,21-3,36million), Moderate❸ (3,63-6,05million), High❹ (6,05-8,47million) and Very high❺(over 8,47million).

Average value of 23 over 26 variables is lower than level 3 of likert 5 scale. Especially, the variables related to the loan information, the understandings of student loans, and student incomes are low, around level 2, reflecting the lack in awareness and information of students about loans.

4.2.2 Result of Cronbach's Alpha coefficient Test

Seven factors (X₁ to X₇) are tested their reliability scale by Cronbach's Alpha coefficient. There are several variables that receive high results, such as: X₃ (0,936), X₅ (0,8), X₆ (0,81), X₇ (0,793). Meanwhile, the groups of variables which obtain Cronbach's Alpha coefficients from 0,5 to 0,6 include X₁ (0,6), X₂ (0,55), and X₄ (0,54). On the other hand, all of items – total correlation variables are above 0,3. Therefore, according to theoretical significance of the factors, author decides to continue using the variables which has the value between 0,5 and 0,6 in analyzing the factors based on Exploratory Factor Analysis (EFA).

4.2.3 Exploratory Factor Analysis (EFA)

Exploratory Factor Analysis (EFA) is a method in statistical analysis to diminish one set of variables which depend on each other to make up a smaller group (a factor), so that the factor contains more meaningful contents and carries most of previous set's matters. After 2 times analyzing EFA, the outcomes indicate that 2 items are eliminated Q9 and Q21, which gain factor loadings below 0,5. Hence, EFA is performed with 22 remaining items.

Table 2: KMO and Bartlett's Test

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,844
	Approx. Chi-Square	4342,760
Bartlett's Test of Sphericity	Df	300
	Sig.	,000

Source: Output of SPSS20 program

Firstly, factor loadings represent how much a variable explains a factor in EFA and play a role as criteria to ensure the level of EFA's realistic significance. With 388 surveyed samples, factor loadings bring realistic significance if factor loadings are above 0,55.

Secondly, KMO (Kaiser – Meyer – Olkin) is criteria to evaluate the appropriation of EFA. If $0,5 \leq KMO \leq 1$, the analysis is suitable. Because $KMO=0,844$, EFA is appropriate for the researched variables.

Thirdly, Bartlett test to examine hypotheses

Ho: correlation level between researched variables is zero in population

H1: correlation level between researched variables is not zero in population

Because the outcome of Chi-Square test only has the value of 4342,760 and statistical significance $Sig=0,000$ ($Sig \leq 0,05$), the researched variables have correlation with each other in overall.

The percentage of variance in initial eigenvalues extracted at 62,465% (>50%) shows that 6 selected factors are able to explain 62,465% variation of data. Hence, the extracted scales are acceptable. The stopping point when extracting the sixth factor with eigenvalue = 1,119 (≥ 1), representing for variation part is explained by each satisfied factor.

All in all, 22 initial items, which are analyzed by EFA, are distributed into 6 groups of significant affecting factors. Among those, some of items are disposed to more suitable factors such as: 2 items (Q17 and Q19) are jointed into variable X_3 , Q20 is grouped to variable X_2 . Therefore, according to EFA, the authors rename 22 items for 6 new groups of factors such as: Z_1 includes 4 items (Q3, Q4, Q5, Q7); Z_2 includes 3 items (Q8, Q10 and Q20); Z_3 includes 6 items (Q11, Q12, Q13, Q14, Q17, Q19); Z_4 includes 3 items (Q15, Q16 and Q18); Z_5 includes 3 items (Q22, Q23 and Q24); Z_6 includes 3 items (Q25, Q26 and Q27).

In order to process multivariate regression by Binary Logistics model for borrowing student credits, our team calculates value of factors Z_1 to Z_6 on the basis of mean function to find average of observed variables in each factor. Beside, the research introduces two dummy variables, which are Gender (Gender = 1 if student is male and Gender = 0 if student is female) and Area (Priority area of student: Area = 1 if student is in Area 3 and Area = 0 if student is in other Area) to regress with 6 mentioned factors.

4.2.4 Results of binary multiple logistic regression model

Testing hypotheses of the multivariate regression model through these tests:

The first, Wald Test

Wald test considers statistical significance of factors' coefficients with regard to dependent variable (Y) in model.

Table 3: Results of multivariate regression binary logistic model
Variables in the Equation

	B	S.E.	Wald	Df	Sig.	Exp(B)
Z1	,589	,280	4,418	1	,036	1,802
Z2	1,342	,270	24,703	1	,000	3,828
Z3	1,170	,240	23,753	1	,000	3,222
Z4	-,540	,294	3,374	1	,066	,583
Step 1 ^a Z5	-,410	,240	2,914	1	,088	,664
Z6	,481	,200	5,790	1	,016	1,617
Area	-,357	,347	1,062	1	,303	,699
Gender	,042	,364	,013	1	,909	1,042
Constant	-5,980	1,279	21,844	1	,000	,003

a. Variable(s) entered on step 1: Z1, Z2, Z3, Z4, Z5, Z6, Area, Gender.

Source: Output of SPSS20 program

According to table 3, Sig. of the factors Z_1 , Z_2 , Z_3 , Z_6 and Constant respectively have value at 0,036; 0,000; 0,000; 0,016; 0,000 < 0,05, so that the

relation between explanatory variables and explained variable has general statistical significance over 95%.

Variables Z_4 , Z_5 , Area and Gender, in turn, have Sig. at 0,066; 0,088; 0,303 and 0,909 > 0,05. Therefore, the relation between factors and dependent variables has not general statistical significance over 95%.

The second, testing Goodness-of-Fit by Omnibus Tests

Omnibus test is used for hypotheses:

$$H_0: \beta_1 = \beta_2 = \dots = \beta_8 = 0$$

$$H_1: \beta_1 \neq \beta_2 \neq \dots \neq \beta_8 \neq 0$$

Table 4: The model's coefficients in Omnibus Tests

Omnibus Tests of Model Coefficients

	Chi-square	Df	Sig.
Step	120,258	8	,000
Step 1 Block	120,258	8	,000
Model	120,258	8	,000

Source: Output of SPSS20 program

According to the results of testing Goodness-of-Fit, having Sig. =0,000 (<0,05), the research rejects hypothesis H_0 . Hence, the overall model indicates the correlation relation between response variable and control variables has statistical significance with confidence interval over 99%.

The third, testing power of explanation of the model

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	242,984 ^a	,267	,438

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than 001.

Source: Output of SPSS20 program

-2 Log likelihood coefficient receives fairly small value of 242,984^a and power of explanation of the model Nagelkerke R^2 is 0,438. It means 43,8% variation of dependent variable is explained by 6 independent variables of the model, and the remain is determined by other factors outside the model.

The fourth, testing predicted probability of an event for classification

**Table 5: Predicted probability of an event for classification
Classification Table^a**

	Observed	Predicted			
		Y		Percentage Correct	
		,00	1,00		
Step 1	Y	,00	310	9	97,2
		1,00	32	37	53,6
	Overall Percentage				89,4

a. The cut value is ,500

Source: Output of SPSS20 program

Among 319 students, whose answers are nonevent, the model predicts accurately 310 students, accounting for 97.2%. The model is able to forecast correctly 37 students in 69 students (53,6%), whose answers are event. Hence, the rate of precise prediction of overall Binary Logistics model is 89.4%.

The fifth, binary logistic regression equation

Therefore, logit regression model has regression coefficient as:

$$\beta^T z = -5,98 + 0,589Z_1 + 1,342Z_2 + 1,170Z_3 + 0,481Z_6 \quad (1)$$

Or

$$P = \frac{e^{\beta^T z}}{1 + e^{\beta^T z}} = \frac{e^{-5,98 + 0,589Z_1 + 1,342Z_2 + 1,170Z_3 + 0,481Z_6}}{1 + e^{-5,98 + 0,589Z_1 + 1,342Z_2 + 1,170Z_3 + 0,481Z_6}} \quad (2)$$

4.2.5. Discuss results of the regression model

- Roles of factors in the model

On the basis of table 3 about binary logistic regression and testing statistical hypotheses, the research gives the discussion about the outcomes of the regression through initial probability, as:

+ **Variable Z₁**: Average function of items (Q3, Q4, Q5, Q7), having $B_1 = 0.589$, $P = 10\%$ and $e^{B_1} = 1.802$.

$$P_1 = \frac{P \times e^{B_1}}{1 - P(1 - e^{B_1})} = \frac{0.1 \times 1.802}{1 - 0.1(1 - 1.802)} = 0.167 = 16.7\%$$

When $P(Y=1)$ is 10%, other factors are constant, if Z_1 adds 1 unit, then probability $Y=1$ will be 16.7% (increase 6.7% comparing to initially 10%).

+ **Variable Z₂**: Average function of items (Q8, Q10, Q20), having $B_2 = 1.342$, $P = 10\%$ and $e^{B_2} = 3.828$.

$$P_1 = \frac{P \times e^{B_2}}{1 - P(1 - e^{B_2})} = \frac{0.1 \times 3.828}{1 - 0.1(1 - 3.828)} = 0.298 = 29.8\%$$

When $P(Y=1)$ is 10%, other factors are constant, if Z_2 adds 1 unit, then probability $Y=1$ will be 29.8% (increase 19.8% comparing to initially 10%).

+ **Variable Z₃**: Average function of items (Q11, Q12, Q13, Q14, Q17, Q19), having $B_3 = 1.170$, $P = 10\%$ and $e^{B_3} = 3.222$.

$$P_1 = \frac{P \times e^{B_3}}{1 - P(1 - e^{B_3})} = \frac{0.1 \times 3.222}{1 - 0.1(1 - 3.222)} = 0.264 = 26.4\%$$

When $P(Y=1)$ is 10%, other factors are constant, if Z_3 adds 1 unit, then probability $Y=1$ will be 26.4% (increase 16.4% comparing to initially 10%)

+ **Variable Z₆**: Average function of items (Q25, Q26, Q27), having $B_6 = 0.481$, $P = 10\%$ and $e^{B_6} = 1.617$

$$P_1 = \frac{P \times e^{B_6}}{1 - P(1 - e^{B_6})} = \frac{0.1 \times 1.617}{1 - 0.1(1 - 1.617)} = 0.152 = 15.2\%$$

When $P(Y=1)$ is 10%, other factors are constant, if Z_6 adds 1 unit, then probability $Y=1$ will be 15.2% (increase 5.2% comparing to initially 10%).

By the similar method, the research calculates initial probability with the change of 20% and 30%, as an independent variable varies 1 unit, whether the probability of demand of student loans increases or decreases comparing to the initial probability in below table:

Table 6: Level of factors' impacts on students' demand for borrowing loans

Variables	Coefficients	Probability of demand for student loans, estimating as a independent varies 1 unit and initial probability P_0						Rank of impacts
		10%	Increase (Decrease)	20%	Increase (Decrease)	30%	Increase (Decrease)	
Z_1	0,589	16,68%	6,68%	31,06%	11,06%	43,58%	13,58%	3
Z_2	1,342	29,83%	19,83%	48,89%	28,89%	62,12%	32,12%	1
Z_3	1,170	26,36%	16,36%	44,61%	24,61%	58,00%	28,00%	2
Z_6	0,481	15,24%	5,24%	28,80%	8,80%	40,94%	10,94%	4

Source: Calculated by research team

Therefore, in the groups of factors that affect demand for student loans, Z_2 including items (Q8, Q10, Q20) brings the greatest effects, then is Z_3 including items (Q11, Q12, Q13, Q14, Q17, Q19), the next is Z_1 including items (Q3, Q4, Q5, Q7) and Z_6 including items (Q25, Q26, Q27) has the weakest effects.

- Prediction of binary logistic regression model

We can predict probability of demand for student loans as given values of impacting factors by calculating Z_i , which are the average of corresponding variables and replacing on Binary Logistics Regression Formula (1) and (2).

Calculating probability of demand for student loans with the case of student A, given values as table 7, replacing Z_i on equation (1) and (2), we have the result $P=0,384$ or predicted probability of students A with demand for loan is 38,4%.

Table 7: Prediction for probability of demand for student loans as given values of impacting factors

Variables	Correlation Coefficients	Value of independent variables corresponding to students	
		Student A	Student B
Constant	-5,98	Student A	Student B
Z1	0,589	2,2	2,4
Z2	1,342	2,3	2,7
Z3	1,17	1,2	1,6
Z6	0,481	1,7	2,3
e^β		0,6241	2,4539
Probability of demand for students loans (P)		0,384	0,710

Source: Calculated by research team

5. Some solutions derived from the results of the model

The results of the model study indicate four factors that influence the demand for student loans in economic universities in Hanoi: (i) Expenses for students' studying; (ii) Student incomes; (iii) Preferential Credit Programs for students and (iv) Credit guarantees for student loans.

Firstly, expenses for students' study are the second most significant determinant in the student's ability to get a student loan by the coefficient Z_1 (0,589). This result is also smooth with the content of the '*Human Capital*' theory, which states that when education expenses go up, families and students cannot afford to give payment and they will move towards to access to financial markets (If it is perfect). It is the fact that rising tuition fees of economic universities is happening currently and other living expenses are increasing rapidly too. In the scenario of gradually falling state budget on public higher education based on the mechanism of self-autonomy, the Government should take necessary measures to encourage the

development of financial markets and healthy competition, tax or fee incentives so as to drive commercial banks, banks for social policy to undertake new loan programs to meet the students' needs.

Secondly, student incomes through items comes from monthly family allowances, income from scholarships and income from grants (Q7, Q8, Q10) which all affect student loans in the same way. These may account for student incomes at low levels (average variable values ranging from 1,18 to 2,37 per month in descriptive statistics) and the majority of student incomes is obtained from family support. It is possible that many of them have to borrow money from informal financial institutions (eg, Q20) at high interest rates. As a result, they want to take advantage of student loans with preferential interest rates and repayment periods; hence, there is a need to switch from informal to preferential official credit to students. Or it can be explained that once student incomes are raised, or they see preferential student loans then they make use of the opportunity for profiteering while the available incomes are used for other purposes. Therefore, it is recommended that banks should strictly control the subjects of loans and divide into many types and levels of lending preferences, basing on the income ability of students and their families.

Thirdly, preferential credits for students play an vital role in affecting students' demand for loans. The evidence shows that this factor increases 16.4% of borrowing demand under the condition that other factors remain unchanged. The survey result reveals that the banks' communication on student loan programs is not good (Q11 average is 2,05 on the 5-level scale). Consequently, in addition to commercial banks' design of more preferential student loan programs, it is vital to provide many forms of communication, supplying full information about the loan programs to students. Through the distribution of documents, implementing communication collaborators by the internet system, especially in cooperation with youth organizations, students' union and departments of political affairs for students of universities to have the sessions, seminars, conferences held for students. Thereby it can help reduce information asymmetries about student loans, avoiding the phenomenon of profiteering and improving students' grasp of student credit so that they can be aware of the benefits and preferences of the banks for them.

Items (Q17 and Q19) related to students' grasp of credit, families and students' loan experiences are also impacted in the same direction and become critical regarding loan demand. As a consequence, it is suggested for commercial banks that they need publicize policies of media impact, they should reach older customers, and take care of them and through their communication with friends and the student community, then the demand and the market for student credit will be promoted. The average value of this items being only 2,16 and 1,76 on a 5-level scale, which is rather

low, will be the foundation for banks to impact then the increasing demand for student loans can be achieved.

Fourthly, Credit guarantees for student loans are also statistically significant and it can impact on demand for students loan (Z6). Items (Q25, Q26, and Q27) all have an effect on demand for student loans. Based on the results of the survey, the average value of Q27 is 2,1 which reflects the desire of students related to credit guarantee by their future income and the trust of the local government, also accompanied by assets of their parent. This is also an open suggestion for commercial banks and it is totally compatible with Human Capital Theory of Gary S. Becker et Theodore W. Schultz, when the financial markets and labor markets are perfect, then students and their families will estimate the financial cost of taking courses and also expect future income to make a decision on whether they should invest on higher education. In addition it also assists credit institutions and insurance companies to take part in the financial market for effective lending and to apply diversification of student loan types, to apply risk management of loans to special customers with high potential in using the upcoming services together with high risks. It is important that Government is also significant in perfecting a transparent, adequate and appropriate legal system and implementing strict sanctions so that banks can apply the form of credit to students through criteria for assessing their expected future earnings, their ethical personalities and willingness to repay the loan through predicting about development of labor market and measures of new job creation, reduction of unemployment rates. Furthermore, the bank ought to encourage investment projects related to student loans to share credit risks and have connection with universities, local authorities, and business communities in controlling the income of students after graduation, in case of not repaying the loan amount and interests.

6. Conclusion

The research has reached the target that finds significant factors affecting the demand for student loans in economic universities in Hanoi. Based on domestic and foreign papers, such as the theory of human capital, and the theory of shared tuition, this research has established a theoretical model of 7 factors with 26 items impacting on the demand for student loans. It used a multi-variable regression of Binary Logistics model on 388 survey samples and identified four main factors in the same direction statistical significance of the demand for student loans in economic universities in Hanoi, including: (i) Expenses for students' studying; (ii) Student incomes; (iii) Preferential Credit Programs for students and (iv) Credit guarantees for student loans. In addition, the study proposes four solutions derived from the results of the model. However, the regression model should continue to be studied

in order to explain and detect new influencing factors because these four factors are only significant in explaining 43.8% of the change in demand for student loans.

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SOLUTIONS TO THE BALANCE OF LONG – TERM SOCIAL INSURANCE FUND IN VIETNAM

Msc. Phan Anh Tuan

anhtuanphan48@gmail.com

Msc. Dang Thi Minh Thuy

dangthuy1211@gmail.com

Faculty of Insurance, National Economics University, Hanoi, Viet Nam

Abstract

Long-term social insurance fund in Vietnam is currently in surplus of VND trillions, but according to the International Labor Organization (ILO) projections, this fund will run out by 2020 and will be exhausted by 2029. This problem will lead to pension fund's inability to pay, then affect the interests of employees participating in compulsory social insurance (SI). The paper analyzes the current situation of long-term social insurance in Vietnam and the main causes leading to the insolvency of this fund, thus propose some solutions to balance this fund in order to contribute to stabilize the employees' life when they retire.

Key words: *Long – term social insurance fund, Social insurance, Fund balance.*

1. Introduction

Social insurance fund is an independent financial fund from the state budget. According to current law, social insurance fund is divided into three component funds: sickness fund, maternity fund; fund for occupational accidents and diseases, pension fund and survivor fund. The pension and survivor fund are balanced in the long term and the most important source of funds for the lives of millions of workers at their retirement age.

In Vietnam, long-term social insurance fund consists of two schemes: pension and survivor which are implemented in two forms: compulsory and voluntary. The long-term (compulsory pension and survivor schemes) fund is financed mainly from the contributions of employees, employers, profits from investment activities, and support from the State when funds are deficit. Voluntary long-term funds are formed from similar sources but without the participation of employers.

The social insurance fund was established with the purpose of paying its schemes, management expenses and construction investment of which the payment for the schemes is the most important expenditure and accounts for the highest share.

Nowadays, in Vietnam the labor force is plentiful and the number of contributors is higher than the number of beneficiaries. However, according to the ILO Vietnam long-term social insurance fund is facing the risk of fund shortage in the near future.

The evaluation of the long-term fund status, the identification the causes of fund imbalance and proposing solutions to stabilize the fund play an important role not only for managerial authorities but also for employees and their families.

2. Methodology

The paper uses data collection and statistical analysis methods. The sources of data on long-term social insurance fund collection and expenditures are taken from Vietnam Social Security, Social Insurance Department and ILO report to collect, analyze data and clarify the status of long-term social insurance fund balance in Vietnam.

3. Results

According to the regulations of the current social insurance law, the contribution of employees and employers to the compulsory long-term fund is 22% of the employee's monthly wage, of which employees contribute 14%, employers contribute 8%. In voluntary funds, there is no contribution from employers, so employees contribute 22% of their chosen income. The monthly income level chosen by the voluntary social insurance participants is the lowest at the rural poverty line set by the Prime Minister and the highest at 20 times of base wage at the time of payment. Table 1 below shows the long-term social insurance revenues for the period of 2008-2015.

Table 1: The status of long-term social insurance fund 2008 - 2015

(Unit: VND billion)

Itemss	2008	2009	2010	2011	2012	2013	2014	2015
Compulsory	24,751.5	29,990.4	40,540.0	50,734.8	74,383.3	88,305.5	110,462	123,200
Voluntary	10.8	69.4	174.4	251.2	415.1	556.1	743	919.9

Total	24,762.3	30,059.8	40,714.4	50,986	74,798.4	88,861.6	111,205	124,119.9
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Source: Vietnam Social Security

To be sum up in 2015, compulsory long-term fund collection is 123,200 VND billion (excluding interests of delayed payment) which increased 11.5% compared to 2014, corresponding to VND 12,738 billion increase in collection; voluntary social insurance collection was VND 919.9 billion which increased 23.8% compared to 2014, corresponding to the increase of VND 117.1 billion. Therefore, the total long-term fund in 2015 is VND 124,129.9 billion which increased 11.6% compared to 2014 (VND 12.9 billion). It can be seen that the level of long-term fund collection increased continuously with an average rate of 26.33% in the period of 2008 - 2015.

In addition to fund collection, expenditures are also a long-term financial activity of the fund. In terms of fund expenditures, scheme payment are the most important expenses and accounted for the highest share.

**Table 2: Scheme payment in long – term social insurance fund expenditures
2008 – 2015**

(Unit: VND billion)

Items	2008	2009	2010	2011	2012	2013	2014	2015
Compulsory	18,235.9	24,522.1	30,939.9	38,397	51,122.6	63,009.7	71,740.0	85,560
Voluntary	0.003	0.67	25.4	23.8	56.6	100.3	164	310
Total	18,235.9	24,522.77	30,965.3	38,420.8	51,179.2	63,110	71,904	85,870

Source: Vietnam Social Security

Expenditure for the schemes in compulsory insurance social system in 2015 is VND 85,560 billion, an increase of 19.26% compared to 2014 (VND13,820 billion). Of which, pension benefits and monthly social insurance allowances accounted for VND 71,098 billion; One-time lump-sum allowance is VND14,462 billion (of which the expenditures for health care is VND 3,028 billion). The total number of pensioners and people receiving monthly social insurance allowances is 1,509,220 (1,413,000 persons are pensioners), the number of people receiving lump-sum allowance is 749,100. In voluntary fund, total expenditures were VND 310 billion, an increase of 89.02% compared to 2014 with a total beneficiary of

15,197 people. During the whole period, the total long-term fund expenditure increased continuously, the average long-term fund growth rate is 24.89%.

Table 3: Scheme Collection – Expenditure of long term social insurance 2008 – 2015

(Unit: VND billion)

Item	2008	2009	2010	2011	2012	2013	2014	2015
Total collection	24,762.3	30,059.8	40,714.4	50,986	74,798.4	88,861.6	111,205	124,119.9
- Compulsory	24,751.5	29,990.4	40,540.0	50,734.8	74,383.3	88,305.5	110,462	123,200
- Voluntary	10.8	69.4	174.4	251.2	415.1	556.1	743	919.9
Total expenditure	18,235.903	24,522.77	30,965.3	38,420.8	51,179.2	63,110	71,904	85,870
- Compulsory	18,235.9	24,522.1	30,939.9	38,397	51,122.6	63,009.7	71,740.0	85,560
- Voluntary	0.003	0.67	25.4	23.8	56.6	100.3	164	310
Fund status	6,526.397	5,537.03	9,749.1	12,565.2	23,619.2	25,751.6	39,301	38,249.9

Source: Vietnam Social Security

To be sum up in 2015, the long-term fund surplus is VND 38 trillion due to the high number of contributors (12,065,378 people), while the number of beneficiaries is still low (2,258,320 people). However, based on the demographic data of Vietnam, the International Labor Organization (ILO) forecasts that the number of long-term beneficiaries increases rapidly. The number of beneficiaries in 2019 compared with 2009 will increase by 1 million and every decade thereafter increases exponentially due to the rapid increasing rate of Vietnam aging population and the increase in number of beneficiaries will slow down in 2089.

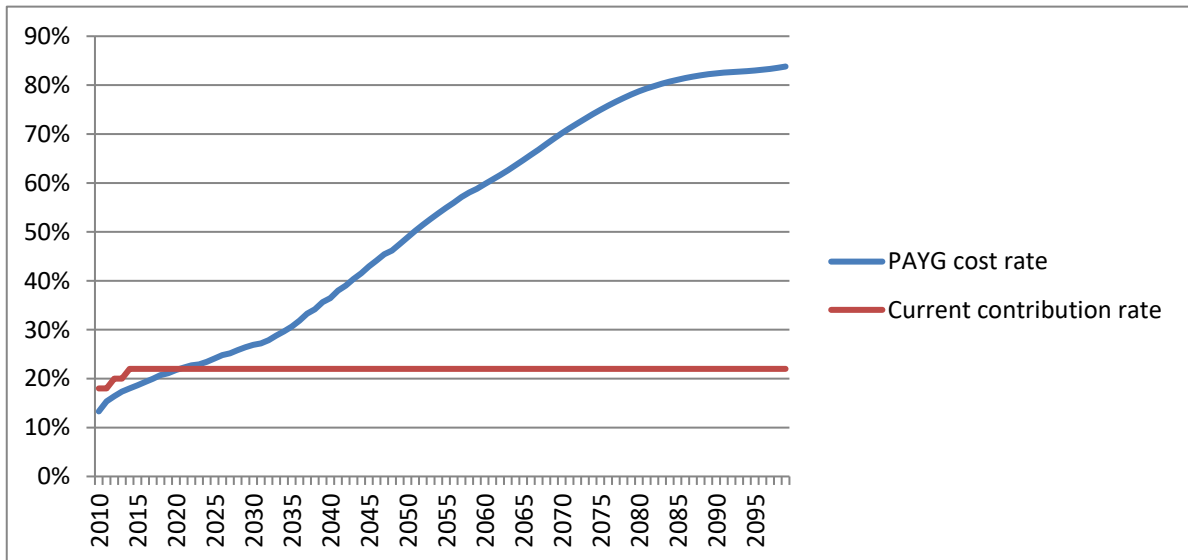
Table 4. The forecasted number of contributors and beneficiaries of social insurance fund

Year	Total number (<i>Unit: million</i>)			
	Number of contributor	Beneficiary		
		Total	Pensioner	Survivor
2010	9.69	0.91	0.90	0.01
2019	12.90	1.98	1.87	0.12
2029	15.86	3.98	3.63	0.35
2039	16.98	7.01	6.24	0.76
2049	16.80	10.72	9.27	1.45
2059	16.29	13.83	11.54	2.29
2069	15.67	15.85	12.97	2.88
2079	14.89	16.97	13.67	3.30

2089	14.26	16.93	13.48	3.45
2099	13.68	16.36	13.18	3.18

Source: ILO

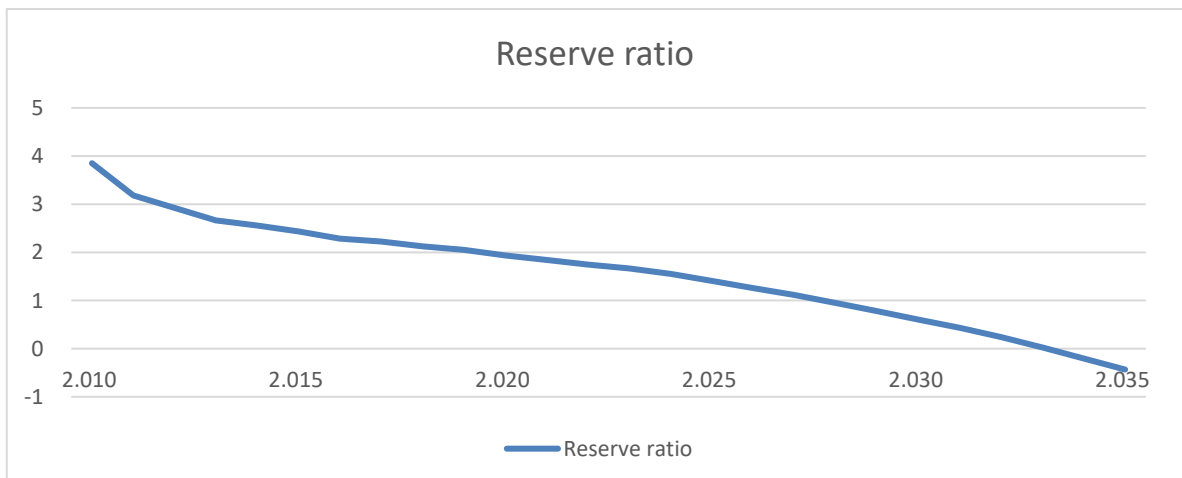
This means by 2020 long-term social insurance fund will no longer be in surplus, the total amount of fund collection will only be sufficient to cover the fund expenditure in that year.



Picture 1. The forecasted balance of long term social insurance fund

Source: ILO

Hence, since 2020, the social insurance fund will not accumulate, the surplus of previous years' collection is only enough to extend the fund until 2029. After 2029, the long-term social insurance fund will have no money to pay benefits to employees. This is a concerning issue for managerial authorities and employees.



Picture 2. The forecasted deficit of long term social insurance fund

Source: ILO

This is a very concerning issue because the long-term social insurance fund relates to the financial security of not only millions of employees but also the lives of their families; furthermore, it also affects the nation's politic and security.

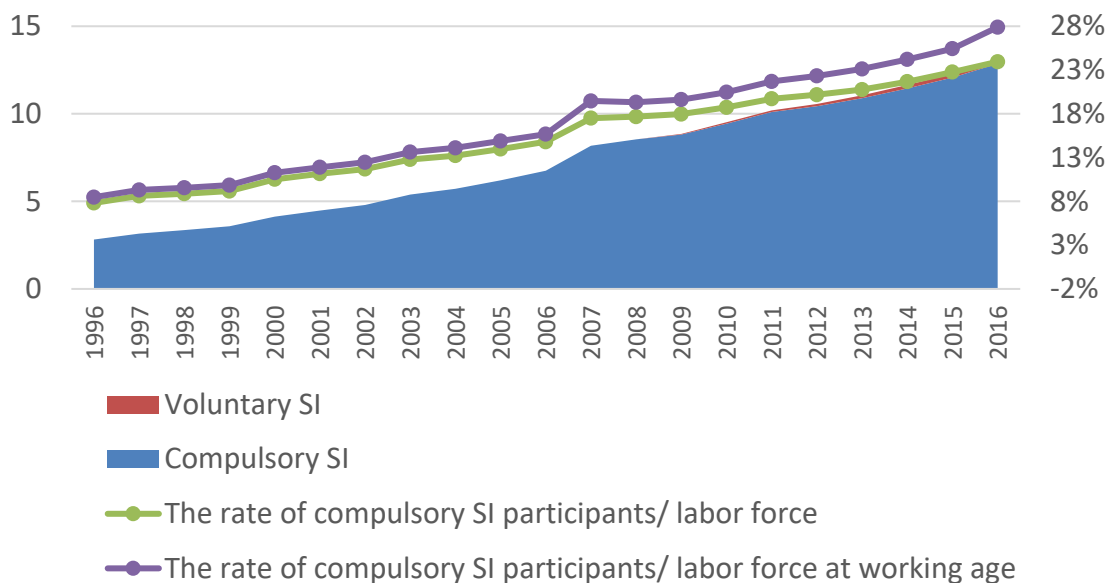
4. Discussions and Recommendations

According to the ILO, the surplus of long-term social insurance fund will not last long, so seeing thus the identification of causes and finding a solution are urgent.

4.1. The causes lead to long term s fund deficit

a. Social insurance coverage is low

According to the statistic of Vietnam Social Security, by 2016 the number of social insurance contributor has only reached 23.9% of the total labor force, corresponding to 27.9% of the labor force at working age. This creates a huge waste of resources for the social insurance fund



Picture 3. Social insurance coverage 1996-2016

Source: Social Security Department

On the other hand, the rate of pensioners/contributors tends to decrease rapidly. In 1996, 217 contributors paid for a pensioner, in 2016 only 9 contributors pay for a pensioner. According to the review report on Social Insurance Law implementation of Ministry of Labor, Invalids and Social Affairs, the average growth rate of social insurance contributor is over 5% per year, while the growth rate of increase of pensioner is nearly 16%. In this situation, the risk of fund breakdown may even occur earlier than forecast.

b. Status of arrears, delayed contribution payment and contribution evasion is complicated and punishment is not strong enough

According to the Vietnam Social Security, the arrears, delay and evasion of contribution payment occur in many enterprises in all localities, causing the social insurance debt to continue rising. To be sum up in 2015, the compulsory social insurance debt was VND 5,692 billion, equaling to 3.8% of total receivables. In particular, the amount of social insurance debt is still mainly belonging to non-state enterprises which accounted for nearly 9% of receivables and over 60% of total debt.

In addition, there are currently 2.8 million pensioners who worked before 1995 who received pensions, social insurance benefits. According to Article 139 of Social Insurance Law, the State transfers from the state budget to the social insurance fund every year to pay these pensioners. However, until now the State still owes the SI fund up to VND 24,000 billion (excluding interest).

. Although social insurance law stipulates that violations of social insurance obligations may be subject to civil or criminal penalties, the lawsuit and enforcement of judgments is not effective. To be sum up in May 2015, 52 out of 63 provincial social insurance agencies have 1,451 outstanding debts, but the recovered amount was only VND126.2 billion. According to the Decree 95/2013 of the Prime Minister, the act of delayed SI payment o can be fined up to VND 75 million, although this fine has increased but it is not enough deterrent especially to most Enterprises with debts of social insurance fund up to VND billions.

c. Administrative costs and scheme payment expenditures are higher than contribution rate

- Administrative costs

Vietnam Social Security is organized and managed in a vertical system from central to local levels, including 3 levels: central, provincial and district levels. At the center there are 24 affiliated units, including 16 organizations assisting the General Director and 08 public service delivery units. At the provincial level, there are 63 units and at the district level there are 703 units. Since 2007, administrative expenditure is VND 847 billion. In 2015, administrative expenditure is VND 7,884 billion, of which expenditure for system operation is VND 2,756 billion; specific expenditures for collecting - paying activities and objects management and expenditures on information technology is VND 3,778 billion, expenditure for development investment is VND 1,350 billion.

It can be seen that spending has increased rapidly over the years. Over the past 7 years, administrative expenditure has risen more than 9.3 times, it triggers a financial pressure on the social insurance fund.

- Scheme payment expenditures

On the other hand, the current maximum pension rate of 75% is considered to be the highest in the world. Thus, on average, employees pay social insurance for 20 years only enough 7-8 years of retirement benefit. This is the main reason leading to the shortage of social insurance fund in the near future as predicted.

d. High average life expectancy

Vietnam average life expectancy is now 73 for social insurance contributors, when income and living standards are stable the life expectancy of this group will become higher. Meanwhile, the average retirement age is 53.2 years (male is 55.1 years, female is 51.6 years); on the other hand, according to Vietnam Population and Housing Census 2009 the average number of years alive for men after their 60s is 18.1 years and for women after their 55 year - old is 24.5 years. This means that the length of the pension benefit is very long, which will increase the subsidy and allowances, then affect the balance of funds.

e. Investment is ineffective and not in accordance with regulations

According to regulations, the surplus of social insurance fund can be invested, but to ensure safety the allowed investment portfolios is government bonds, to lend to state-owned commercial banks, so the profitability is low. In fact, 85% of the fund's investment are government bonds, while the remaining 15% are deposited in four state-owned banks. From 2008 up to now, the balance of the fund is about VND 80,000 to VND 90,000 billion, but the return on capital is only 9-11%. Almost deposits at banks are short-term, as they will be used when paying for occupational accidents, illness, maternity benefits etc.

From April 2008 to August 2009, according to the agreements and letter of guarantee issued by Vietnam Bank for Agriculture and Rural Development, Vietnam Social Security signed 14 contracts for Agribank Leasing Company II (ALC II) borrowed a total capital of VND1010 billion. According to Vietnam Social Security from 2009 until now, ALC II is no longer able to pay interest and principal on time. The social insurance lends ALC II more than VND 1000 billion is contrary to the law, causing loss of funds.

f. Government process of salary increase

Increasing the pension salary to match the increase in wages also led to a rapid increase in social insurance spending. While the social insurance fund has increased by an average of 10% per year, pension salary has increased by 134% from 2007 to 2016. While the increase in wages will also increase the social insurance contributions in the short term, but in the long term under the influence of the pension calculation method and pension salary adjustment regulations, SI expenditure will also rise.

4.2. Solutions to ensure the balance of long term social insurance fund

Based on the analysis of the current situation of the Vietnam Social Insurance Fund, the author proposes some solutions to balance the long-term social insurance fund to ensure financial security for employees.

- Increasing retirement age

Increasing the retirement age will increase the time of social insurance contribution of employees and employers, while reducing the duration of social insurance benefit of employees. Especially, to employees when the working time increases, the salary and allowances also increase, thus social insurance contribution (calculated base on wages, job allowance, seniority allowance, overtime allowance) also increase.

Some countries in the world have also increased their retirement age, but experience has shown that increasing the retirement age will lead to increased unemployment rate. In Vietnam, while the unemployment rate is high, this solution may not be appropriate at present, but in the long term increasing the retirement age is a matter that needs to be calculated.

- Strong sanctions to minimize the arrears and delay social security contribution

Social insurance is a state policy that deals with the financial security of the majority of employees, thereby affect the entire population. Therefore, in order to thoroughly deal with the the arrears and delay social security contribution, the law-making process with strong sanctions is necessary.

The specific provision of criminal offenses for violations of social insurance law is derived from the demands of employees and for their legitimate interests. In addition, the civil penalty should also be increased, or the sanctioning rate is calculated by a number of times (greater than 1) calculated on the level of evasion and arrears social insurance contributions of the enterprise.

It is only possible to increase the sanctioning measures to deter and prevent acts of evasion and arrears social insurance contribution, thereby increasing contribution revenue for the social insurance fund and limit the possibility of deficit fund.

- Regulations allows the collection of social insurance via bank accounts or tax authorities

However, currently Vietnam Social Security can not collect contribution from this account, because there is no regulation to allow Vietnam Social Security collect contribution from banks; and banks also do not wish to cooperate with Vietnam Social Security in collecting contributions it directly affects the relationship between

banks and enterprises. If the law allows the collection of SI contribution via the bank or tax office, on one hand to ensure the collection will be ensured and no losses, it also helps to save the administrative costs, personnel costs for the collection.

a. To Vietnam Social Security

- Effective investment

Improving the efficiency of using temporary idle capital, utilizing this capital at appropriate times, combining long-term and short-term loans, renewing the method of determining interest rates ... will create stable income for the social insurance fund and contribute to fund stability. In addition, it is possible to form professional investment departments to ensure the safety and growth of the fund more stable.

The fund management board should strengthen monitoring and supervision activities and form an independent body to manage and research effective investment channels.

- Expenses for management of thrift and efficiency

By reducing inappropriate expenditures and improving the performance of social insurance fund and saving costs, the social insurance fund will have more profitable investment, prolong the time of surplus.

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STUDENTS ADAPTABILITY FROM THE VIEW OF THE KNOWLEDGE CREATING THEORY OF IKUJIRO NONAKA

Ta Manh Thang, ME

thang.ta@gmail.com

PhD Candidate, Business Management Faculty

Testing and Accreditation Department,

National Economics University, Hanoi, Vietnam

Abstract

The employment for new graduates is a current burning issue and requires their high adaptability and creativity, so it is very essential to renovate and improve the higher education in the significant socio-economic development. The higher education is not only to master the knowledge and skills but also to practice the self-study and life-long learning as well as the adaptability and creativity should be set into an important goal of the higher education. The adaptability and creativity is a kind of tacit knowledge. The purpose of this paper is to build a research model of students' adaptability and creativity based on the knowledge creation theory of Professor Ikujiro Nonaka. This paper takes on a considerable practical significance to enhance students' capability to go into the employment.

Keywords: *knowledge creation, SECI, higher education, students adaptability*

1. Introduction

Current higher education and future employment

More and more researchers and practitioners have acknowledged that the higher education associated with professional development is the best preparation for the future (Brennan and Little, 1997, Humburg et al., 2013). The dramatic economic changes require employees to be more flexible, multifunctional and well-trained to satisfy with higher and higher perspectives of employers and development (Brennan, 2005, Mariana, 2015, Lane and Johnstone, 2012, Neamtu, 2015). It is imposed that the knowledge and skills trained at higher education institutions should be matched with the constantly changing job market (Nixon et al., 2006, Mason et al., 2009).

Furthermore, it is necessary to build highly qualified human resources with self-development capability to adapt to changes in the work settings (Lester and Costley, 2010, Johnstone, 2012). The concepts of lifelong learning and learning for work, at and through work become a determinant in every training program of higher education (Brennan, 2005).

However, the higher education is criticized to build an inadequately qualified labor force (Brennan and Little, 1997). Graduates have weak capabilities of judgment and grasping employability skills and lack necessary interactions between higher education institutions and practical working environment (Mason et al., 2009, ILO, 2010, Shil and Pramanik, 2011). For a long time (especially in the 1990s), the higher education has focused on measures for renovation and improvement of higher education programs with more higher standards in input quality, services, learning disciplines, competition, etc. to meet the urgent (or short-term) needs of employers or of institutions (Harvey, 2000, Humburg et al., 2013). Higher education outcomes are not good enough to provide creative and adaptive graduates and active and self-oriented individuals in constantly learning and mastering knowledge and skills (Helyer et al., 2011, Pillay, 2011, Shil and Pramanik, 2011, Merrill, 2015).

Recently, the higher education in the knowledge-based economy has put more emphasis on the long-term success of graduates. Training programs are oriented toward work-based learning (Helyer et al., 2011, Rego, 2014), and connected to enterprises (Kruss et al., 2015, Rajab, 2015, Fitzgerald, 2016), at the same time create a collaborative and close relationship between educational institutions and workplaces (Dumciuviene, 2015, Neamtu, 2015, Sumanasiri et al., 2015). However, this trend has encountered some problems such as the unsustainable connection between learning and employability, unclear roles of stakeholders (Rajab, 2015, Ashley et al., 2014), differences in professional skills and qualifications between training programs and employers (JICA, 2014), the insufficient internship period in the training program to meet working requirements (Ashley et al., 2014), etc. Undergraduates' work experience is not sufficient for employability (Rajab, 2015).

It is necessary for enterprises to embed employability into the curriculum, so that students could complete the comprehensive training program, have opportunities to access to actual works and practice adaptability and creativity (Dodge and McKeough, 2003).

In addition, the interaction between higher education institutions and enterprises stimulates students and create new knowledge. In the digital development, the knowledge improvement of enterprises has changed the role of higher education

institutions as the center of knowledge. Conversely, higher education institutions play an important role in support enterprises' innovation (Nixon et al., 2006). The sustainable development of enterprises must be based on the close relationship between education and employment to build the solid foundation of the lifelong learning (ILO, 2010). Therefore, the relationship between enterprises and higher education institutions becomes an inseparable structure in the overall economic growth and enterprises' participation in training programs is very important (Holzer et al., 2013), whereas the relationship development to increase the benefits to students and society is not really interested (Verli, 2007).

Some specific issues in practices at enterprises are as follows:

- Students feel so overwhelmed with internship and training program requirements, that they are reluctant to perform the internship, which leads the inefficiency in practices. Teachers' lack of practical work experience due to no participation in extracurricular activities limits sufficient knowledge to meet the requirements of the internship in the actual workplaces (San Tan and Ng, 2006);

- Teachers and instructors have strongly focused on the number of credits of the internship and hours in class rather than enlargement and enhancement of professionals (O'Neill, 2010);

- There are few conscientious advisors at the student's internship. Instructors and places of internship are not interested in the perceived values of students during internship (Gault et al., 2010);

- There is a lack of criteria to evaluate and adjust levels of the internship to support every student to approach suitable works (Britain, 2011);

- Practical circumstances do not encourage students to communicate and share information, ideas, knowledge, and resources to the media (Ndongfack, 2016).

- Enterprises are not ready for develop the sustainable cooperation with institutions (T&C consulting, 2013).

It can be clearly seen that higher education programs insufficiently meet the requirements of professional training and practical experience to enhance employability and adaptability to changes in the knowledge-based economy (Holzer et al., 2013, Hibbert et al., 2014, Asonitou, 2015, Ashley et al., 2014, Tran, 2012). The role of workplaces and employers in facilitating learning and working in practices is essentially important to enhance the employability (Ashley et al., 2014, Cassells, 2015). However, we do not really know how to persuade enterprises and employers can effectively participate in this process (Merrill, 2015).

Higher education in the knowledge-based economy

Currently, the work-based learning of graduates has a strong influence on the Western higher education. The perspective of work-based learning, lifelong learning and growth-associated professional development are outstanding topics of the national agenda of G20 nations (ILO, 2010). The higher education associated with professional development is the best preparation for the future (Brennan and Little, 1997). Learning to work, at and through work is more and more focused (Knight, 2002, Knight and Yorke, 2003). Hence, training programs must be suitable with careers (Knight and Yorke, 2004a, Knight and Yorke, 2004b) and satisfy with employers' perspectives (Kuh, 2008).

The Impact of the 2008 Great Recession is the valuable lesson in making policies of developed countries. For example, the United Kingdom, one of European most developed countries, has realized that the creation and knowledge-based economy are the key for the sustainable development in the future (Lester and Costley, 2010). Accordingly, educational institutions play a vital role in creating and delivering the knowledge with continuous findings and flexibility (Crossick, 2009). Currently, higher education institutions of the United Kingdom have been renovating their curriculums oriented towards work-based learning, improvement of undergraduates' employability skills and capabilities to meet the demands of the integrative and highly changeable labour market. (Brownell and Swaner, 2009, Mason et al., 2009, Andrea and Egbert, 2013). Higher education for graduates with work-based learning orientation has been firmly stressed in the development strategy of every nation in the European Community (Puhakka et al., 2010). According to Lester and Costley (2010), many higher education institutions have performed the "super-intelligence" orientation and focused on "the entity" in the employment-oriented training programs.

The Carl D. Perkins Vocational and Technical Education Act of 2006 was proposed to reform by President Obama Government in 2012 with the focuses on future investments into vocational and technical education associated with the employability in the labour market and enhancement of learning outcomes (Holzer et al., 2013).

It can be seen that the general trend is to more integrate the higher education into the practical employability and labour market (Andrea and Egbert, 2013). Specific methods shall be taken under the certain circumstance of each economy and each nation. In general, the work-based learning gives the higher efficiency and motivation to promote the economic growth, solve problems of the existing higher education (Ashley et al., 2014, Asonitou, 2015, Kruss et al., 2015, Dumciuviene, 2015).

In many recent years, Vietnam has made the considerable progress in the economic development, especially in economic renovation. There are more job opportunities from domestic and foreign companies for Vietnamese graduates thanks to the integration and development. However, Vietnamese higher education and employability are not highly appreciated, even underappreciated (Nguyen Van Chien and Dinh Thi Bich Loan, 2011). Vietnamese graduates are considered to lack both professional knowledge and skills, even in the trained major (Le Thanh Son and Tran Thi Tu Anh, 2012). This issue is caused by the traditional teaching methods with the theory-heavy curriculum, ignorance of practical application, insufficient and outdated facilities for studies and practices and lack of institution and workplace interaction (Tran, 2012, Vu Minh Giang, 2012). Besides, enterprises' unwillingness to cooperate with higher education institutions (T&C consulting, 2013), increases difficulties for Vietnamese higher education. In the context of Vietnamese higher education, it is essential to have more researches to find out measures for enhance graduates' employability skills capabilities to more easily integrate into the labour market (Nguyen Tien Hung, 2012, Nguyen Van De, 2012, Pham Do Nhat Tien, 2012).

Accordingly, the development of graduates' adaptability and creativity become an essentially important objective of Vietnamese higher education. All theories will be backward in the dramatically changing development, so we could not determine exactly what to train students. It is the reason why students must have adaptability, continuous learning and creation. It is difficult for graduates to apply too much theoretical knowledge in practice. In the current Vietnamese context, the study in graduates' self-adaptability and creativity gives vital significance to develop and complete training programs to fulfill social demands.

Theoretically, the enhancement of graduates' creativity, adaptability and continuous learning habit shall shift the perspective on higher education. Learning not only occurs in educational institutions, but also in the society (Brennan, 2005). Anyone may be a teacher (Knight, 2002). The knowledge is obtained not only in books, but also in actual situations (Harvey, 2001). Educational institutions have functions in both providing knowledge and skills and connecting students with learning organizations to strengthen the students' capabilities (Kruss et al., 2015, Rajab, 2015). All are significant changes in the education and there are few researches to make such changes.

Research questions

To sum up, studies in college education models and jobs mainly focus on the creating of human resources with skills and abilities to cope with the imminent needs of the labour market and the economy (Williamson et al., 2013, Merrill, 2015,

Sumanasiri et al., 2015). In fact, there are only a few studies really focusing on graduates' adaption to environmental changes that helps them to succeed in the future. I have found that the two following subjects are among those which lack thorough studies:

- (1) How to enhance students' adaption ability and creativity
- (2) How the reality affects students' adaption ability and creativity?

3. Method

As summed up above, training models in these days still fail to meet the needs of the society. Providing students with adequate knowledge, skills and experience is among popular methods to bring job opportunities to them. In other words, learning is the process of experience accumulation and knowledge interpretation (Kolb and Kolb, 2006). In fact, it is never enough for students to acquire their knowledge by reading books or listening to lecturers' experience. It is critical in these days that students have adequate knowledge (tacit knowledge) to deal with problems and applying knowledge to the reality and also creating jobs in the future (explicit knowledge). Current training and education models still fail to facilitate the transformation from tacit knowledge to explicit knowledge (Mazida et al., 2014). Tacit knowledge is, however, difficult to recognize and usually intuitive. In order to transform it into explicit knowledge, it is vital that notable and strong influences be created and shared among individuals (Nonaka and Takeuchi, 1995). Nonaka and Takeuchi (1995) developed the theory of development of knowledge creation, SECI process in order to define the transformation from tacit knowledge to explicit knowledge. It can be seen from this theory's point of view that college education, if considered a knowledge creation process, may be the main orientation to put forwards methods to enhance students' adaption ability and creativity. Therefore, in this document, Nonaka's knowledge creation theory is used as the foundation for the questions in the study.

Knowledge creation theory has been proposed by Prof. Nonaka (1994) and his associates in order to clarify the knowledge creation process. This theory focuses on the transformation from tacit knowledge to explicit knowledge and vice versa. Also, he and his associates modeled the transformation of knowledge from that of an individual to that of groups and finally, organizations. With such two transformations of knowledge, Prof. Nonaka described the spiral orbit for the creation and production of knowledge. To clarify the knowledge creation process, Prof. Nonaka and his associates proposed the SECI creation model in order to explain basic and core values of the transformation of tacit knowledge and implementation methods through 4 processes (Nonaka, 1994, Nonaka and Takeuchi, 1995): (1) Socialization, (2)

Externalization, (3) Combination and (4) Internalization (See Figure 1 below).

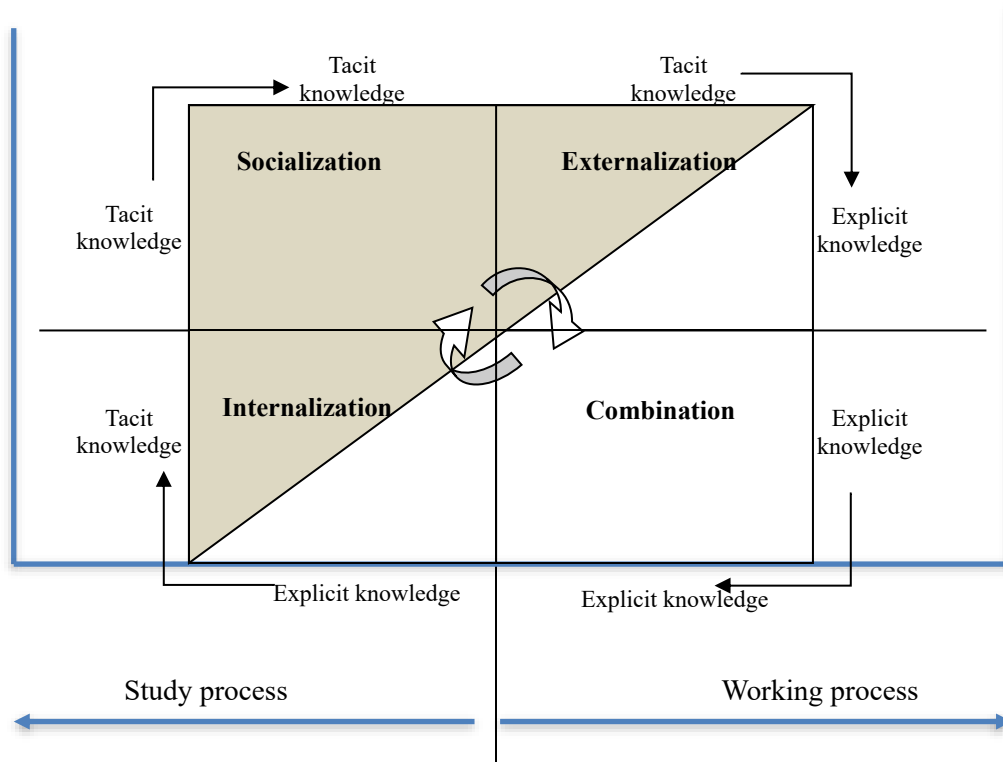


Figure 1: Knowledge creation model, SECI (Nonaka and Takeuchi, 1995)

Source (Nonaka and Takeuchi, 1995)

3. Results

- Socialization is the process of transformation of tacit knowledge to create new tacit knowledge through activities of communication, observation and sharing, etc. New tacit knowledge appears through experiences by senses and the understanding of others' feelings (Nguyen Van Thang, 2013). Tacit knowledge may appear beyond the limits of studying, books or any particular experience (Nonaka et al., 2000). I believe that learning is in fact the creation of tacit knowledge, compared to previous points of view which consider learning is the process of acquiring knowledge. From the understanding and acquiring of knowledge, skills may be transformed to thinking ability and feelings. As a result, the effectiveness of using knowledge and skills will be enhanced. Therefore, the concept of learning should be expanded to the unlimited learning that occurs in daily lives or from the reality. For example, knowing and understanding sales tactics through lectures, students may enhance their practical results by communicating and sharing with customers. They

will try to think about how to enhance their performance instead of just applying acquired knowledge, which is very important in the reality. Nonaka et al. (2008) argued that the opportunities for tacit knowledge to form are always there and create strong bonds between humans and their surrounding environments. Newly-formed tacit knowledge does not depend on the limits of learning and working environments. The results showed that the opportunities to communicate and practice (Wasonga and Murphy, 2006), opportunities to be tutored (Zaibon et al., 2015) and opportunities to explore and discover living environments (Yvonne and Sagsan, 2011, Mazida et al., 2014) have positive effects on the learning performance and students' awareness. During this process, students show their abilities of adaption to the reality by understanding and using acquired knowledge. Students know that adjustment is necessary when carrying out actual activities, which is a sign of adaption ability. This process also shows that adaption is the understanding of knowledge and adjusting oneself to meet the needs of changing environments.

- Externalization is the process of understanding and interpreting the nature of phenomenon in the society. The sign of this process is the formation of tacit knowledge with clearer signs, which shows the ability to deal with problems of oneself. During this process, students can share their experiences with others, which serves as the foundation for the creation of new knowledge. Students can acquire tacit knowledge by sharing with others in their working environment, such as workers or managers, etc. during their probation periods. Through their attitudes and behaviours, they can show their advantages and sensitivity to changing environments as well as understanding their responsibilities and needed capacities to finish their jobs. Also, they can take sensitive and appropriate actions and adjust themselves to the reality in order to achieve higher performance instead of mere judging conditions to practice their acquired knowledge. Externalization is the continuous process of sharing, communicating, thinking and feeling. During actual activities, in order to deal with certain problems, students should change themselves in terms of thinking and feeling aspects and act to achieve a more general goal of applying acquired knowledge in the reality. The adaption may be shown through changes in plans and purposes when dealing with problems.

- Combination: In this process, tacit knowledge is combined with many kinds of explicit knowledge, enabling students to access new materials and knowledge. Through this process, students can acknowledge contradictions and the unlimitedness of knowledge. By sharing and communicating with friends, lecturers and workers, etc. at their academic, working or online environments, they can understand

contradictions and thereby propose new ideas to deal with certain problems. During the training period and environments, from the analysis of themselves and actual experiences, students can come up with new ideas and solutions from shared and accessed knowledge. In this process, the adaption is shown through the personal analysis and synthesis abilities not just to deal with problems but also to serve as a new trend for working performance enhancement.

- Internalization is the process of understanding and interpreting knowledge into tacit knowledge. In this process, personal behaviours are mental reactions and deliberate actions. People usually think and act deliberately with a high level of critic thinking ability to explain the differences of results. The internalization describes the self-adapting abilities from study-related issues. Internalization can be seen as a self-learning mechanism.

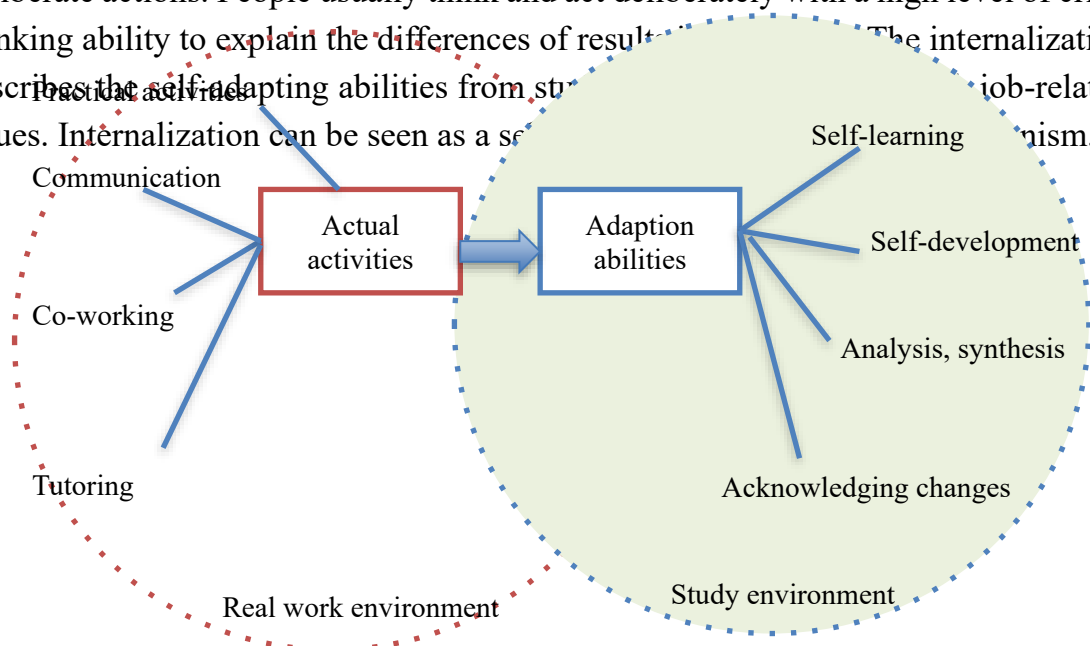


Figure 2: Research Proposal Model

Analyzing the SECI knowledge creation process, I believe that the knowledge creation is in fact the process that humans think and act appropriately to deal with contradictions or enhance their learning and working performance. During college education and training process, if students can actively learn and development themselves, they can understand and deal with problems appropriately, which is the sign of students' abilities to adapt to the reality. Nonaka et al. (2008) argued that the internalization is the origin of the knowledge creation for continuous development. In fact, if students' learning and studying process and opportunities for them to apply acquired knowledge to the reality are the origin of the continuous and life-long learning process, then Ikujiro Nonaka's knowledge creation theory is the foundation for the proposition relating college education, especially in such a

changing time of these days. I think that this point of view will change the orientation for the development of college education. In the past, education programs mainly focus on the acquiring of working experience and skills. I believe that such focuses should be shifted to the knowledge learning and creation. In other words, learning is the process in which students apply their acquired knowledge to adapt to the working environments. Based on this analysis, I will build a model focusing on students' adaption abilities and influences by actual activities (See Figure 2)

4. Discussion and Conclusion

Within the range of this paper, I seek to put forwards some points of view regarding students' adaption abilities based on Prof. Nonaka's knowledge creation theory and thereby acknowledging comments on the orientation for future studies regarding the subject.

In order to accurately describe signs of adaption abilities and the reality, I will carry out further studies focusing on those students who have diversified job-related actual activities.

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INTERGRATION OF ENVIRONMENT IN LAND USE PLANNING AT PROVINCIAL LEVEL

MA Nguyen Quang Hong

Faculty of Urban and Environment Economics & Management

National Economics University, Hanoi, Vietnam. Email: hongktqd@gmail.com

Abstract:

The Land Law, which was approved by the National Assembly in 2013, has provided a solid foundation for land use planning and management. There are several legal documents pertaining to Land use planning (LUP), including the Decree 43/2014/ND-CP issued by the Government guiding the implementation of the Land Law.

There are several challenges to rolling out integrated land-use planning. In addition, LUP only focuses on different land use types and does not fully consider various drivers and ecological functions. As a result, land-use plans do not provide any information on the ecological status and pressure – hence, they are largely insufficient for biodiversity, climate change, and desertification monitoring and planning.

The purpose of this study is to identify the entry points for mainstreaming global concerns in to LUP and propose approaches and appropriate tools to integrated biodiversity, climate change, and desertification monitoring into provincial LUPs.

Key word: Land use planning (LUP); Strategic Environmental Assessment (SEA)

1. Introduction

Land use planning (LUP) is one of important contents in land management and has been regulated in 1987, 1993, 2003 and 2013 Land law. In general, land-use planning is a State measurement system on organization, management that aim to maximize efficiency of land use resources and other natural resources, aim to protect the environment for sustainable development on the basis of the land distribution in purposes of socio-economic development, national security according to the administrative units at all levels, regions and whole country.

As regulated by Land Law 2013, Land Use Planning means land allocation and delineation according to used area to serve objectives of socio-economic development,

national defense, security, environmental protection and climate change adaptation based on land potential and land use demands of sectors and industries for each socio-economic region and administrative unit in a certain period of time. Land Use Plan means division of land use planning according to periods of time for implementation during the land use planning period.

Land use planning always has close relationship with other planning, including: master economic-socio development planning, construction planning, agricultural planning, forestry planning, other natural resources planning, environmental planning....Principally, these planning must be consistent with each other and no conflict. Therefore, when planning land use, it is necessarily to coordinate, integrate with other related ones on a specific area.

In Vietnam, planning and land use planning at provincial level are intermediate level in land use planning system. It is organization of land use, land management which is full, fair, scientific and most effective through the distribution of land funds to the sectors, other land use's purposes on the range of provincial - cities administrative boundaries to every administrative district-level, in order to improve the efficiency of socio production, to meet the requirements of socio - economic development and to protecting land and environment.

Besides meeting socio - economic development goals of country and each local community, land use planning must always pay attention to exploitation of natural land resources and others reasonable, sustainability. The environmental protection issues have been expressed in the land use planning contents, establishment and adjustment. Article 35 in 2013 Land Law has regulated planning and land use planning principles of environmental protection are: "Rational exploit natural resources and protecting environment; adapt climate change "and" ensure priority land for purpose of national defense and security, serve national interests, public, food security and environmental protection".

The regulations on the land use planning contents, steps at provincial level must be analyzed and assessed the effectiveness of economy, society, environment in land use planning projects. However, above analysis and evaluation have not been specified, there is no integration the environmental factors into land use planning. On other hand, according to Article 13, Environmental protection laws No. 55/2014/QH13 dated 23 January 06 2014, the establishment and adjustment of land use planning at provincial level and lower are not forced subjects to assess strategic

environment. Therefore, almost planning and land use planning at provincial level have not made the strategic environmental assessment.

Today, climate change is becoming a global issue; therefore, the environmental factors need to be more concerned towards sustainable development. Land use planning at all level must contribute to protect and improve the environment. Therefore, the integration of environment into land use planning is becoming necessary, especially for land use planning at provincial level.

2. Review the law provisions relate to environmental integration in land use planning

In the regulatory documents, issues of land integration and environment have been institutionalized. Environmental Protection Law (1993) has required assessing environmental impact before start project. It means that investment project on land use must assess environmental impact. Land Law 2003 also has provisions initially created the legal basis for land integration and environment, for example in Article 11, it states that the land use must ensure following principles: efficiency, savings, protect the environment and do not affect the interests of other people. 2005 Environmental Protection law has made specific contents in environmental protection directions, such as environmental protection in developing agriculture, forestry, fisheries, environmental protection in the field of production and business. Environmental issues are more interested

2013 Land Law also has specific provisions on environmental protection in land use, specifically in paragraph 2 of Article 6, land use principle stated “Use land savings, efficiency, protection environment...”. “Encourage investment in reclamation and restoration, sea encroachment, barren hills and uncultivated land into use according to planning, land use planning” is content in Paragraph 2 Article 9 “the incentive to invest in land”. The act of "destroy land" is considered as prohibited acts in Paragraph 1 of Article 12.

2005 Environmental Protection Law, and nowadays, 2014 Environmental Protection Law have demonstrated quite fully requirements of sustainable development: "the development that meets needs of current generation and without harms needs of future generation on the basis of tight cooperation and harmony between economic growths, ensure social progress and environmental protection "(Paragraph 4, Article 3, environmental protection law in 2005, 2014). In principle of environmental protection in paragraph 2, Article 4, it stated “environmental protection must stick with economic development, social security..., conservation of

biodiversity, adaptation climate change...". Besides, in paragraph 3, Article 4 stated "Environmental protection should be based on the rational use of natural resources and reduce waste". Prohibited acts in environmental protection specified in Article 7, in which, Paragraph 1 stated "Destroy, illegal exploit natural resources", in paragraph 12 stated "Destroy, illegally invade natural heritage, nature reserve".

Decree No. 43/2014/ND-CP dated 15 May, 2014 of the Government about guiding the implementation of some law (2013 Land Law) regulated indicators "Nature reserve land and biodiversity" to become one of land use indicators based on functional areas under indicator system of land use planning at provincial level.

Circular No. 29/2014/TT-BTNMT dated 2, June, 2014 of the Ministry of Natural Resources and Environment regulated the establishment, planning adjustment and land use planning adjustment. It regulated very clearly the area determination, structural land use type in planning system (03/CT, 04/CT), regulated code symbols and shown boundary position (land for nature reserve and biodiversity on land use planning map at provincial level).

The determination of specific area and land type location for biodiversity conservation in process of implementation regulations about statistics, land inventory and land-use planning at provincial level (as outlined in above) not only contributes to tightly manage, use properly and effectively land, meets requirements of biodiversity conservation to develop sustainably; also, to gradually meet requirements of synchronization management, land use and biodiversity conservation under regulation of 2013 Land Law and 2008 Biodiversity Law.

3. Determine connection point to integrate climate change, biodiversity and land degradation avoidance in steps of land use planning

From content analysis regulations on land use planning steps at provincial level, and field results in the two provinces of Ha Giang and Thanh Hoa, the author identify and propose connection point for integrating climate change, biodiversity protection and land degradation in the steps of land use planning as follows.

Table 1: Connection point to integrate 3 environmental issues in land use planning at provincial level

<p>Integrate climate change, biodiversity and land degradation in land use planning</p>	<p>The contents of LUP steps</p>
<p>1.1 Gather information and documents that relate to biodiversity, protected areas, conservation facilities</p> <ul style="list-style-type: none"> - Information of biological resources, forest resources, natural ecosystems - Information of genetic resources, species diversity, ecosystem diversity and ecosystem services are being exploited - Information of land use protected areas status, conservation facilities; reports, maps, provincial conservation planning 	<p>Step 1: Investigate and collect information and documents</p>
<p>1.2 Gather information document of climate change</p> <ul style="list-style-type: none"> - Gather information about climate change impact that has occurred in the past - Gather information about damaged area by climate change, land use types are strongly affected by climate change - Collect information of climate change scenarios and sea level rise, flood maps 	
<p>1.3 Gather information about land degradation</p> <ul style="list-style-type: none"> - Gather land information, documents, data and land maps, land quality, land pollution, land degradation, agricultural land classification (if any) - Gather information about erosion, erosion, desertification, salinization, acidification 	
<p>1.4 Survey</p> <ul style="list-style-type: none"> - Survey directly at habitat area (lost or affected); area of land degradation... - Consult communities, parties to provide a reliable view, comprehensive, up to date issues that relate to biodiversity, climate change and land degradation. 	

<p>2.1 Analyze and assess natural conditions, biodiversity of protected areas, current population status, the characteristics of the rural population the protected areas.</p> <ul style="list-style-type: none"> - Characteristics of geographical location, natural conditions, ecosystems, flora and fauna of protected areas - The status of livelihood and exploiting ecological services from protected areas - Analyze characteristic of distribution, area, land use changes, operational characteristics of protected areas in the province - Assess land potential (meet purposes of biodiversity conservation in province) 	
<p>2.2 Analyze and assess climate change impacts on land use: Sea level rise, salinization...</p> <ul style="list-style-type: none"> - The impact of climate change on land resources - Impact of climate change on land distribution capabilities for use purpose 	<p>Step 2: Analyze and assess natural conditions, social - economic condition- and environmental impacts on land use</p>
<p>2.3 Analyze and assess land degradation that affect land use: land desertification, erosion, landslides...</p>	
<p>Analyze implementation of State management content on land (involved in planning implementation, land use planning combined to biodiversity protection, adaptation climate change and land degradation.</p>	<p>Step 3: Analyze and assess management status, land use; results of implementing planning, land use planning in previously and land potential</p>
<p>4.1. Establish plans for planning of nature conservation and biodiversity at province</p> <ul style="list-style-type: none"> - Identify orientation of land use when conserving natural biodiversity at province - Identify land indicators of nature reserve in planning period at province 	<p>Step 4: establish plans for land use planning</p>

<ul style="list-style-type: none"> - Assess impact of planning plans to biodiversity, ecosystem services and community - Demonstrate planning land indicators of nature reserve and biodiversity protection on map of land use planning at province 	
<p>4.2. Assess impact of the land use plan to adaptability and mitigation of climate change impacts</p> <ul style="list-style-type: none"> - Assess the adaption ability of climate change of land use planning plans, propose plan. - Assess the vulnerability of the land use subjects - Assess impact of reducing emissions or increasing greenhouse gases absorption of land use plan 	
<p>4.3. Assess impact of land use planning plan to the possibility of minimizing negative impacts on land quality</p> <ul style="list-style-type: none"> - Trends of land quality (fertility) when processing land use plan - Trend of land erosion - Trend of land degradation 	

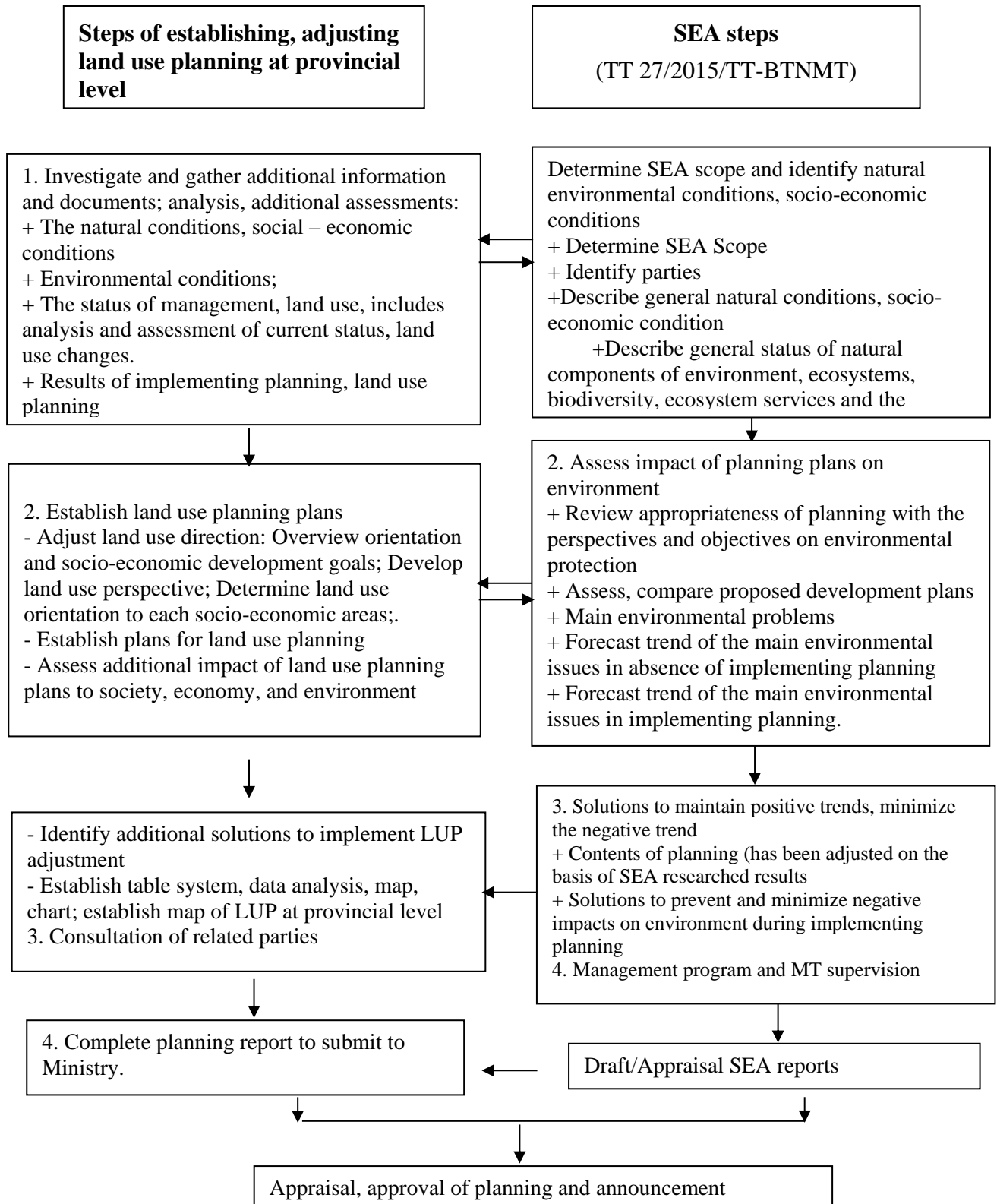
• *Source: Author*

4. Propose SEA+ tools for integrating biodiversity, climate change and land degradation in land use planning at provincial level

4.1. Identify logical linkages between land use planning and SEA +

Based on guidance of Circular 29/2014/TT-BTNMT, it regulated detail about establishing, adjusting planning and land use planning. Circular No. 27/2015/TT-BTNMT, it is about strategic environmental assessment, environmental impact assessment and environmental protection plan. We propose using SEA+ to integrate biodiversity, climate change and land degradation prevention in land use plan at provincial level. SEA will be implemented parallel with planning process and also, must be stick with land use planning steps. The diagram describes relationship between land use planning steps and SEA is shown below:

Table 2. Linkages between LUP process and SEA process



4.2. Describe steps (for LUP at provincial level and SEA +)

Step 1: Determine the SEA scope and identify natural environmental conditions, economic – social conditions.

This step is to determine SEA scope for LUP. Normally, SEA scope is coincided with scope of land use planning impacts in terms of geography, but there is different case, SEA must consider to a larger geographical areas and it is out of “theory of SEA” (caused by cross-border issues...). This is one of basic characteristics of SEA and it’s differing from EIA.

Identification of SEA scope of specific LUP helps creating the basis for obtaining the relevant information for SEA. To be able to integrate SEA effectively into LUP process, determining scope must be conducted when master plan of land use planning is being determined and when planning plans are being established.

Step 2: Identify parties and develop a plan to mobilize the participation of relevant parties

Identify parties (involved in SEA process) and their ability to participate in establishing land use planning (include role of local communities). These parties include governments, specialized management agencies, social organizations and communities to absorb all necessary comment.

Step 3: Describe general natural conditions, economic and social conditions; Describe general status of environmental natural components, ecosystems, biodiversity, ecosystem services and its potential exploitation

Describe detailed natural environmental conditions and socio-economic environment (in area where is affected by land use planning), focus on environmental components, potential socio-economic that impacts by implementing planning (taking into account climate change). Describe current status of exploiting natural ingredients that are being exploited, these ecosystem services are being exploited and its potential.

Step 4: Assess suitability of land use planning with perspective, goal of environmental protection

Point out perspectives, target about environmental protection, adaptation targets and climate change mitigation that are selected from relevant official documents such as resolutions and directives of Party; State legal documents; strategy, planning environmental protection, biodiversity conservation; strategy and

exploitation planning, natural resources use; Additional strategies to climate change and other related documents.

Assess appropriateness/inappropriateness or conflict between perspective, goal of LUP and perspective, goal of environmental protection in related documents.

Forecast impact (negative, positive) of perspective, goals of planning to perspective, goal of environmental protection in the relevant documents.

Step 5: Determine core environmental issues and environmental objectives that related to land use planning

This step aims to identify core environmental issues and environmental goal that should be considered in SEA, help to identifying appropriate environmental indicators or offering oriented questions that focus on analysis in SEA process.

With prioritized goal is integrating biodiversity, adapting climate change and combating land degradation in land use planning, the author propose to choose following three main environmental problems:

1. Land degradation relates to land resource management: requirement of socio-economic development requires fundamental changes in land use and land use change, it inevitably leads to risk of land degradation (include: reduce soil quality (fertility), increase erosion, and change ecosystem services of agriculture), if there is no proper management solution.

2. Decline in biodiversity, forest and ecosystem services: economic development always create potential conflicts that relate to conversion of forests, wetlands and coastal land. Ecosystem services, especially in services regulator (regulate flow of water supply and flood control, maintain soil quality and prevent erosion, isolate and store carbon, maintain habitat of ecosystem) will be seriously affected as a result of the decline in biodiversity.

Community livelihood-related use of biodiversity (services provide by ecosystems) and adaptability of the whole society to climate change therefore also varies as inevitable consequence of implementing of land use planning. On other hand, as above analysis, land is not only a resource, it is also an environmental component with very important functions (include functions to create habitat for organisms on land. Therefore, when we change land use purposes or increase land use level, it will impact biodiversity through the impact of species organisms.

3. Climate change issue is an important content throughout implementation of land use planning process. Under provisions of Circular 27/2015/TT-BTNMT,

impact trend of climate change is assessed and predicted as a separate folder in SEA. To assess systematic impact of climate change to land use and impact of land use types to adaptability of reducing climate change impact, we need to take climate change as a core environmental issue and view it as a context of development.

Step 6: Analyze environmental trends in the absence of land use planning

Determine causes that likely impact on environmental issues in general and core environmental issues in absence of land use planning at provincial level, such as: land use planning strategies, planning, the project has been approved and will be implemented in near future, market dynamics, climate change, etc.

Forecast trends of climate change issues, declining biodiversity and land resource degradation, trends in greenhouse gas emissions by region, as follows:

Trends of land resource developments: changes in land quality; changes in land erosion; changes in land degradation,

Trends of biodiversity and ecosystem services: trend of biodiversity development and forest; trend of ecosystem services development,

Trends of climate change: sea level rise and saltwater intrusion; rain and floods; drought; erosion and landslides; extreme climate phenomena,

Trends of greenhouse gas emissions relate to land use.

Analytical results of land resources changes, biodiversity changes and trends in climate change should be reflected on map in terms of space, impact level and linked between economic issues, social and environmental associations with core environmental issues. Therefore, SEA team should have expert knowledge of GIS and geographic information systems to coordinate with planning team to perform this content.

Step 7: Assess goals and development plans that were proposed

This step is to assess negative impact, positive impact to goal of environmental protection, environmental issues of each land use plan in planning proposals. Goal of this step is to compare and to assess land use plans for various environmental aspects and propose optimal land use plans for planning stage.

Step 8: Forecast environmental trends in future in case of implementing proposed activities in LUP

(i). Assess and forecast impact of land use planning on environment

(1) Identify source, object, scope and scale of impact:

Sources impact on land use planning of environment that include three categories:

- Change in land area, such as: increase urban land, increase industrial land; increase the infrastructure land: land for transportation, for hydropower, for medical
- Converse land use purposes, such as: Converse paddy land into industrial land, urban; converse forests land to farmland; converse forests protection land into production land; converse paddy land, coastal land into land for aquaculture....
- Distribute space of land types, such as: industrial land in delta area, watershed, river basins...

The affected subjects will include: (i) land environment, both in quality and land fertility; (ii) biodiversity, including ecosystem services; (iii) water environment; (iv) air environment... In addition, social environment will also be impacted by number of issues such as: food security, migration and cultural heritage.

(2) Forecast impact on land resources:

- Forecast the change in area, change use purpose from agricultural land, especially in paddy land to all kinds of non-agricultural land (industrial land, urban infrastructure development...) that cause negative impacts, reduce land fertility
- Forecast the change in area, change land use purposes to infrastructure development (energy), agricultural production (rice land and perennial crops, aquaculture land) that increase risk in land erosion and degeneration
- Forecasts the change from unused land into land for protection forests and production forests that have a positive impact, maintain land fertility and reduce risk of erosion, land degradation...

(3) Forecast impact on ecosystem:

- Forecast the change from agricultural land into industrial land that create adverse impacts, degrade agricultural ecosystems.
- Forecast the overlap of economic zones to forest and nature reserve that increase risk of biodiversity decline
- Forecast adjusted planning, change in land use purpose for hydropower development that causes impact on biodiversity
- Forecast change of land area for developing road system that have a negative impact on biodiversity.

- Forecast adjusted planning, change from protection forest into production forests, agricultural land into non-agricultural land that have negative impacts, degrade ecosystem services...

(ii) Forecast trends of main environmental issues

Trends of land resource degradation: land fertility, erosion and land degradation.

Trend of biodiversity decline and ecosystem services.

(iii) Forecast impact of climate change in implementing land use planning

(1) Impact of climate change on implementing planning:

- Impact due to change in temperature
- Impact due to change in rainfall
- Impact of natural disasters and extreme weather events
- Impact of sea level rise
- Impact of climate change on biodiversity and ecosystem services

(2) Forecast impacts of LUP on climate change trends:

In land use planning, change from forests land to other land use purposes reduces ability to absorb greenhouse gases; also, increase greenhouse gas emissions from other activities such as industry, agriculture... besides, change from agricultural land to other use purpose will change emissions. Therefore, SEA consultants need to forecast potential greenhouse gas emissions, the ability of absorbing CO₂ from activities of planning.

Step 9: The planning contents has been adjusted on basis of SEA research results

Present proposals under environmental view from SEA process to adjust contents of land use planning, the content that has been receipt to adjust planning.

Step 10: Determine solution to prevent and minimize negative impacts on the environment during implementing planning

- Determine organizational solutions, management solutions to maintain positive trends and minimize negative trend that due to implementation of land use planning

- Propose solutions in terms of technology, techniques to promote positive trends, prevent and mitigate negative trend of environmental issues that are caused by implementing activities and projects of LUP.

5. Conclusion

1. Land use planning plays an important role, not only in State management, but also in socio- economic development; it is one of method for State organizational management which aims to use maximum land resource efficiency and other natural resources, protect environment for sustainable development; it is an indispensable tool in the concretizing direction and policy, socio-economic development strategy in Vietnam, especially in period of industrialization and modernization and in condition of current climate change. Planning, land use plans at provincial level are planning at intermediate level in land use planning system in Vietnam; it has a very important role in socio - economic development and environmental protection of provinces, central cities.

2. Issues of environmental protection have been shown in content of land use planning but incomplete and not specific. In current situation, climate change has become a global problem; environmental factors increasingly need to be more concerned towards sustainable development. Land use planning in general, land-use planning at provincial in particular must contribute to protect and improve environment. The current regulations of environmental protection in land use planning are not enough; not yet regulated regulation to implement strategic environmental assessment for land use planning at provincial and district levels; content of environmental protection in land use planning is incomplete, lack content, specific indicator... therefore it has not met requirements of sustainable development.

3. Integration of environmental factors, strategic environmental assessment in land use planning at provincial level must comply with content and certain methods. Tools can be used to implement integration of environmental factors into land use planning such as: strategic environmental assessment; impact assessment of biodiversity; cost - benefit analysis aims to integrate biodiversity, climate change and land degradation in land use planning.

Regarding to strategic environmental assessment in land use planning, we must determine logical connections between tasks of strategic environmental assessment and land use planning through multiple steps, multiple content (each content must identify objectives, application methods and requirements of achieved results). Contents of strategic environmental assessment include: Determine scope of strategic environmental assessment and determine conditions of natural environment, social - economic condition; Identify related parties and develop a plan to mobilize participation of relevant parties; Describe general natural conditions, social –

economic condition, environmental and natural components, ecosystems, biodiversity, ecosystem services;

Assess suitability of land use planning with perspective, goal of environmental protection; Identify core environmental issues and environmental objectives (relate to land use planning); Analyze environmental trends in absence of land use planning; assess goals and plans of proposed development plan; Predict environmental trends in future in case of implementing proposed activities in land use planning; Planning contents has been adjusted on basis of research results of strategic environmental assessment; Identify solutions to prevent, minimize negative impacts on environment during implementing planning; Draft environmental assessment report and propose for approval.

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THE LEGAL STATUS OF RESIDENTIAL COMMUNITY IN ENVIRONMENTAL PROTECTION IN VIETNAM

LLM. Tran Thi Hong Nhung

nhung_th25@yahoo.com

Faculty of Law, National Economics University, Hanoi, Vietnam

MBA: Nguyen Viet Khoa

khoanv1979@gmail.com

Vice President, IT & Communications Institute, HoaBinh University

Abstract

Basing on the anticipations of important roles of the residential community in environmental protection, especially in condition of that environmental protection is getting more urgently, the article shows the necessary and demands of the legal status of residential community in the national environmental protection law system. In the process of making and completing the environmental protection law, Vietnam had fundamental provisions on the legal status of residential community although the provisions were made not earlier than the adjusting demand for the residential community in fact. Thus, the article concentrates on analysing the legal status of residential community. Then, it argues that solutions for implementation of the regulations on residential community in environmental protection.

Keywords: *Legal status; Residential Community, Environmental law, Environmental Protection*

1. Introduction

Residential Community is a special subject of environmental law, the residential community's existence in the environmental law relationships is decided by requirements of environmental protection. "The interests which subjects of the environmental law relationship orient to are multilateral"¹ including interests of individuals, organizations, states and communities while environmental law violations making pollution and damages for environment are getting more popular and serious. Thus, one of the aspects which law on environmental protection of many

¹ Vu Thu Hanh, "Settlement Mechanism for compensation due to environmental pollution", Politic – Administration Publishing House, 2012, P11

countries has to pay attention to is to provide the legal status of community in environmental protection clearly and effectively. Specially, in developing countries as Vietnam where the benefits of environmental protection may be considered less important than the benefits of development easily, the law on residential community in environmental protection is meaningful deeply. It not only provides the residential community's obligations but also has rules on aiming to ensure the residential community to enable to restrict, discovery and dispose the environmental law violations. To give solutions on the law on legal status of residential community in environmental protection and improving environmental protection activities of the residential community in Vietnam, the article concentrates on analysing the law of Vietnam and then anticipating implementation of the law in Vietnam recently. Thus, the main contents of the article include the following parts: The necessary of the law on residential community in environmental protection; The Vietnamese law on residential community in environmental protection; solutions for implementing the law and improving environmental protection activities of Vietnam community.

2. The necessary of the law on residential community in environmental protection in Vietnam

The fact that community is a general term widely used in various researches in economics, culture, society ... and environment. In this field, the communities are often mentioned when analyzing environmental protection, or community participation in environmental protection, especially in the context of focused environmental protection socialization policy. In (12), in order to emphasize the environmental protection of the community as the activity of the people, the author mentions the "saving the earth" and building a sustainable life depends on the belief and the contribution of each individual, when people know to organize their own sustainable life, will have a strong vigor whether their community is rich or poor, urban or rural." In addition, this work provides an account of the concept of "community" as "in common", the phrase "community management" is that everyone is involved in management; The "community of action" is a multitude of people, many of which work together and the "community of responsibility" is a multitude of people working together to protect and defend one thing. This explanation is like referring to the community-style working mechanism of many people in society. In (9), although the title refers to community participation in environmental protection "Community Participation in Environmental Protection" but "The purpose of this article, however, is to approach the issue in a manner that illuminates the role of citizen participation in environmental protection rather than descending into argument. Analyzed herein are two primary vehicles which citizens have successfully

used to seek redress for alleged environmental harm”.¹ Similarly, the community is understood to include individuals and NGOs, rather than independent entities, in (10)“... This chapter examines the role of communities, including individuals and NGOs and the role they play at the regional, national and local level of decision – making in environmental matters”.² However, unlike the conventional approach mentioned above, under the law of environmental protection, communities are called by different names such as residential communities, indigenous cultural communities, residential communities of hamlet. In particular, the majority of environmental legal documents in Vietnam use the term "residential community", so according to that, within the scope of this article uses the term "residential community" for communities participating in environmental protection as a legal entity other than individuals, legal entities, and other entities, have specific rights and obligations in environmental protection.

The necessity of regulating social relations in general by law has been interpreted in the theory of the origin and development of law in classed society. However, the reason for the need to regulate by specific social groups is not the same in every state. This difference depends on the condition, level of economic, social, cultural and political development of each state. Adjusting the residential community in environmental protection by law is one of the best examples of differences among the laws of countries in the regulation of social relations. Not every nation's environmental protection law establishes a separate legal framework to regulate the activities of the residential community in environmental protection. China's Environmental Protection Law does not provide for a separate legal status of the residential community, which enumerates the subjects of environmental protection, including individuals, local governments, public institutions, producers and business operators. Likewise, Laos' Law on Environmental Protection No.29/NA 2012 also has no separate regulations for residential communities, which stipulates the scope of the Law for persons, legal entities and organizations including Lao Citizens, aliens, apatrids and foreigners, who are living and working in Lao PDR³. However, the Law has regulations on the public participation.

The Basic Environment Law No. 91 of 1993 of Japan also provides the purpose of regulating, the law of subjects including: the state, local governments, corporations, citizens, excluding communities or residential communities. Meanwhile, the Philippine Environment Law 1995 and Vietnam Land Law 2013 have

¹ Mullikin, Thomas Stowe Smith and Nancy S, (2002), *Community Participation in Environmental Protection*, UCLA Journal of Environmental Law and Policy, 21(1).

² Jona Jazzaque, 2013, “*Environmental Governance in Europe and Asia*”, Routledge Taylor & Francis Group in London and Newyork, page No. 57

³ Article 8, Environmental Protection Law of Lao PDR 2012

defined residential communities as independent entities as compared to other individuals, organizations, and governmental bodies. However, the Philippine Environmental Law uses the term "Indigenous Cultural Communities," asserting this right to ancestral lands as provided for by the Philippine Constitution, which is recognized and protected by the state. In addition, in Vietnam, apart from the Land Law of 2013, the residential community is directly applied, the other legal documents that indirectly recognize the legal status of the residential community by defining the concept, rights and obligations of the residential community in environmental protection activities. The content of regulations under such legal documents in Vietnam will be analyzed in Section 3 below. There is a need to regulations that recognize the independent status of the subject in environmental law for a number of different reasons. As follows:

Firstly: Basing on the environmental socialization policy

In the context of the increasingly deteriorating environment due to the effects of development, the need to protect the environment becomes urgently. Recognizing this, the Party and State must timely adjust policies to focus on environmental factors in the development process. The 2001-2010 socio-economic development strategy approved by the Ninth National Party Congress affirmed the view that the country's development is "rapid, effective and sustainable development, the economic growth is parallel with progress, social justice and environmental protection"

On that basis, the Politburo issued Resolution No. 41-NQ / TW of November 15, 2004 on environmental protection in the period of accelerating national industrialization and modernization. This resolution built an important foundation for the participation of the residential community in environmental protection. One of the main solutions is to promote the socialization of environmental protection, which clearly shows the responsibility for environmental protection of the State, individuals, organizations and communities. To create legal bases, mechanisms and policies encouraging individuals, organizations and communities to participate in environmental protection. Forming the types of organizations for assessment, consultancy, inspection, accreditation and certification of environmental protection; Encouraging all economic sectors to participate in collection, transportation, recycling, waste treatment and other environmental protection services. To focus on the elaboration and implementation of regulations, village conventions, commitments on environmental protection and environmental self-management models of residential communities.

On December 2, 2003, the Prime Minister issued Decision No. 256/2003/QĐ-TTg approving the National Strategy for Environmental Protection up to 2010 and orientation to 2020. It states that environmental protection is the task of the whole

society, of all levels, sectors, organizations, communities and of all people; Environmental protection must be based on the strengthening of state management, institutions and laws in parallel with raising the awareness and sense of responsibility about environmental protection of all people and the whole society. The content of socialization of environmental protection is to mobilize the highest level of social participation in environmental protection; Establishment of incentive mechanisms, administrative and criminal sanctions and fair implementation; To promote the role of mass organizations and social organizations in environmental protection, to supervise environmental protection, to take the environmental protection in the activities of residential areas, to promote the role of Industrial organizations.

Vietnam's Agenda 21 issued in conjunction with Decision No. 153/2004 / QD-TTg dated 17 August 2004 of the Prime Minister has shown that mobilizing all people to participate in sustainable development with specific directions: Enhancing community participation in environmental impact assessment ...; To develop mass movements and community activities in the maintenance of environmental sanitation, the protection of local environmental resources, and the establishment of self-managed environmental protection groups. Closely supervise the local resource use; Building typical community points for sustainable development, natural resource self-management, environmental protection.

On February 22, 2005, the Prime Minister issued Decision No.34/2005/QD-TTg promulgating the Government's Action Program to implement Resolution No. 41-NQ/TW dated 15 November 2005 of the Politburo on environmental protection in the period of accelerating the industrialization and modernization of the country with the task of promoting the socialization of environmental protection provides four main contents: institutionalization of regulations on responsibilities, obligations and rights of mass organizations, residential communities and individuals involved in environmental protection; To diversify types of environmental protection activities, encourage the participation of the community in the environmental protection service supply; To build a movement for the whole people to protect the environment; Develop and implement village codes, regulations, commitments to protect the environment and develop models of self-governing residential community in environmental protection.

Thus, the policies on environmental protection in general and strengthening the socialization of environmental protection in particular are fundamental for the institutionalization of regulations on responsibilities and obligations of the residential community in Environmental protection. Promote the role and position as well as build the manner, method and content of environmental protection of the residential community.

Second: Derived from environmental conditions in Vietnam

Being a developing country, business activities for the growth of the economy are always active. At the request of development, the environment is the most susceptible element. Under National Environmental Report of 2011 -2015¹, the environment in Vietnam is under pressure from a wide range of economic development activities such as livelihood activities, industrial and industrial complexes, craft villages and facilities. Other business production. Energy development activities, road traffic development, seaport systems, traffic activities; Health care services, agricultural production activities have a strong impact on the environment in less and less direction.

Third: From the role of residential community in environmental protection

Environmental protection is the responsibility of all different entities in society, the roles of each subject in environmental protection are determined by the characteristics of each subject. Considered to be an independent entity, the residential community is the subject that makes important contributions to environmental protection. The role of the community in environmental protection can be reflected by activities in the community interior and the activities of the community that affect the other actors in environmental protection.

In the interior of residential community, the residential community protects the environment by carrying out the community's obligations in environmental protection, regularly educating themselves, raising awareness of environmental protection, building solutions, initiation of environmental protection. With regard to other actors, the community has a role to play in detecting, preventing and fighting against environmental law violations. As follows:

For detecting violations of environmental law: Environmental factors have a direct, continuous impact on the life of the residential community. Consequently, the residential community will be the subject who can quickly identify violations that harm for the environment. The residential community is able to detect immediately the abnormal behavior of the environment with ordinary observations. Moreover, the residential community can also monitor and reflect the pollution and pollution levels of the surrounding habitat through experience over the period of living in the area. In addition, in the condition that the environmental inspection and supervision force is still very thin in the area managed by the local environment agency, it is impossible or slow to detect environmental incidents or environmental law violations.

¹ See National Environmental Report of 2011 -2015

For the prevention of environmental law violations: Preventing violations of the law must be conducted in the first phase of an investment, production, business project that has environmental impacts. Prevention activities of the residential community is reflected through the residential community involvement in the process of preparing and evaluating the environmental impact assessment of each project. In addition, the viewpoints and opinions of the residential community on goods and services of enterprises violating the environmental law have power to prevent and raise the awareness of the owners. This kind of environmental protection avoids losing credibility of goods and services of enterprises in the market.

For struggling with environmental law violations: With the position of people directly affected by polluting activities, the fight against the environmental violations of the community will be inevitable. Struggling is manifested by forcing violators to stop the activities, overcoming polluted - environment status, and claiming compensation for damage caused by environmental law violations. Combating environmental law violations of the community has the potential to impact, scope of impact is different from the requirements from separate individuals and organizations.

3. The Vietnam legal framework of residential community in environmental protection

As mentioned above, regulations on the residential communities are scattered in the system of legal documents on environmental protection. First and foremost is the Law on Environmental Protection and its detailed legal documents. The Law on Environmental Protection 2014 stipulates the State's encouragement to the community in establishing a self-governing organization to protect the environment in Article 6 and regulates the rights and obligations of the residential communities. Article 146 of this Law provides that the residential community has the following rights and obligations as follow: Representatives of local communities under environmental effects of production, business and service entities have the right to ask the owners of those production, business and service entities to provide information of environmental protection through direct dialogs or in writing; organize practical enquiry into environmental protection tasks by production, business and service entities; collect, supply information to competent agencies and take responsibility for the information supplied; Representatives of residential community in the area under environmental effects of production, business and service entities have the right to ask state management agencies concerned to supply results of investigation, inspection and handling of the entities; Representatives of residential community have the right to take part in the evaluation of environmental protection

tasks by production, business and service entities; implementing all the measures to protect rights and interests of the residential community in accordance with the law; Owners of production, business and service entities must fulfill the requirements of residential community.

It is not the Law on Environmental Protection 2014 that contains provisions on the residential communities, which have been regulated in the Law on Environmental Protection 2005 and other legal documents in the field of environmental protection such as Law on Forest Protection and Development 2004, Water Resources Law 2012, Land Law 2013. The Law on Environmental Protection 2005 also contains six provisions related to residential community (Articles 6, 20, 21, 23, 54), Law on Forest Protection and Development 2004 regulating the concept of residential community of village in Clause 13, Article 3 "Residential communities in villages are all households and individuals living in the same village, hamlet, or similar unit". And The law has Section 3 Chapter II on Forest Allocation to the residential Communities in villages, rights and obligations of the allocated residential communities of villages. In particular, the conditions for forest allocation to the community, the type of allocated forest, the authority to allocate forests, the rights and obligations of village communities are allocated forests.

The Law on the Protection of Water Resources 2012 does not stipulate that the residential community is the applicable subject, nor does it have a specific definition for this subject but Article 6 stipulates that the opinion of the residential community, organizations and individuals involved in the exploitation and use of water resources, discharge into water sources organizations have to be collected; Individuals and the residential communities are facilitated to exercise the right to supervise and propose real measures to implement the water resource planning (Article 4, Article 24); Projects on the construction of reservoirs on rivers and streams must have the opinions of the residential communities and concerned organizations and individuals (Article 53.2.c). However, The Land Law 2013 only recognizes that the residential communities is one of the applicable subjects under Article 2.2 and is defined in detail by Article 5.3. "The residential community includes the community of Vietnamese living on the similar hamlet, village, mountain village, highland village, residential group and residential point having the same customs, practices or common families."

A separate assessment of community regulations in the Law on Environmental Protection 2005, (12) states that the regulations governing the rights and obligations of the residential community have many shortcomings, recognize "community", "community representatives"; The content of rights and obligations of this community is narrowed by the lack of regulations on the right to access information, the right to monitor, inspect and evaluate the environmental protection results of the

community on the environmental issues affecting directing for. Directly affecting the livelihood of the community, it does not provide the foundation to help the community have enough legal foundation to exercise their rights and obligations in environmental protection. Therefore, it should be addressed in the Law on Environmental Protection 2014 and other legal documents detailing this law. However, the Law on Environmental Protection 2014 does not have a specific definition of the residential community, nor does it regulate the applicable subject as to other subjects. The concept of residential community is only regulated in Decree No.19/2015/ND-CP detailing the implementation of the Law on Environmental Protection 2014, Article 3.10 of The Decree provides that "Residential Community is a community of people living in the same village, hamlet, hamlet, village, village, village and residential area." In addition, Article 50 of The Decree stipulates that representatives of the residential community have the rights to choose the organizations or individuals to act as the representative of the community through a full meeting or household representative in the community. Organizations and individuals that agree to act as representatives of communities have the responsibility to carry out activities within the communities authorized by the community and take responsibility before the residential communities and the law for their activities.

Addition to the content of representation, Article 51, 52, 53 of the Decree in turn details the right to be provided with environmental information; Right of consultation and supervision; The right to evaluate the results of environmental protection of production, business or service enterprises. This is the concretization of the rights of the population referred to in Article 146, The law on Environmental protection 2014.

Regarding the right to information provision, the Decree specifies the type of environmental information, the form and the time it will be provided, and the entity that provides environmental information to the community.¹

As for the right to consultations, The Decree specifies the guidelines and policies of the State that need consultation with the residential community about the environment before deciding; Form of information disclosure to serve the consultation is to publicize the draft document on the website or the mass media; The responsibility for organizing the residential community-based consultations is the competent state management agencies in deciding the undertakings and policies; State management agencies in charge of natural resources and environment have the responsibility for receiving and treating commences on environmental issues and feedbacking to the community on the acceptance or non-acceptance of opinions.

¹ See Article 51, Decree No. 19/2015/NĐ-CP

Consultations on strategic environmental assessment and environmental impact assessment are conducted in accordance with the law on strategic environmental assessment and environmental impact assessment.¹ The public investment monitoring of environmental protection of the community is carried out in accordance with Law on public investment of Vietnam in 2014.

With regard to the right to participate in the evaluation of the environmental protection results of the production, business, service enterprises, the Decree also specifies the subjects entitled to participate in evaluating the environmental protection results; assessment content.

In addition, in order to meet the need for socialization in environmental protection, Article 54 of the Decree provides the development and implementation of the residential community-based environmental protection models. This is a general rule, which states:

- The State encourages and adopts mechanisms and policies to support the residential communities in building and organizing community-based models for protection of natural resources and environment, sustainable development, conservation and rational use of natural resources, coping with climate change.

- The residential communities have the responsibility to participate in the formulation of objectives and programs, monitoring and evaluating the effectiveness of programs on the protection of nature conservation zones and national parks; To participate in the management and protection of nature conservation zones and national parks.

- The residential community has the right to actively develop and implement community-based models of protection of natural resources and environment, together with state management agencies in charge of natural resources and environment. Take part in the management of nature reserves and national parks.

4. Solutions for implementation of the law on residential community in environmental protection.

Thus, with the content of the Law on Environmental Protection 2014 has solved a number of basic restrictions in the Law on environmental protection 2005 on the residential community, creating legal basis for the residential community to actively implement obligations as well as promoting its rights in environmental protection. However, from a systematic point of view, the limitations of all residential

¹ See Article 12 of Decree No. 18/2015 / ND-CP regulating environmental protection planning, strategic environmental assessment, environmental impact assessment and environmental protection plan.

community legislation in the Law on Environmental Protection 2014 in general and environmental legislation of Vietnam in particular.

Firstly: There is no uniform view of the legal status of the residential community. The Law on Environmental Protection 2014 is a general law in the field of environment but this Law does not recognize this subject despite the provisions on the rights of the community. The concept of residential community is only stipulated in the sub-law of Decree No.19/2015 /NĐ-CP as mentioned above. The provisions on the rights and obligations of the community in the Law and this Decree express the distinct legal status of the community compared to other forms. Meanwhile, other specialized laws, such as the Land Law 2013, recognize that the "residential community" is an independent subject and develops a separate concept, or the Law on Forest Protection and Development 2004 also defines about "residential communities of village".

Second: There is a difference in the concept of "community of people" in legal documents, even the concept of "residential community of village" is included in the Law on Forest Protection and Development 2004 as mentioned above.

Third: Some regulations are very general, only oriented, difficult to apply and implement. As the definition of what is "residential community", considering the concept of the community in Article 3.10 of Decree No.19/2015/NĐ-CP, it is difficult for other entities can shape the community as soon as, it lacks criterions to identify the community. Provisions on community representatives have showed significant progress, but only if Article 3.10 of Decree No. 19/2015/NĐ-CP is considered, the community is not unified by what mechanism the community representative will be pointed . It is not possible to impose representative rules under the Civil Code 2015, as this regulation applies only to individuals and legal entities, while the community is not yet recognized as an individual or a legal person by any regulation. As for the regulations on rights and obligations of the community, although much more specific in the past, many regulations are still only directional, not able to perform as: s

The existence of a legal framework for residential communities in Vietnam is essential as demonstrated above, however, to make this framework truly effective, providing a solid legal foundation for the residential community in environmental protection, the following measures should be taken in the immediate future:

- Recognize the independent legal status of the residential community. The residential community should be treated as an independent entity, as opposed to the individuals, organizations considered as parts of the community. This is how to

promote synthetic energy to protect the environment. The voice of individuals or organizations will differ from the voice of the whole residential community, especially if the residential community is struggling with environmental law violations. Currently, Draft 5 of the Law on Forest Protection (Amendment) 2016 stipulates that the residential community is an applicable subject of the Law and defines the residential community under Article 13.13.¹

- Ensure consistency in the system of documents regulating the community. The community should be recognized as an independent entity and defined in the Law on Environmental Protection - a common law in the field of environmental protection. Specialized laws do not need to be redefined, avoiding duplication and conflict between legal normative documents.

- Building the concept of residential community should be more generalized and accurate. It is easy to see that the concept of "residential community" in Decree No. 19/2015 / ND-CP is not clear. According to that regulation, it can not show the residential community's people living in one area or more. The impact of multiple environmental pollution does not affect within the boundaries of a hamlet, village, village, residential area, residential area that affects a large geographic area. This may include many villages, hamlets, villages, squares, squares, etc. Therefore, it is necessary to better define this concept, referring to the rational elements in the concept in The Law on Forest Protection and Development 2004, the Land Law 2013 can be understood as "The residential community of Vietnamese living in the same area of one or more hamlets, villages can be affected by environmental problems ". This concept will also create flexibility when exercising the rights and obligations of the population under different conditions.

-Continue to materialize and practicalize the rights of the community in environmental protection. For example, Articles 52 and 53 of Decree No. 19/2015 / ND-CP lacks regulations on the time of organizing environmental protection activities, according to Article 51.3 of the State body in charge of natural resources and environment. responsibility for organizing, receiving and handling consultations.Or Article 53, who will be the unit responsible for organizing the evaluation of the results of environmental protection of production facilities, business services.

Apart from the above solutions, it is necessary to raise the awareness of the residential community and other subjects about the law regulating the rights and obligations of the community in environmental protection. Proposals on awareness

¹ Article 13.13, Draft 5 of the Law on Forest Protection (Amendment) 2016 “

raising and mobilization of community participation in environmental protection have been mentioned extensively. However, it is important to recognize the awareness of the community and other stakeholders about the legal status, rights and obligations of the community in environmental protection

5. Conclusion

With a special position in environmental protection, the legal framework of the residential community in environmental protection is really necessary. The right to information, consultation, monitoring and evaluation of the environmental protection results of the residential community is different from that of other entities and is really meaningful for environmental protection. The residential Community rights are different from any environmental protection activity of individual or organization. In addition, the community is not a separate entity. The rights and obligations of this subject in environmental protection are always tied to other individuals and organizations, so not only the community needs to be aware of the position of the community itself in the environmental protection activities, more importantly, other entities should also fulfill all relevant rights and obligations in order to respect the legal status of communities in environmental protection. However, the most important is that have to on the opinions of legal status of the residential community in order to build a completed legal framework of the residential community helping the entity to take full advantage of its roles of environmental protection.

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LEADERSHIP AS A KEY DETERMINANT OF QUALITY EDUCATION IN HIGHER INSTITUTIONS

Kemal Abdela

kemalorom@gmail.com

*Politics and Government Department, Faculty of Humanities and Social Sciences,
Sakon Nakhon Rajabhat University, Sakon Nakhon, Thailand*

Abstract

In the 21st century, higher institutors' have been making reform efforts to improve teaching and learning system of their respective institutions. But there are many factors that determine how they go about it. Leadership is one of the factors that influence the quality of education at all levels. The purpose of this paper is to analyse the relationship between leadership and quality education, and the possible effects of leadership on quality education in higher institutions. The purpose of this article is to analyse the relationship between leadership and quality education in higher institutions, and the possible effects of leadership on quality education. For the purpose of data collection document analysis method is used. The results show that the impact of leadership on education quality tends to be greatest and it has a direct effect on quality education. The more effective or successful leadership, the high-quality education in higher education institutions. This evidence supports the present widespread interest in improving leadership as a key to the successful implementation of large-scale educational reform in every educational institution in ever country. Thus, the overall results of the study would be beneficial to the planners to formulate the proper policy to ensure the quality education in the higher educational institutes.

Keywords: *Determinant, Higher Education, Leadership, Quality*

1. Introduction

In all aspects of the school and its surrounding education community, the rights of the whole child, and all children, to survival, protection, development and participation are at the centre. This means that the focus is on learning which strengthens the capacities of children to act progressively on their own behalf through the acquisition of relevant knowledge, useful skills and appropriate attitudes; and

which creates for children, and helps them create for themselves and others, places of safety, security and healthy interaction. (Bernard, 1999)

Delors Commission (UNESCO, 1996) education is at the heart of both personal and community development; its mission is to enable each of us, without exception, to develop all our talents to the full and to realize our creative potential, including responsibility for our own lives and achievement of our personal aims. Quality is at the heart of education and what takes place in classrooms and other learning environments is fundamentally important to the future well-being of children, young people and adults. Recognizing the importance of education, in the 21st century, higher institutions' have been making reform efforts to improve teaching and learning system of their respective institutions. However, several researches reported that there are many factors that influences the quality of education. And leadership is identified as one of the factor that affect the quality of education both in developed and developing countries.

This article is intended to analyse the relationship between leadership and quality education in higher institutions. In the sections that follow, I first provide definitions and concept of quality education and leadership in higher institutions. Following that, i present their relationship and the effects of leadership on quality education. I then offer general conclusions that came out from studies that have attempted to reveal the impact of leadership on quality education.

2. Quality Education

“Education is the most powerful weapon which you can use to change the world.” - Nelson Mandela

The new study highlights the importance of improving the quality of education, not just increasing the number of years students spend in school, in order to promote economic development. Most legislators recognize the connection between education and economic growth, but they often ignore the distinction between the quantity and quality of education (Jonathan Nelson 2015). According to UNESCO, A quality education is one that satisfies basic learning needs and enriches the lives of learners and their overall experience of living. VVOB's also defines a good quality education as the one that provides all learners with capabilities they require to become economically productive, develop sustainable livelihoods, contribute to peaceful and democratic societies and enhance individual well-being. The learning outcomes that are required vary according to context but at the end of the basic education cycle must include threshold levels of literacy and numeracy,

basic scientific knowledge and life skills including awareness and prevention of disease. Capacity development to improve the quality of teachers and other education stakeholders is crucial throughout this process.

UNICEF defines quality education by five elements: the learner's outside experiences, learning environment, content of education, learning processes, and education outcomes. Learners must be healthy, well-nourished and supported by their families and communities. The learning environment should be safe, healthy and stimulating. Appropriate education content is relevant to the learner and presented in a well-managed classroom. Outcomes that encompass knowledge, skills and attitudes, and are linked to national goals for education and positive participation in society. This definition allows for an understanding of education as a complex system embedded in a political, cultural and economic context.

Quality teaching in higher education matters for student learning outcomes. Quality teaching is the use of pedagogical techniques to produce learning outcomes for students. It involves several dimensions, including the effective design of curriculum and course content, a variety of learning contexts (including guided independent study, project-based learning, collaborative learning, experimentation, etc.), soliciting and using feedback, and effective assessment of learning outcomes. It also involves well-adapted learning environments and student support services. Experience showed that fostering quality teaching is a multi-level endeavour. Support for quality teaching takes place at three inter-dependent levels: 1) At the institution-wide level: including projects such as policy design, and support to organisation and internal quality assurance systems. 2) Programme level: comprising actions to measure and enhance the design, content and delivery of the programmes within a department or a school. 3) Individual level: including initiatives that help teachers achieve their mission, encouraging them to innovate and to support improvements to student learning and adopt a learner oriented focus. These three levels are essential and inter-dependent (OECD 2012).

Why Quality in Education?

Quality education enables people to develop all of their attributes and skills to achieve their potential as human beings and members of society. Delors Commission (UNESCO, 1996) education is at the heart of both personal and community development; its mission is to enable each of us, without exception, to develop all our talents to the full and to realize our creative potential, including responsibility for our own lives and achievement of our personal aims. It also provides the foundation for equity in society, and it is one of the most basic public services. It not only enlightens

but also empowers citizens and enables them to contribute to the maximum extent possible to the social and economic development of their communities. Thus, a quality education is one that satisfies basic learning needs and enriches the lives of learners and their overall experience of living.

Professor Linda Darling-Hammond believes education is only good if it helps our children succeed outside of school, in having good careers and happy lives. Citing examples from New Jersey, Finland, Toronto and Melbourne, she finds that children with quality education in the early years get a better start in life. She pushes for more investment to be made in early childhood education and educators who can nurture our children. She also stated that the teachers need to have a collaborative and supportive system that helps them grow as professionals and allows them time to inculcate the love for learning into children. She praises Singapore's Thinking Schools, Learning Nation initiative and how well the Singapore education system has been doing. However, she stresses that there is a need to think more deeply about assessments, asking educators and policymakers to question if assessments are being used for the right reasons. Assessments can be opportunities to see where children can be helped in or to identify talents, not just a score to represent that child. She further emphasizes on thinking critically in order to solve complex problems, communicating effectively, working collaboratively, and learning how to learn. Having these skills will help the children to become happy individuals in the 21st century.

Quality learning is not only essential for meeting people's basic needs, but is also fundamental in fostering the conditions for global peace and sustainable development. Sustainable development cannot be achieved by technological solutions, political regulation or financial instruments alone. We need to change the way we think and act. This requires quality education and learning for sustainable development at all levels and in all social contexts. All young people need to learn in active, collaborative and self-directed ways in order to flourish and contribute to their communities. Along with the basics, they need to acquire attitudes, values and skills as well as information. Their teachers, peers, communities, curriculum and learning resources must help prepare them to recognize and respect human rights globally and to value global well-being, as well as equip them with the relevant skills and competencies for 21st century employment opportunities.

3. Leadership

The term "Leadership" has attracted increasing attention in practical and theoretical sphere since many years. Beyond boundaries of manufacturing

organizations, leadership is becoming a necessary element in service organizations too (Anam Siddique, et.2011). Leadership can be hard to define and it means different things to different people around the world, and different things in different situations.

According to the definition of Business Dictionary leadership means the individuals who are the leaders in an organization, regarded collectively. And the activity of leading a group of people or an organization or the ability to do this. It also stated that leadership involves: establishing a clear vision, sharing that vision with others so that they will follow willingly, providing the information, knowledge and methods to realize that vision, and coordinating and balancing the conflicting interests of all members and stakeholders.

A leader steps up in times of crisis, and is able to think and act creatively in difficult situations. Leadership is also defined as a process by which a person influences others to accomplish an objective and directs the organization in a way that makes it more cohesive and coherent.

Some other popular definitions of Leadership are (Clark, D.R. 2004): A process whereby an individual influences a group of individuals to achieve a common goal (Northouse, 2007, p3). Leadership is a process by which a person influences others to accomplish a mission (U.S. Army, 1983). It is inspiring others to pursue your vision within the parameters you set, to the extent that it becomes a shared effort, a shared vision, and a shared success (Zeitchik, 2012). Leadership is a process of social influence, which maximizes the efforts of others, towards the achievement of a goal (Kruse, 2013).

Why leadership?

According to MSG Experts, leadership is an important function of management which helps to maximize efficiency and to achieve organizational goals. And the following points justify the importance of leadership in a concern. 1) Initiates action- Leader is a person who starts the work by communicating the policies and plans to the subordinates from where the work actually starts. 2) Motivation- A leader proves to be playing an incentive role in the concern's working. He motivates the employees with economic and non-economic rewards and thereby gets the work from the subordinates. 3) Providing guidance- A leader has to not only supervise but also play a guiding role for the subordinates. Guidance here means instructing the subordinates the way they have to perform their work effectively and efficiently.

4) Creating confidence- Confidence is an important factor which can be achieved through expressing the work efforts to the subordinates, explaining them clearly their role and giving them guidelines to achieve the goals effectively. It is also important to hear the employees with regards to their complaints and problems. 5) Building morale- Morale denotes willing co-operation of the employees towards their work and getting them into confidence and winning their trust. A leader can be a morale booster by achieving full co-operation so that they perform with best of their abilities as they work to achieve goals.

6) Builds work environment- Management is getting things done from people. An efficient work environment helps in sound and stable growth. Therefore, human relations should be kept into mind by a leader. He should have personal contacts with employees and should listen to their problems and solve them. He should treat employees on humanitarian terms. 7) Co-ordination- Co-ordination can be achieved through reconciling personal interests with organizational goals. This synchronization can be achieved through proper and effective co-ordination which should be primary motive of a leader.

What leadership style should be used in higher education system?

Leaders have different leadership styles through which they can lead their subordinates. Leadership style is the way a person uses power to lead other people. Research has identified a variety of leadership styles based on the number of followers. The most appropriate leadership style depends on the function of the leader, the followers and the situation. Some leaders cannot work comfortably with a high degree of followers' participation in decision making. Some employers lack the ability or the desire to assume responsibility. Furthermore, the specific situation helps determine the most effective style of interactions. Sometimes leaders must handle problems that require immediate solutions without consulting followers (Ahmed Raza 2017).

A review of the literature on some of the leadership styles that breed success within educational organizations discovered that Transformational Leadership was more effective than Transactional Leadership. Ross and Gray (2006, p. 800) define transformational leadership as the Multidimensional construct that involves three clusters: charisma (identifying and sustaining a vision of the organization), intellectual stimulation of members, and individual consideration. Transformational leadership enhances an organization by raising the values of members, motivating them to go beyond self-interest to embrace organizational goals, and redefining their needs to align with organizational preferences. In comparison, transactional leaders

often try to accomplish organizational goals without attempting to elevate the motives of followers or the human resources within the organization. Transactional leadership does not constitute a change in the culture of the organization, whereas transformational leadership requires a change in the culture of the organization in order to be effective. In looking at the effects of transformational leadership on student achievement, Ross and Gray (2006) discovered principals are often perceived as accountable for student achievement, but most researchers found that principals have very little direct impact on achievement. The researchers hypothesized that principals indirectly contributed to student achievement through

Moreover, many researchers have identified some leadership qualities as honourable, brave supportive, and enthusiastic person, forming networking skills and relationship building, participative and consultative management style, open discussion on teaching approaches, credibility of leader, building formal and informal channels of communication for information transfer, sharing experiences and ideas, adaptation to internal and external environment, encourage transformation and change, to have selflessness and awareness of things, developing people and making collaborative partnerships with others, creating collegial working atmosphere, and able to get necessary support from others. Thus every leader might not have all of these qualities but good leadership demands for these qualities as leadership has become very challenging now a day (Anam Siddique et al 2011).

4. Leadership and Quality Education Relationship

Developing institutions as effective learning communities where excellent pedagogical practices are developed and shared also requires leadership, collaboration and ways to address tensions between innovators and those reluctant to change (OECD 2012). School performance benefits from a collaborative approach to leadership, which includes sharing findings, failures, and concerns.

Leadership that is required in higher education is referred to as Academic leadership. Academic leaders should motivate, inspire, direct and lead the faculty members towards achievement of shared objective (Anam Siddique et al 2011). According to Gmelch, W. H. (2002) academic leader firstly has to group together all of his followers, and then secondly he should give directions to each member about how to perform the work, and finally he should empower them to do the required task so they could freely reach to given objectives. Academic leaders have more challenges than the leaders of business organization. One important reason is the stakeholders, there are various stakeholders in academia such as students, faculty members, etc. so an academic leader must has to look upon every one individually

and use different policies to deal with them (Sathye 2004). Leader must know what his objectives are, what he wants to achieve, and how he will put efforts to achieve the desired goals with and through other people.

According to previous researchers employees of higher education system need autonomy; as they want complete professional freedom to perform their job effectively. Many years ago researchers believe that there is no need of a formal leader to lead employees but as world has become more complex and business has become dynamic and uncertain so a formal leader is required to lead people to the right directions. An effective leader uses his motivational and influencing powers to make organizations adapt or adopt to various changes that may arise inside or outside the organizations. Regarding this notion Neave (as cited in Anam Siddique et al 2011) has further elaborated that due to such dynamic and complex changes in environment leaders have snatched autonomy of employees. Now the organizations have become stakeholders" organizations. There is great pressure on shoulders of leaders to look and fulfil stakeholders demand. For this purpose faculty members have to scarify their professional autonomy. As Moore (2008, p.30) has described that academic institute are facing lot of pressures now a days, as quality assurance, performance management, and continuous improvement are not allowing employees to enjoy academic freedom and consequently it calls for a strong leadership. However Bryman"s (as cited in Anam Siddique et al 2011) described that an important leadership quality is to maintain professional and personal autonomy of his employees. So to deal with such situation a strong and persuading leader is required to lead faculty members (Anam Siddique et al 2011).

Leader must use various ways to motivate his employees and to drain best out of them. As according to Hertzberg et al (1959) employee may become dissatisfied due to absence of extrinsic factors and satisfaction can be achieved due to presence of proper intrinsic factors. So leader must try to reduce dissatisfies so that their employees can provide their best on the job. Not much of the research has been done in field of leadership in higher education. The concept of Academic Leadership has been given by Ramsden (as cited in Anam Siddique et al 2011) and he suggest that leadership in higher education have features as; leadership in teaching i.e. introducing new ideas of teaching, adding excitement teaching, leadership in research i.e. leader must set his own research examples and provide guidance for the staff, strategy vision and networking i.e. leader should make clear goals and express those to everyone, collaborative and motivational leadership i.e. leader should inspire people to give their full and try to achieve difficult objectives also there should be openness and an

environment of trust and support, fair and efficient management i.e. delegating task and organize the tasks, development and recognition of performance i.e. praise people work and provide them with feedback and give them support, interpersonal skills i.e. look into other peoples interests. These all show that leadership has a great role in higher education and one of the key factors that contribute to the quality of education.

A research conducted by Garwe, Evelyn Chiyevu(2014), which was carried out with the aim of examining the effect of institutional leadership on the quality of educational provision in higher education institutions in Zimbabwe, showed that institutional leaders who promote intellectual growth of both staff and students and who create a culture of learning make it easy for their institutions to uphold high quality standards. The study also highlighted the need for an effective national quality assurance agency in making sure institutions are supported in the global quest for quality. The study of Rawung, Ficke. H (2013 also revealed that leadership had a significant effect on work motivation and leadership affects employee work motivation in higher education employee especially in Manado State University Tondano, North Sulawesi Indonesia. Thus, leadership is useful to motivate employee work in the organization especially in higher education or university organization.

According to A.Siddique et al(2011) an effective leadership strategies can keep the highly qualified faculty intact, and if academic leadership will not be in place and leaders are not providing monetary and non-monetary benefits to motivate their faculty members, then they may physically or psychologically leave their organization which will produce adverse effects on institution. Students' academic, personal, and professional development depends on faculty's sincere effort.

Moreover, Viviane Robinson (2007) conducted a research on the impact of different types of leadership on students' academic and non-academic outcomes-comparison of the effects of instructional and transformational leadership. The result indicated that the effect of instructional leadership is consistently and notably larger than the effect of the transformational leadership. The second study also revealed five leadership dimensions that have moderate to large effects on outcomes: establishing goals and expectations; strategic resourcing; planning, coordinating and evaluating teaching and the curriculum; promoting and participating in teacher learning and development; and ensuring an orderly and supportive environment. The more leaders focus their professional relationships, their work and their learning on the core business of teaching and learning, the greater their influence on student outcomes.

Thus, even though the level of effect is different from one style or types of leadership to another, leadership has high effect on the quality of education.

In a nutshell, the results of all research find that leadership has positively significant impact on the quality of education in higher institutions and others in general. This evidence supports the present widespread interest in improving leadership as a key to the successful implementation of large-scale educational reform in every educational institution in ever country.

5. Conclusion

The current researches and reports have shown that quality education is not only essential for meeting people's basic needs, but is also fundamental in fostering the conditions for global peace and sustainable development. By taking into account their present and future needs higher institutions need make a reform efforts to improve teaching and learning system of their respective institutions. Leadership is a main factor that determines the successful improvement and development of any educational institution. Leadership is a key because of the fact that it initiates actions, motivation, provides guidance, creates confidence, builds morale and bring a teamwork among the all members and other stakeholders of the institution. Thus, the more effective or successful leadership, the high-quality education in higher education institutions. It is suggested that each higher education needs to pay due attention to leadership and work towards its improving the leadership skills of all leaders (the administrators, faculty and department members, especially the deans and heads of the faculty and departments respectively).

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PART 4: BUSINESS AND ENVIRONMENTAL MANAGEMENT

THE DETERMINANTS OF TOBIN'S Q OF THE LISTED SMALL AND MEDIUM-SIZED ENTERPRISES IN VIETNAM

Dr Phan Hong Mai

hongmaiktqd@yahoo.com

School of Banking and Finance, National Economics University, Hanoi, Vietnam

MSc. Pham Thi Thanh Le

phamthanhle.nlb@gmail.com

*Faculty of Economics and Finance, Bacgiang Agriculture and Forestry University,
Bacgiang, Vietnam*

Abstract

Through studying the factors affecting Tobin's q of the Vietnamese listed SMEs from 2011 to 2015, the research has several main findings. The classification of financial and non-financial indicators allows us to have a comprehensive examination of internal and external factors which affect Tobin's q of the listed SMEs in Vietnam. We find that both financial and non-financial indicators have significant effects on Tobin's q of the listed SMEs in Vietnam. Specifically, there are significant impacts of different leverage policy including short- and long-term liabilities ratio on firm performance in an opposite way. Besides, sales growth rate has a negative influence on Tobin's q.

Keywords: *Tobin's q, SMEs, Vietnam*

1. Introduction

Tobin's q was introduced by William Brainard and James Tobin (1968). They reason that firms should accumulate more capital when q is greater than 1 and should draw down their capital stock when q is less than 1. That is, net investment in physical capital should depend on where q is in relation to one. Researchers over the world found out some factors affecting the value of Tobin's q, such as Leverage Ratio (Lloyd and Jahera, 1994; Zeitun and Tian, 2007; Margaritis and Psillaki, 2007), Sales Growth (Brush et al., 2000), Firm Size (Kole, 1995), Tangibility (Bradley et al., 1984; Rajan and Zingales, 1995; Titman and Wessels, 1988), Location (Minai and Lucky, 2011; Hashim, 2005), Firm Age (Loderer and Waelchli, 2009; Pouraghajan et al., 2012)...

However, there are few studies on factors affecting Tobin's q in Vietnam, such as some research of Tran and Duong (2011), Nguyen and Phan (2015)... As one of the target groups receiving much concern from the Government, small and medium-sized enterprises (SMEs) play an important role in the development of the national economy. Currently in Vietnam, SMEs account for 97% of all firms, create about 50% of the employment, and contributes about 40% of annual GDP. However, through the preliminary assessment, Tobin's q of the listed SMEs in the period 2011 – 2015 are mostly smaller than 1, which indicates that the value of these enterprises has been estimated lower than the book value. Therefore, it is necessary to find out the factors affecting the value of Tobin's q in the current period, particularly in the situation that the firm performance of the listed SMEs had not reached as expected. To the best of our knowledge, we found no studies examining the determinants of Tobin's q for the listed SMEs in Vietnam. Hence, there exists a research gap which needs to be bridged in terms of Tobin's q index and profitability among SMEs in Vietnam.

The main research question of this study is “*Do financial and non-financial indicators have significant impacts on Tobin's q of the listed SMEs?*”. Hence, to address the research issues, a panel data set between 2011 and 2015 is explored to draw an inclusive picture of SMEs' business performance.

2. Method

This study rests on the data from financial statements between 2011 and 2015 of the Vietnamese listed SMEs. In order to determine if a firm is a SME, we based on Article 3 of the Decree No.56/2009/ND-CP dated June 30th 2009 by the Prime Minister of Vietnam to support Vietnamese SMEs development. We collected data and information of 60 listed SMEs from their financial statements and reports which are published on the web pages www.cophieu68.com and www.cafef.vn. Furthermore, data and information are extracted from the webpage of the VNDIRECT Securities Corporation. The five-year data set is explored from audited balance sheets and income statements of the listed SMEs

Table 1. Description of Variables

Variables	Description
Tobin's q (q)	Tobin's q is measured by firm market value to its book value.
Short-term liabilities ratio (SLC)	The short-term liabilities ratio is measured by short-term liabilities to total capital of firm.
Long-term liabilities ratio (LLC)	The long-term liabilities ratio is measured by long-term liabilities to total capital of firm.

Variables	Description
Total liabilities ratio (TLC)	The total liabilities ratio is measured by total liabilities to total capital of firm.
Sales growth rate (SG)	Percentage of change in sales over years.
Logarithm of sales * Urban (LSU)	This is the interaction variable between the logarithm of net sales and the location.
Firm size (LSIZE)	The natural logarithm of total assets at the accounting year-end.
Tangibility * Urban (TU)	This is the interaction variable between tangibility and firm's location. Tangibility is measured by the ratio of total tangible assets to total assets.
Urban (URBAN)	This dummy variable takes the value of 1 if a firm is located in a central-controlled city (Ha Noi, Hai Phong, Da Nang, Hochiminh City), 0 otherwise.
Firm age * Urban (FAU)	This is the interaction variable between the age of firm and the location. Firm age is the number of years since a firm was established or operated until the year-end.

Source: Authors

In order to reach the research objectives, we examine the impacts of short- and long-term liabilities, and total liabilities on Tobin's q . The models are defined as in three Equations (1), (2), and (3) below.

$$q_{it} = \beta_0 + \beta_1 SLC_{it} + \beta_2 SG_{it} + \beta_3 LSU_{it} + \beta_4 LSIZE_{it} + \beta_5 TU_{it} + \beta_6 URBAN_i + \beta_7 FAU_{it} + u_{it} + \varepsilon_{it} \quad (1)$$

$$q_{it} = \beta_0 + \beta_1 LLC_{it} + \beta_2 SG_{it} + \beta_3 LSU_{it} + \beta_4 LSIZE_{it} + \beta_5 TU_{it} + \beta_6 URBAN_i + \beta_7 FAU_{it} + u_{it} + \varepsilon_{it} \quad (2)$$

$$q_{it} = \beta_0 + \beta_1 TLC_{it} + \beta_2 SG_{it} + \beta_3 LSU_{it} + \beta_4 LSIZE_{it} + \beta_5 TU_{it} + \beta_6 URBAN_i + \beta_7 FAU_{it} + u_{it} + \varepsilon_{it} \quad (3)$$

Where: u_{it} is between-entity error, ε_{it} is within-entity error.

In these models, we select the random-effects regressions to discover the determinants of Tobin's q as we explore a time invariant variable in our models, that is, location of a firm. This binary variable takes the value of 1 if a firm is located in a central-controlled city, and 0 otherwise. The entity's error term is assumed not to have correlation with the explanatory variables.

3. Results

3.1 Descriptive Statistics

Table 2 shows the summary of descriptive statistics of all the variables used in the paper. It can be seen that the average Tobin's q of the listed SMEs was 0.8283 in the period 2011 – 2015, which basically means that on average, the cost to replace assets of a firm was higher than the market value of stocks (Tobin, 1969). This suggests that the stock was undervalued in this period. Meanwhile, average sales growth rate of these firms was 1.458, which reveals that the listed SMEs, on average, had the average change in sales at 1.458 times in the period.

Table 2. Descriptive Statistics of Variables

Variable	Obs	Mean	Std. Dev.	Min	Max
Tobin's q	300	0.8283	0.3700	0.0772	3.2108
SLC	300	0.3043	0.1795	0.0055	0.7921
LLC	300	0.0432	0.0827	0.0000	0.4505
TLC	300	0.3475	0.1901	0.0055	0.7921
SG	300	1.4580	6.9055	-1.0000	92.0658
LSU	300	13.1416	12.1036	0.0000	25.9269
LSIZE	300	24.4578	0.5305	23.0265	25.8909
TU	300	0.1287	0.1961	0.0000	0.7756
URBAN	300	0.5500	0.4983	0.0000	1.0000
FAU	300	11.3333	14.7154	0.0000	57.0000

Source: Authors' calculation

In terms of leverage financing, the short-term liabilities ratio in the period 2011 – 2015 of the listed SMEs reached 30.43% averagely, whilst the long-term one was merely 4.32%. The total liabilities ratio was closely similar to the short-term one with the value of 34.75%.

3.2 Empirical Results

Table 3 presents results from the random-effects regression model to find the factors which affect the listed SMEs' q estimator. According to the research results shown in Table 3, leverage policies of the listed firms have the significant impacts on Tobin's q . It can be seen that using short-term liabilities ratio has a negative effect on Tobin's q of the firms at the 10% significance level. Given that, any 1% increase of using short-term liabilities ratio decreases the value of Tobin's q by 0.26% on average. Conversely, the long-term liabilities ratio is positively associated with the q

estimator also at the 10% level of significance. A 1% increase of long-term liabilities ratio leads to an increase by 0.47% of Tobin's q. This finding is consistent with Lloyd and Jahera (1994) when they found a positive association between debt ratio and Tobin's q. Total liabilities ratio is found to have no significant impact on Tobin's q.

Table 3. Random-Effects Model: Determinants of Tobin's q

Dependent variable: Tobin's q			
Explanatory variables	Coefficients		
	(1)	(2)	(3)
Short-term liabilities ratio	-0.2630* (0.1565)		
Long-term liabilities ratio		0.4713* (0.2719)	
Total liabilities ratio			-0.1008 (0.1525)
Sales growth rate	-0.0040* (0.0022)	-0.0043** (0.0022)	-0.0043** (0.0022)
Logarithm of sales * Urban	0.0199** (0.0091)	0.0202** (0.0091)	0.0192** (0.0091)
Firm size	0.1589*** (0.0502)	0.1286*** (0.0496)	0.1507*** (0.0512)
Tangibility * Urban	-0.1920 (0.1718)	-0.2518 (0.1766)	-0.1672 (0.1730)
Urban	-0.5155** (0.2366)	-0.5292** (0.2364)	-0.4985** (0.2372)
Firm age * Urban	0.0082** (0.0037)	0.0088** (0.0037)	0.0083** (0.0037)
Intercept	-3.0196** (1.2215)	-2.3742* (1.2140)	-2.8659** (1.2410)
R-squared	4.82%	6.09%	4.62%
Wald chi ² (7)	30.50***	30.38***	27.78***
Number of observations	300	300	300

Source: Authors' calculation

Standard errors are in parentheses.

, ** and * denote the 10%, 5% and 1% significance levels, respectively.*

According to the Trade-off theory of capital structure, when firms raise

additional debt to expand their operations, investors should not put more capital but gain the added value from the use of the assets financed by debt after offsetting interest expenses (Kraus and Litzenberger, 1973). Investors accept the fact that the increase of debt inevitably increases the risk as a trade-off. At the same time, that enterprises have access to bank credit is regarded as a proof of their stable financial capacity for investors to believe in the abilities of business development. Findings from previous studies show that debt financing from banks, which means capital from a formal source, has a significant impact on firm performance (Abor, 2005; Kim and Kim, 2009). Notably, debt policy normally refers to long-term debt or liabilities of firms. Therefore, gearing policy is very important to improve firm performance, further to enhance firm efficiency. In case of using short-term liabilities as the listed SMEs, it may reduce Tobin's q and make firms' value be underestimated.

Regarding sales growth rate, Table 3 displays that sales growth rate has a negative influence on Tobin's q at the 10% and 5% significance levels. Other things are held constant, if the growth rate of sales goes up by 100%, Tobin's q decreases by 0.4%. Growth rate of sales, hence, has a significantly negative impact on the firm performance, which is in line with Daskalakis and Psillaki (2005) and Onaolapo and Kajola (2010). However, our finding is inconsistent with Brush et al. (2000) who point out a significantly positive relationship between sales and Tobin's q of firms that have strong governance of free cash flow under the hypothesis with and without the presence of free cash flow. Theoretically, Modigliani and Miller (1958) present that better growth opportunities increase the debt preference of firms and generate better profit. Firms with higher future growth opportunities are more likely to have higher leverage and to be more successful in earning profit (Huang, 2006). This may be the underlying cause of an increase of firm performance in general and Tobin's q in particular. In the context of Vietnam, as the listed SMEs use a high short-term liabilities ratio (see Table 2), sales growth or profit earned afterwards is saved to pay back for the short-term debt. Therefore, Tobin's q is negatively affected regardless of the increase in sales growth rate.

As can be seen from Table 3, the interaction of sales and urban has a positive effect on Tobin's q of the firms at the 5% significance level. Accordingly, firms that have higher sales and are located in urban cities have 0.02% higher Tobin's q than their counterparts. Noticeably, an interesting point is that sales growth and urban, if being separate variables, have negative impacts on the q estimator, but an interaction of sales in logarithm and location of the firm causes a positive impact on q . It may be explained that when firms in urban cities have sales that are big enough to overcome and compensate their expenses, they would have great expected returns or business performance compared to their counterparts.

At the 1% significance level, firm size has a positive influence on Tobin's q , which demonstrates that a 1% increase of the total assets leads to around 0.15% increase of Tobin's q for models (1) and (3) and 0.13% for model (2). This result is inconsistent with Rajput and Bharti (2015) that the board of managers has lower efficiency of operational and strategic management, which may cause the lower value of Tobin's q , when the firm size increases. Likewise and Araya (2010) reveals that when the size of a firm increases, efficiency may be reduced due to the decrease of strategic management and operational activities, which might cause the negative relationship. Kalkan et al. (2011) find no association between firm size and firm performance when examining the information of technology companies. Notwithstanding, our finding is in line with Pouraghajan et al. (2012) who identify a significant and positive correlation between firm size and financial performance. It is explained by the expectation of investors that the larger firms are more likely to use flexible manufacturing systems and have more opportunities to access bank loan than small ones. There is evidence that large enterprises should have high leverage ratio, then utilizing the leverage to maximize their expected returns (Ang et al., 1982; Warner, 1977).

It is found no significant relationship between the interaction of tangibility and location and the q estimator. With regard to location of firms, it is demonstrated that firms located in urban areas have lower Tobin's q than those located in rural provinces at the 5% significance level. Esteban et al. (2010) and Kala and Guanghua (2010) define location as a choice of where a business is located in small or large cities, or in urban or rural areas. Location is linked with the type of product or service that the firm tends to offer, which determines the success or failure of dynamics of a firm and its business activities. Our result is inconsistent with Smallbone et al. (2003) who point out that rural firms have worse performance than their counterparts. In the case of SMEs in Vietnam, being located in urban cities raises their business expenses, such as renting costs for premises, labour costs, administrative costs, etc., which affect their profitability. Moreover, firms in urban cities face high competitiveness from their competitors and difficulties in finding market for their products (MPI, 2012). All these factors are considered to negatively impact Tobin's q of the listed SMEs.

Importantly, it is revealed that the interaction of firm age and urban has a positive relationship with Tobin's q at 5% significance level. Accordingly, an increase of 100% of this interaction leads Tobin's q to increase by around 0.8% on average in the three models. It basically means that firms that are older and located in urban areas have higher value of the q estimator than their counterparts. This can be explained that firms accumulate management experience and capital over time as well as develop business relations with other partners and spread out their brand names.

It helps increase the expectation of investors of firm value in the future. Our finding is consistent with Lamont (1972) and Ronstadt (1989) who present that firms have better performance when they gain more experience. The profitability of old firms increases with age because their experience and reputation support them to gain access to public stocks or long-term debt financing (Berger and Udell, 1998).

To conclude, financial and non-financial indicators have significant effects on Tobin's q of the listed SMEs in Vietnam. Noticeably, the use of long-term liabilities positively associates with the q estimator, while short-term liabilities ratio has a converse impact on q . Total liabilities ratio is found to have no significant influence on Tobin's q . Apparently, using long-term leverage increases the likelihood of firms to have higher value of the q estimator, which may lead the market values to be over-estimated rather than the book values. Investors tend to overvalue firms using debt as they expect a growth potential of firms in the future by increasing total capital. However, if firms' capabilities of exploring financial sources were not efficient enough, that firms use high liabilities ratios would harm their performances in the aspect of profit erosion. SMEs have not punctually and appropriately improved their capabilities of utilizing sources of finance to maximize marginal capital. Although the average value of Tobin's q of the listed SMEs in Vietnam from 2011 to 2015 is lower than 1, which indicates the pessimistic development of sector, the Government's policies will encourage and support the improvement of this type of firms.

4. Discussion and Conclusion

4.1 Discussion

Through studying the factors affecting Tobin's q of the Vietnamese listed SMEs from 2011 to 2015, the research has several main findings. The classification of financial and non-financial indicators allows us to have a comprehensive examination of internal and external factors which affect Tobin's q of the listed SMEs in Vietnam. We find that both financial and non-financial indicators have significant effects on Tobin's q of the listed SMEs in Vietnam. Specifically, there are significant impacts of different leverage policy including short- and long-term liabilities ratio on firm performance in an opposite way. Besides, sales growth rate has a negative influence on Tobin's q .

Conversely, the interaction of sales and urban has a positive effect on Tobin's q of the firms. Given that, firms that have higher sales and are located in urban cities have 0.02% higher Tobin's q than their counterparts. Likewise, firm size has a positive influence on Tobin's q , which demonstrates that a 1% increase of the total assets leads to around 0.13 – 0.15% increase of Tobin's q . It is revealed that firms

located in urban areas have lower Tobin's q than those located in rural provinces. Also, the interaction of firm age and urban has a positive relationship with Tobin's q at 5% significance level.

Compiled from three models, liabilities ratios have significantly affected the listed SMEs' business performance, measured by Tobin's q , in opposite direction. Briefly, firm value is still under-estimated by investors as a whole. This fact again shows the dual effect of liabilities which requires controlling leverage ratio to maximize the assets value of shareholders. Evidently, using long-term leverage increases the likelihood of firms to have higher value of the q estimator. Investors tend to overvalue firms using debt as they expect a growth potential of firms in the future by increasing total capital. Generally, the Tobin's q ratio of the listed SMEs in Vietnam in the period 2011 – 2015 was less than 1, which implies that the firm is worth less than the cost of its assets. It also refers to the underestimation of a firm. Therefore, it is necessary to suggest recommendations and policy implications to improve firm performance in general and Tobin's q in particular.

4.2. Conclusion

From SME's perspective, there are main implications based on the research findings. *Firstly*, it is advised to maintain, even increase, long-term leverage ratio for SMEs in the priority areas in order to remarkably raise the wealth of shareholders in the condition of strictly controlling interest expenses. *Secondly*, SMEs are necessary to accumulate essential resources such as finance, human, and reputation during the development period with the purpose to improve their profitability. Moreover, they should emphasize on increasing total capital by liabilities and by equity to expand investment potential and to utilize business opportunities. For those located in urban cities, it is necessary to find solutions for reducing expenses and enhancing competitiveness, hence it would raise their sales in particular and business performance in general.

From the government's perspective, it is essential for the government to find out solutions such as simplifying processes and reducing costs to facilitate SMEs listing in stock market or financing in capital market. Moreover, the government is suggested to remove existing restrictions for investment capital in listed SMEs to increase investment demands. It is necessary to complete the legal framework for access, operation, and withdrawal from the market, to assist the access to finance and credit, and to improve efficiency of using capital for SMEs. Moreover, the government may support technological innovation and application of new technologies in SMEs; develop human resources for SMEs, focusing on improving corporate governance capacity; promote the establishment of industrial clusters and

strengthening the access to land for SMEs; provide information to support SMEs and to expand the market for these firms; construct the systems development aid small and medium-sized enterprises.

Local governments in provinces and cities are advised to facilitate SMEs to have suitable production premises, and to implement land-related policies to encourage the construction of clusters to avoid the relocation of SMEs to the polluting enterprises out of the city, which is costly and destabilizing. Besides, the Government should create a more streamlined regulatory framework for private enterprises, especially SMEs, such as allowing them to use the land-use right for capital contribution with the joint venture organizations and foreign individuals, reducing land-related fees, reducing problems in land lease procedures, etc.

Local governments should have their own support policies for SMEs which invest in disadvantaged areas and rural areas, especially those investing in developing infrastructure. It is vital to construct clusters, industrial parks to create employment for rural workers, which reduces labour migration from rural to urban areas, hence gradually narrowing the gap in living standards between urban and rural areas.

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GREENER DEVELOPMENT BUILDING THE RETAIL COMPETITIVE ELECTRICITY MARKET IN VIETNAM

MA, Vu Ngoc Xuan

springvnh@yahoo.com or xuanvn@neu.edu.vn

Faculty of Economics, National Economics University, Hanoi, Vietnam

Abstract

Vietnam power market is still in a state monopoly (both monopsony and monopoly). On the market, the Vietnam Electricity Group (EVN) has the sole power buyer for thermal power plants, hydro power plants ..., and the seller is only for consumers on the electricity market. Consumers only have a choice to buy electricity sold by EVN. In this article, the author mention green energy and build the retail competitive electricity market based on the experience Vietnam electricity market reform in the countries of the world. In addition, the author estimated the electricity demand quantity based on data from 1995- 2014 and forecasts the electricity demanded quantity form 2015- 2035.

Keywords: *Average expenditure (AE), Demand curve (D), the supply curve (S), marginal revenue (MR), marginal cost (MC), the marginal expenditure (ME), Vietnam Electricity Group (EVN).*

1. Introduction

Although the Vietnam State has issued a number of mechanisms and policies to develop renewable energy, but due to financial resources to support the use of heat, electricity from renewable energy is limited. There are no mechanisms to support external power grid based on renewable energy, lack of investment in the evaluation of potential, build databases and lack of long-term funding for the program. For example, the cost of producing 1 kWh of solar electricity up to 18 cents/kWh, while the cost of coal power, gas power is only 5.1 to 5.2 cents /kWh.

On the other hand, lighting equipment using clean energy investment costs higher than 40% - 60% of equipment investment costs of traditional energy, so many green energy projects, renewable energy still investment is still pending.

Competitive electricity market has been studied in a number of works in the world. In 2001, an empirical analysis was made by Steiner (IUCN) has examined the

impact of regulatory reform retail prices for industrial customers as well as the ratio of prices for industrial and household electricity prices by using panel data for 19 OECD countries over the period 1986-1996. In their study, Steiner made a panel data analysis including electricity prices, the ratio of the power industry, capacity utilization rate and reserve power. Using these variables can help measure Steiner competition and cost effectiveness of reforms, besides, consider some reforms separate factors, including reform of the grid, wholesale from factory hydropower, allowing other companies involved in transmission and electricity market participation of private companies.

Also in 2001, Bacon and Besant-Jones (UK) have tested two hypotheses in research their: 1 - National policy has a positive influence to reform the electricity market; 2 - The country risk negatively correlated with reform. The results support both hypotheses: the coefficient measurement indicators and policy risk factor for clear signs to reform the electricity market. In addition, they found a number of effects in the region, Latin American and Caribbean countries are more likely to reform in the countries of the Middle East and Africa, the ability to implement reforms less.

Five 2003 Ruffin (USA) studied the handling of institutional determinants of competitiveness, and the degree of ownership reform in the electricity market reform. The institutional reform is crucial to create a competitive electricity market, using various measures such as judicial independence, creating conflicts and changing distribution of economic awareness. The study used cross-sectional analysis of an OLS regression model with the number of observations in 75 developed countries and developing countries is the driving force generated by the electricity market reform in the industry 90 years of the twentieth century in most developed countries. Ruffin also use political institutions to explain the reform of the electricity market and the relationship between judicial independence, competition and other proprietary rights is ambiguous (ie, the coefficients are usually insignificant, or when significant signs of change between models). Besides, conflict distribution correlates with a higher degree of monopoly but the relationship between economic competition and private ownership are generally positive. The results also indicated that the relationship between judicial independence and reform. Moreover, economically showed a positive relationship with major reforms.

Hattori and Tsutsui (2004, Japan) has examined the impact of regulatory reform in the electricity price career. Like Steiner, a team of scientists have used panel data for 19 OECD countries, but for the period 1987-1999 and found that the expansion has the ability to lower retail prices for industrial, while the while increasing the price difference between industrial customers and households, and come to the conclusion, Grid reform does not necessarily reduce the price that could

lead to higher prices, reform impact on grid industry prices statistically significant. In addition, they found that the introduction of a wholesale power market will not necessarily reduce the cost, and can actually lead to higher prices, without exception, which is set a wholesale power market have led to a statistically significant higher power prices and can also increase the rate of industrial electricity prices compared to the price of household electricity. Finally, they discovered that a large portion of the privately owned industrial decline but can not alter the price ratio between industrial customers and households. At the same time introduced a wholesale spot market led to higher prices are not consistent with expectations from Steiner.

Pollitt (2009, UK) refers to two other experimental studies and examine the impact of price reforms that later Ernst & Young and Thomas continued research in 2006. In the research report prepared for the Government figures and the Department of Trade and Industry (DTI) of the UK, the scientists from Ernst & Young has used a sample of EU-15 countries and has tried provides some policy implications for gas power with a large number of simple regression. Results show that liberalization reduces costs and improves profitability and free market also increase price volatility, investment and market liberalization helps to provide power quality information reliable and safe

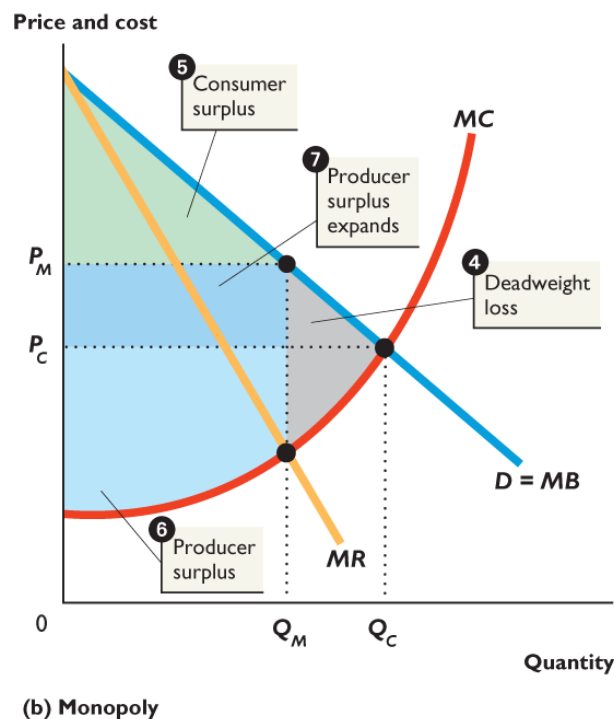


Figure 1: Model monopoly market

(Source: Vu Kim Dung, Pham Van Minh, *Microeconomics textbook, publishers of Labor - Social, 2016*)

Figure 1 depicts monopoly market is characterized by: a multitude of buyers but only one seller in the market, the product has no close substitute goods, imperfect information and obstacle to market entry is extremely large. Currently in our country's electricity market is characterized by monopoly market, the market demand curve D of electric Vietnam represents the slope down to sell more electricity to reduce cost, marginal revenue MR line always lies below demand curve. To maximize profits, the monopolist decides to sell produce at the output when marginal revenue equal to marginal cost, $MR = MC$, so, the monopolist always maintain high prices and low yields to account for consumer surplus. State monopoly creates deadweight loss (DWL) on society. Section lose not only money will disappear by creating a monopoly. In Figure 1, the deadweight loss (DWL - Dead Weight Loss) is the area of the triangle cross section including the deadweight loss of consumer surplus (CS - Consumer Surplus) and the deadweight loss of producer surplus (PS - Producer Surplus.)

2. Method

To investigate consumer market in Vietnam for the power of EVN, the author has detailed investigation of the group surveyed 200 client households and businesses of 100 employees at EVN? Because of privacy issues, the authors do not specifically named individual employees and customers.

The survey results give us many problems need attention and thought. For example, for the question you choose to buy EVN because of corporate brand? 90% of respondents completely disagree. This proves with its monopoly position, EVN did not give consumers feel about your brand values. For the questions, do you think the quality is good and the power of EVN safety, 90% of respondents completely disagree? Thus, for the current consumer product EVN power supply is unsafe, unreliable.

Especially when you answer questions that EVN's current price is too high. Contrary to the wishes of EVN, the customers surveyed were completely agreed with the rate of 90%. One problem is that we think when answering questions EVN unprecedented promotional products for you, and 90% of those surveyed said they have not received any form of promotion, customer care from EVN as birthday gifts, discounts on electricity...

In some customers answer the question 90% said that the power of EVN poor quality and did not meet the diverse needs of customers (guests every household and business customers). In particular, the cutting power of enterprise customers causing

huge losses to their customers but has not had any business being EVN compensation for damage caused by power cuts.

On the service attitude of staff EVN, 80% the respondents in the survey said that the attitude of the staff EVN is 80% in average, 05% said that staff had poor attitude. This result as we promote actions to operate the competitive electricity market restructuring and Vietnam Electricity EVN.

According to the interview expert opinion, (Nguyen Dinh Cung (2015), *seminar on Vietnam's economy in 2014, on 11-2-2015*). Nguyen Dinh Cung, Research Institute of China Economic Management (CIEM) mentioned the importance of the construction market order, currently has a number of misconceptions. In particular, he mentioned the story of EVN's electricity prices. Commenting on the relationship between the Ministry of Industry and Trade, Vietnam Electricity (EVN) and electricity prices, Dr. Nguyen Dinh Cung emphasized issue is not how much the price increase, which is how they raise prices.

As Nguyen Dinh Cung, Ministry of Industry and Trade to defend proposals and plans to raise electricity prices instead of EVN. The Ministry agreed to raise prices to offset losses for businesses. Instead of protecting the interests of consumers, the Ministry of the "catch people suffer exclusive advantage of EVN." "The Ministry can not do that" - he also said.

The way ahead reasonably supposed that the Ministry should review and assess the cost of producing electricity; expert consultation, consultation consumers and stakeholders see EVN's proposal is justified. Thereby, the power to control prices and protect the common interests of consumers rather than protecting the interests of EVN ... "There can be no claims brought challenging and not bargain prices, **EVN bankruptcy and collapse pour electricity**" - Dr. Nguyen Dinh Cung frankly. Talking about the "creative bankruptcy," said Cung said, "Maybe EVN bankruptcy, Vietnam's power sector is a new development, rather than dragging the electricity sector collapse."

In the medium and long term, Dr. Nguyen Dinh Cung EVN proposed split into parts, separate production and distribution to transmission. In particular, the State only monopolizes power transmission. That is where the state should hold the remaining changes to the market to regulate. So many people are producing electricity, then to establish a competitive electricity market as many countries have done

Table 1. Results of customer surveys households and businesses of EVN

A - You feel like How to buy electricity at EVN?

<i>Criterion</i>	<i>Totally Agree</i>	<i>Agree</i>	<i>No opinion</i>	<i>Disagree</i>	<i>Completely disagree</i>
1-Brand EVN				10%	90%
2-Good quality and safety				10%	90%
3-branch network			80%	10%	10%
4-Spacious facilities		10%	50%	20%	20%
5-Style service staff				80%	20%
6-Price electricity far too high	90%	10%			
7-Group unprecedented promotion	90%	10%			

The author investigate about case study of development green energy in HCMC, according to the development plan for the period 2011-2015, electricity HCMC, 2015 the city will have another 2 power plants using waste energy from sources with a total capacity of 40 MW. The expected electricity production plant from trash organic is built in three wholesale markets in Thu Duc and Binh Dien, Hoc Mon. Each day a wholesale market generates about 50 tons of garbage, of which 95% is organic waste, this is the raw material for generating getters.

Estimated investment capital for power projects from garbage USD 3-4 million, in addition to more power, these projects also cost about USD 15 thousand waste collection/month.

B - Power Group meets your requirements extent of these aspects?

<i>Criterion</i>	<i>Good</i>	<i>Fair</i>	<i>No comments</i>	<i>Average</i>	<i>Poor</i>
1-Diversified products to meet customer needs				10%	90%
2-Quality of Service			15%	80%	05%
3-Attitudes serve			10%	10%	80%
4-Time transaction processing			05%	25%	70%

(200 customer surveys)

(Source: Data from the survey of the author)

Table 2. Results of the survey of corporate staff EVN

Your comments about the strengths and weaknesses of EVN in the following aspects

<i>Criteria</i>	<i>Good</i>	<i>Fair</i>	<i>No comments</i>	<i>Average</i>	<i>Poor</i>
1-Systems information technology				85%	15%
2-General level of employees			10%	40%	50%
3-system electric bills and pay				90%	10%
4-Electrical Products				10%	90%
5-Environmentworking				25%	75%
6-Have serve customer needs				30%	70%

(Survey of 100 employees working at EVN)

(Source: Data survey of work author)

3. Results

To estimate the demand function for electricity in Vietnam, we first consider a demand function of any product on the market will have the form:

$$D_x = f(P_x, P_y, I, N, T, E, \dots)$$

Where:

D_x is the demand for goods X

P_x is the price of commodity X

P_y is the price of the goods concerned

I was income of consumers

N is the number of consumer

T is tastes and preferences of consumers

E is the expectation of the consumer.

Of course, here are some basic factors that influence the demand of a specific commodity. In fact there may be some other factors affecting demand that we have not listed as advertised (A), or credit incentives or policies of the government.

In most cases, in order to simplify we often build bridges with linear functions to facilitate the analysis.

Based on the data collected by the authors from various sources have table describes the demand for electricity in Vietnam during the year 1995- 2014 are as follows:

Based on the data table below, the price of electricity is related to crude oil (Pg) or petroleum products. Crude oil is an important input in the gas power plants, in addition to products such as gasoline from crude oil may be substituted for electricity generators to run when a sudden power loss or crash.

The effective monitoring of changes in the world price of crude oil and electricity prices in Vietnam shows that electricity prices in Vietnam did not fluctuate with changes in oil prices during the past 20 years (1995-2014). This is contrary to the usual movements in countries around the world. Evidence for this is to build electricity demand function, resulting in estimated electricity demand is not related to the volatility of crude oil prices in the world and electricity prices, oil prices are not related to each other in Vietnam. This is due to Vietnam's power sector in the last 20 years in the corporate monopoly of power (EVN).

Table 3. The data on electricity demand quantity and factors affected

y	Qe	Pe	I	N	t	CPI	GDP	Pg
1995	14.7	295.2	2.7	71.99	1	16.9	9.5	14
1996	17.1	339.5	2.8	73.4	2	5.6	9.1	18
1997	19.5	383.6	2.9	74.81	3	3.1	8.2	16
1998	21.9	433.5	3.1	76.22	4	8.1	5.8	10
1999	24.3	489.8	3.3	77.63	5	4.1	4.5	12
2000	26.7	553.5	3.4	78.64	6	-1.8	6.79	19
2001	31.78	625.5	3.6	79.02	7	-0.3	6.89	20
2002	36.78	706.8	3.8	80.4	8	4.04	7.08	17
2003	41.78	783.4	3.9	81.77	9	3.01	7.34	25
2004	46.78	790.3	4.2	82.14	10	9.67	7.79	26
2005	53.647	789.1	4.4	83.1	11	8.71	8.44	36
2006	60.623	794.7	4.7	84.2	12	6.57	8.23	38
2007	69.071	860.2	5.4	85.3	13	12.75	8.46	65
2008	76.593	871	5.55	86.12	14	19.87	6.31	90
2009	87.04	970.8	5.6	86.79	15	6.52	5.32	42
2010	100.07	1077	5.8	86.93	16	11.75	6.78	72
2011	108.93	1242	6.2	87.84	17	18.13	5.89	92
2012	120.26	1344	6.5	88.78	18	6.81	5.03	100
2013	125.06	1364	6.8	89.71	19	6.04	5.42	95
2014	145	1509	7.2	90.5	20	4.09	5.93	98

(Source: authors synthesized based on data from EVN and GSO)

Where:

Qe: electricity demand in Vietnam (billion kWh)

Pe: average price (VND / kWh)

t: time

y: years

I: income in purchasing power parity (million VND / person / month)

CPI: Consumer price index (% / year)

Pg: the average crude oil price (US \$ / barrel)

N: the Vietnamese population (million people)

GDP: Growth rate (%)

Since there is no link between the world price of crude oil and electricity prices in Vietnam, the construction of the electricity demand functions, variables Pg author removal from the analysis. Electricity customers in Vietnam no choice but to buy electricity directly from EVN should also remove variables author preferences (T) and E (expectation) in the construction of electricity demand functions in Vietnam Nam.

In summary, the authors build on electricity demand functions in Vietnam based on the following:

$$Q_e = f(P_e, I, N, t \dots)$$

Use of regressions in Excel, with a confidence level of 95 % we obtain the estimated results in the following table 4:

Based on the P-value in the table above or t-stat we find the coefficient calculation can be tested with a confidence level of 95% and are statistically significant.

Results of calculation give us something to think, the relationship between the average price and demand for electricity in Vietnam have proportional relationship. That is the price of electricity in Vietnam increased steadily during the past 20 years with the growth in electricity demand and steady growth of the economy. This is contrary to the law of demand in the market economy. This result reflects the Vietnamese power sector during the recent period is expressed exclusively. The electricity sector in Vietnam is now the sole monopoly sector remains high, monopoly power of EVN is now very large. If this does not change breakthrough, EVN will continue to increase along with the increase in electricity prices for electricity demand in Vietnam over the years.

Table 4. Results of estimating demand functions using Excel

SUMMARY OUTPUT

Regression Statistics

Multiple R	0.99792
R Square	0.995844
Adjusted R Square	0.994735
Standard Error	2.949191
observations	20

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F-significance</i>	<i>F</i>
Regression	4	31259.49	7814.872	898.4961	1.17E-17
Residual	15	130.4659	8.697725		
Total	19	31389.95			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>of 95% Lower</i>	<i>Upper 95%</i>
Intercept	469.5385	126.0478	3.725082	0.002032	200.8739	738.203
Pe	0.037142	0.01076	3.451895	0.003558	0.014208	0.060076
I	19.39926	4.336234	4.473758	0.000446	10.1568	28.64172
N	-7.25787	1.643835	-4.41521	0.000501	-10.7616	-3.75412
t	6.636811	2.648042	2.506309	0.024202	0.992643	12.28098

The above calculation results we determine the demand for electricity in Vietnam in recent years as follows:

$$Q_e = 469,5 + 19,4I - 7,258N + 0,037Pe + 6,637t$$

Based on the demand function for electricity in Vietnam has built, we see power mean extremely important in the economic development of the country. We need to look into the facts is needed quickly to liberalize the electricity sector. The abolition of monopolies will contribute to the growth of the economy.

The authors predicted that the demand for electricity in Vietnam based on the recently constructed bridge function above. Under the assumption of power by the government price regulation and will increase an average of 5% in the next 20 years since 2015, the average income per capita will increase an average of 400 thousand VND / person / month for 20 years and the Vietnamese population will increase 500 thousand / year. We will calculate the amount of demand for electricity in the table below:

Table 5. Forecast of demand for electricity in Vietnam since 2015- 2034

y	Qe	Pe	I	N	t
2015	156.017	1622.1	7.6	91	21
2016	169.794	1703.2	8	91.5	22
2017	183.721	1788.3	8.4	92	23
2018	197.807	1877.7	8.8	92.5	24
2019	212.058	1971.6	9.2	93	25
2020	226.483	2070.2	9.6	93.5	26
2021	241.091	2173.7	10	94	27
2022	255.892	2282.4	10.4	94.5	28
2023	270.893	2396.5	10.8	95	29
2024	286.107	2516.3	11.2	95.5	30
2025	301.543	2642.1	11.6	96	31
2026	317.212	2774.3	12	96.5	32
2027	333.126	2913.0	12.4	97	33
2028	349.298	3058.6	12.8	97.5	34
2029	365.739	3211.5	13.2	98	35
2030	382.465	3372.1	13.6	98.5	36
2031	399.488	3540.7	14	99	37
2032	416.824	3717.8	14.4	99.5	38
2033	434.489	3903.7	14.8	100	39
2034	452.498	4098.8	15.2	100.5	40

(Source: Author's calculation based on electricity demand functions Vietnam)

4. Discussion and Conclusion

EVN owns the majority of the capacity of the power supply, hold the entire electricity transmission, distribution and electricity retail business. Corporation EVN power purchase power purchase from other than EVN power plants as Vietnam Oil and Gas Group (PVN), Industry Group Vietnam Coal and Minerals (Vinacomin), the private power companies and ... to deliver electricity to retail electricity consumers . According to the Bureau of Electricity, by the end of 2010, the total capacity of the system power is 21,542 MW. Of which, EVN 's management and operation of 24 power plants with a total capacity of 14,233 MW (accounting for 66.07 %), PVN is 2,278 MW (accounting for 10.57 %), TKV is 1,046 MW (accounting for 4.86 %), foreign investors are 2,115 MW (accounting for 9.82 %), private investors is 500 MW (accounting for 2.32 %), 1,000 MW from imported (accounting for 4.64 %), the other type is 370 MW (accounting for 1.72 %). Through the data showed, EVN holds majority power generators, components such as the PVN, TKV very small proportion of the electricity market in our country no signs of competitive power generation business of selling electricity and poison established. We can say, so far EVN remains the only business monopoly power in the country, and so we do not have any competition in any activity in the stages of the power sector.

From 1/7/2012, competitive electricity market was formed in Vietnam; the power plants have to compete to sell electricity to total electricity trading company EVN - country. It is this creation of a monopoly purchase EVN power plants without EVN very difficult to compete with the best price to sell electricity to EVN. This has hindered the attraction of foreign investment and privatization in the electricity production. So if electricity production is not sold or sold at extremely low prices, the investors will not invest in the construction of thermal power plants, hydro power ... The total power purchase company EVN countries still will not encourage investment in the development of electricity production, besides EVN projects delayed repeatedly led to the current schedule of Vietnam is the country still lack electricity and to purchase power from China for the high. Although, current electricity prices by government regulators but EVN continuous losses and electricity prices. The problem is due to monopoly should not be a mechanism to control the cost of EVN's electricity production in a reasonable manner.

Table 1 indicates the current electricity price in Vietnam compared with 5 national economy developments. If the comparison is based on nominal prices, the price of electricity in Vietnam from 1995 to the present world average. However, a paradox that countries with competitive electricity market, electricity price the industry has always cheaper than household electricity from 20-100 %. While in Vietnam due to the market monopoly, industrial electricity prices are 20-90 % higher

than electricity from households. This is due to the monopoly of EVN in all stages of production, transmission and distribution. One thing to note is Vietnam's only a per capita income of about U.S. \$ 1,950/year, so if calculated according to purchasing power parity, the current electricity price in Vietnam 10-20 times higher than the water developing economies. .

Table 6. Electricity prices in five OECD countries and Vietnam in 1995 and 2014.

	Price(USD/kwh)				Price to PPP (USD/kwh)			
	1995		2014		1995		2014	
	Industr y	Famil y	Industr y	Famil y	Industr y	Famil y	Industr y	Famil y
America	0,05	0,08	0,05	0,09	0,05	0,08	0,05	0,09
England	0,07	0,13	0,07	0,12	0,07	0,13	0,05	0,11
France	0,06	0,17	0,04	0,13	0,05	0,13	0,04	0,12
German y	0,1	0,20	0,07	0,10	0,10	0,20	0,06	0,09
Japan	0,19	0,27	0,12	0,19	0,10	0,14	0,10	0,15
Viet nam	0,07	0,05	0,12	0,07	0,70	0,50	1,20	0,70

(Source: according to survey data of the World Bank, 2014)

Recently, manufacturing operations - EVN's business efficiency low, rising debt, not transparent and not create trust with customers, especially when the proposed electricity price increases. One of the causes of this situation is due to the slow development of a competitive electricity market which is why direct state monopoly in electricity trading takes place in a long time.

Development of a competitive electricity market development trend of the countries in the world, producing propulsion - power business activities and promote effective economic development - social. According to the Electricity Regulatory implementation roadmap electricity market, the Government considered the establishment and development of a competitive electricity market is long -term development strategy of Vietnam's power industry, this was reflected in the Law electricity 2004. Prime Minister roadmap and conditions of formation and development of the electricity market according to 3 levels: competitive electricity market (period 2005-2014); competitive wholesale market (period 2014 - 2022); competitive retail market (the period after 2022).

Competitive electricity market: the first level of competitive electricity markets. In this stage, the only stage of competition in electricity generation, there is no competition in wholesalers and retailers of electricity. Customers use phones without opportunity to choose their electricity units sold. The generator units will compete to sell electricity to a single unit wholesale purchase (purchase electricity company EVN) on the spot market and over the long-term power purchase agreement. Electricity Regulatory annual rate specified output power purchases and electricity contracts traded on the market.

Wholesale electricity market competition: the formation of new units to enhance wholesale competition in the stage of purchasing power. Large customers and distribution companies are entitled to purchase electricity directly from the power generation units through the market or from the wholesale unit. Unit competitive wholesale electricity purchased from the electric generator units and sells electricity to competing distributors and customers. There is no competition in the electricity retail level; customers do not have the right to use a small selection of power supply units.

Retail electricity market competition: the competition takes place in 3 phases: power generation, wholesale and retail electricity. Customers across the country were selected for their electricity unit sales (retail power unit) or purchase electricity directly from the market. The unit also competitive retail electric power purchased from the wholesale unit, the generator unit or from the market for retail electricity customers. Competitive electricity market in 2014, moved to level 2 competitive wholesale market (2015-2022) and after 2022 will perform competitive retail market.

The formation and development of the electricity market with 3 levels is necessary. Successful implementation roadmap electricity market, launched a competitive electricity market will create positive change in electricity activities in Vietnam, enhance transparency and efficiency in production - electrical business, lower production costs as a basis decreased electricity prices. Development of a competitive electricity market is the inevitable trend of the market economy, bringing mutual benefits to both providers and consumers of electricity.

Roadmap to form a competitive electricity market has been approved need a long time too. Currently our economic growth is unstable, potentially facing middle-income trap, so you need to strengthen the economy by shortening this route. Basic Solution in promoting competitive electricity market is experiential learning formed a competitive electricity market in the country, quickly formed early competitive electricity market in our country. With the advantage of economies of scale hydro power plants, thermal power and nuclear power is coming, accelerating the formation of a competitive electricity market contributes to lower the cost of electricity generated

Cheap cost of inputs for the manufacturing sector , thereby promoting exports , creating competitive advantage in the global value chain.

During this time, the inevitable operation of the electricity market to competition but to have a competitive electricity market, government should boldly split electricity transmission and trading of electricity from EVN. Meanwhile, EVN will participate in the market as a generator, and other sources of equal bids, the competition to get a competitive electricity prices. Meanwhile, the situation will not always coal hole now though electricity prices have increased every year (the nature of monopolies are always looking for ways to maintain low production , high prices to account for consumer surplus) , the consumer will not receive the message electricity prices , but do not understand why the power sector has holes . Obviously when competitive electricity market, electricity customers will benefit substantially and investors will not fall into that plant is still operating, electricity is still generated, but not selling the entire the capacity of the grid because they can not compete with the EVN's monopoly power. The abandonment of the electricity market models exclusive 100 % completed and is very successful as the model in the Nordic countries, the UK, Germany, France, North America ... Obviously abolish monopoly market power has become a global trend. These countries are still in the process of electricity market reform as the country can learn a lot of lessons learned from the market to compete successfully implemented in these countries. Vietnam should also conduct electricity sector restructuring, effective utilization of the financial support and technical expertise of ADB. Through both theory and practice have shown the restructuring of the electricity sector will bring many benefits, such as power system stability, reliability and improved electrical connections, contributing to the lives of people population.

In the coming time, Vietnam should apply various measures, such as taxing the use of fossil energy. Vietnam should encourage the private sector to apply the research methods and application of new technologies, green technologies to be able to use renewable more. We have to measure whether they use how much water, how much electricity and taxation of households use more than necessary.

Vietnam should also pay close attention to raising awareness for people to use more green energy. Although cognitive processes are not easy, not about overnight, but gradually the consciousness towards green development, sustainable development, I believe that Vietnam will do.

With these measures, the hope after 30 years, Vietnam will implement the objective of reducing energy dependence on coal, and gas.

To economies comprehensive integration, the promotion of a competitive electricity market in our country need more quickly in a time as short as possible. The repeal outdated regulations applicable to industries considered important also help attract private investors and foreign investors to build power plants (hydro, thermal, electric and gas...) to establish a competitive electricity market in the future real.

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**FACTORS AFFECTING STAFF' TURNOVER INTENTION- CASE
STUDY AT RESEARCH AND TRAINING FOR DEVELOPMENT
CONSULTANCY., JSC**

Dr. Nguyen Thi Hong Ha

nhha.hra@gmail.com

Aden Service, Hanoi, Vietnam

Dr. Le Thuy Huong

huong13p@gmail.com

Faculty of Business Administration, Hanoi University of Industry, Hanoi, Vietnam

Dr. Cao Thi Thanh: caothanhdhcn@gmail.com

Faculty of Business Administration, Hanoi University of Industry, Hanoi, Vietnam

Abstract

In the context of international economic integration, there are more and more job opportunities for workers, which leads to the instability of labor forces in the organization. Uncertainty on the labor force leads to serious economic consequences for every business, it directly affects the quality of service and turnover of the business eventually. In order to keep sustainable development for enterprises, business's leaders concern about how to attract and retain their employees, minimize their turnover intention. This article refers to the factors affecting staff' turnover intention at Research & Training for Development Consultancy.,JSC. (Hereinafter called as RTD Consult) - A small and medium enterprise in service sector in Hanoi. Through analysis, the authors also suggest a few solutions to help business's leaders to get better insight into the views of staff' organizational commitment and how to minimize their turnover intention so that they may have appropriate solutions to retain their employees.

Key words: *organizational commitment, staff, turnover intention*

1. Introduction

An organization's success or failure hinges upon the availability or sustainability of human forces at right time and right place. Therefore, how to maintain staffing stability in any organization is hallmark of the management. Long-term relationship of employees with the organization not only ensures sustainability of the organization culture but also helps in controlling organization's expenses on frequent recruitment, selection and training of employee on one hand and provides sign of motivation at workplace on the other hand. It is showed that many organizations failed due to their poor management of human resources and many other succeeded due to their good human resources management. The poor management of human resources will cause to employee's turnover intentions. High turnover brings destruction to the organization in the form of direct and indirect cost. Therefore, how to manage that, how to minimize staff's turnover intention is the big questions.

In the framework of this articles, the authors mentioned on:

- Factors affecting staff's turnover intentions;
- Solutions to minimize staff's turnover intention then retain them at the organization.

Research approach: deep interview was organized to identify the factors affecting staff's turnover intention at RTD Consult.

Article's structure: there are 4 Parts in which Part 1 mentions about the literature review on turnover intention; Part 2 refers to Research Methodology, Part 3 says about Research results; Part 4 talks about Solutions and Recommendations.

2. Literature review

Turnover intention may be defined as the intention of employees to quit their organization. Price (1977) has defined "turnover" as the ratio of the number of organizational members who have left during the period being considered divided by the average number of people in that organization during the period. There are two types of turnover, voluntary and involuntary. Involuntary turnover refers to the case when an employee does not want to quit and s/he is given the sack (e.g. retirement by force, layoffs etc.). Voluntary turnover refers to the case when the organization does not want an employee to quit and s/he does. Voluntary turnover may be due to unpleasant working environment, poor salary and benefits, poor working relationship with leaders/managers or due to unsatisfied job, etc. In this research, we refer to voluntary turnover.

Initial research on turnover intention confirmed that one employee leaves the organization voluntarily due to themselves, their leadership and business working environment (Leckie, Betcherman & Newton, 1981). March and Simon (quoted by Lee & Mitchell, 1994) identified turnover intention was an employee's awareness on any change. Campion (1991) defined turnover intention is "motivated behavior of an individual". Turnover intention is identified as a signal of turnover (Mobley et al, 1978, Tett & Meyer, 1993). It is confirmed that factors relating to turnover intention are considered as an effective strategy in minimize actual turnover action (Maertz & Campion, 1998). Turnover intention was identified as a mediator factor affecting turnover intention and actual turnover in an organization (Glissmeyer, Bishop, & Fass 2008).

The authors state that turnover intention is planning and motivated action of an individual in selecting their job. The signal of this action is identified by their behavior to their jobs, organizational commitment at their workplace.

In the world, there are many researches on this topic in many fields. For examples, in health sector, Shen et al (2004) studied on literature review on factors affecting turnover and retaining – midwives' and consultants; Somayeh (2011) studied in education field: "Human resources policies' impact on turnover intention of teachers – Iran case" or the other research on "Leadership styles related to turnover intention in informative technology field: testing in China" (Hsu (2003) etc. There are another research on turnover intention at public sector such as "Impact of job satisfaction and replacement opportunity with turnover intention – exploration study in public sector in Taiwan of Ing-San Hwang et al (2011) and Benjamin (2010) with the research in private sector, it was "Exploration study on turnover intention with employees at private sector".

In Việt Nam, it seems that there are rarely on turnover intention on service sector at SMEs. In Government sector, there is a research of Võ Quốc Hưng and Cao Hào Thi (2009) that mentioned on "Factors affecting turnover intention of Government officers". In business sector, there is Do Phú Trần Tình et al (2012) who studied on "Analyzing factors affecting on long-term commitment of young employees"; besides, Phạm Thị Oanh (2012) studied on "Behavior and organizational commitment of staff at Petrovietnam" in which she mentioned on behavior and organizational commitment only. Trần Thị Trúc Linh (2007) studied on "Factors affecting turnover intention at TMA – informatics company belong to Technical University in HCMC".

Therefore, the authors decided to study on turnover intention on RTD Consult in order to identify which factors affecting the employee's turnover intention.

3. Research Methodology

The authors used qualitative research methodology in this study. We conducted the research in September 2016 at RTD Consults. We conducted semi-structure depth interview. We approached to interview different employees in different positions in the organization. In details, we interviewed 8 persons among there were 2 persons in sales, 2 in accounting, 4 in consultancy. Each interview lasted at least 30 minutes, normally 45 minutes till 1 hour. We used open question. Beginning at each interview was greeting and chatting on family, general questions on the year they joined company, the distance from their house to the company and so on. After that we identified key information on their commitment to the organization and any plan to leave the company, which factor they often think when they want to leave the company or which reason lead them staying with the organization. By this method, we identified deeply on employee's perspectives on their organizational commitments and turnover intention, we explored maximum information we needed on the topic. Besides, we also used primary data from the company (such as human resources management policy, labor regulation...) and based on what we observed in their daily activities. We also observed news board in the organization to see what happened during last time, what they acted on their activities... Those key information were really useful for our research.

4. Results

RTD Consult is a SME in the service sector in Hanoi. This is a company operating in the field of consulting managementsocial development project implementation in Vietnam. The strategic objective of the company in the coming years is to become one of the first choice for capacity building, training, management consulting, and research. Together with its partners, RTD Consult will contribute to improve and enhance the value of life for community development through counseling, training, and application of research findings, assessed on the policy makers, strategy developers for implementing priority activities to meet the needs of organizations and enterprises. At the time of the study, the company has 41 staff, fifteen men and 26 women.

Hereinafter are some key findings from our research:

There are organizational factors affecting staff's turnover intention: leadership styles, job satisfaction, working environment.

- Leadership styles affecting staff's turnover intention negatively

Almost of interviewed staff answered that they stayed with RTD Consult because of their leader. They have the same approach. It is really important at consulting field because it will facilitate their work and help them to make right

decision timely. The first reason staff here mentioned when talking about why they stay with the organization and want to contribute as much as they can it is leadership. Ms. Pham Thanh Van, leading consultant said: “I love to work here because I have the same perspective with the leader here. She trusts me entirely. I have a room in making decision at work. I am empowered and freedom to deal with our partners at site. It facilitates me a lot and makes me work more effectively”. Mr. Hoàng Ngọc Dũng – an expert in management consulting also have the same opinion, saying that “I am proactive at work, my leader trust me on everything I made. I never think about any plan to leave here because I love to be proactive at work that I think it helps my work more effectively!”

Through all interviews, almost of people said that they did not have any plan to leave this company in next 3 years because they already had a very good relationship with the leader here. They feel empowered and proactive at work. Everyone has private “room” in making decision and have responsibilities with their actions. Staff feel respected and comfortable at work in RTD Consult. This really impacts to their commitment and they do not have any turnover intention to the organization. It also obviously displays on their policy of empowerment and in human resource management. In RTD Consult, they have the policy states that each position has different level in decision making. They also have the authorization decisions regularly or often or consistantly. It is so clear in their policy in term of empowerment/authorization. Therefore, the staff gets familiar to their roles/functions and they know clearly how they can do effectively in their rights. More importantly, the leader here also knew how to inspire their staff. She transformed the company development strategy on monthly meeting and she wanted every manager must be aware to share with their subordinates as well. Staff fully understand about the company’s development directions and see their career development myth in which. It was really important and helped staff more committed to the company where they contributed their efforts and time.

- Job satisfaction impacts to the employee’s turnover intention negatively

Through our observe and interview, majority of interviewed persons said they feel satisfied with their jobs at RTD Consult. The fact showed that if they did not match with their jobs, they could not perform effectively and eventhough they could not work any more because this is consultancy field. Almost of them said they had passion at work and they felt love to their careers here. They always felt proud of their work because it was really useful to the society. Mr. Hoang Van Quyet shared that he could work with the way he liked. More importantly, their career development quite matched with the development direction of the company. Ms. Bui Hong Quyen said she quite felt satisfied with her work because it brought special meaning in the

life. “Whenever I visited project sites, whenever I saw HIV infected children, I feel I must try more and more to support them as much as I can. I feel every project activity and every job we acted helped the victims here a lot and I think it is really meaningful. I do not care about living far from home to be at the site frequently so that I can support the children here”. She added more “I love my work here, I feel I have responsibility with the company. Moreover, my personal characteristics also quite suitable with the work requirement here. I feel satisfied. Without the love with the job, I must say that I can not “stay” here in a long time because you may see there are many difficulties in project sites, almost is in remote and rural areas. Living conditions are really poor”. No one among interviewed staff dissatisfied with their jobs. No one mentioned to another job replacement when the authors suggested to. They said they did not think about that.

- Working environment affects turnover intention negatively

Majority of staff who were interviewed said that they stayed with the organization because they found a comfortable working environment at RTD Consult. As mentioned as above, staff was empowered and proactive at work, they had flexibility and had a ‘room’ in making decision at workplace. Besides, RTD Consult always encourages a flexible working environment for their employees. RTD Consult does not care about their staff must be at work right 8 o’clock in the morning or leave the company at 5 PM. Staff may be proactive making their working schedules with their partners but they must log in on the public and shared calendars so that everyone knows where they were. Ms. Bui Phuong Anh said “I do not like to be forced in a track, I prefer to have reactivity at my work. Eventually, I ensure effectiveness at work, it is ok”. When the authors mentioned about any job opportunities offered with higher salary and better working environment, no one among interviewed staff agreed to trade off with the jobs here. This fact showed that they really committed with their work and no intention to leave at all.

RTD Consult is not fancy working conditions. However, they equipped their employees fully tools at work. Every staff has laptops and mobile allowance at work. The leader here creates not only pleasant working environment but also appropriate and equipped tools to their employees that made employee satisfied. It is the reason why staff want to stay here with their organization.

5. Discussion and Conclusions

Leadership, working environment and job satisfaction negatively affect staff’s turnover intention at RTD Consult. Such as intangible factors and not really costly at all but it required much efforts from the leaders of the company. Not only almost leaders fully aware about these factors.

Salary is not decisive factor affecting staff's turnover intention at RTD Consult. Staff preferred to be respected and working at flexible working environment than being paid with higher salary. More importantly, they feel satisfied with the conditions given by the company and the job they perform that lead them to stay with the company.

When staff committ with the organization, they do not have any plan to leave the organization. Eventhough, they feel more responsible to their work and should contribute more to the organization as they can because they feel satisfied with their jobs, their jobs bring real meaning to the society. They think they have their obligation to stay with the organization.

- Solutions and recommendations

Firstly, the company's leaders should transform the company's clear vision and development strategy to their staff. Staff should know so that they may see their career development in overall development strategy of the company. Almost staff want to have a transformative leader who can share the same views and perspectives. The leader should empower their staff and have a trust on them. This is reason why staff feel respected, proactive at workplace. It also is the key factor leading them stay with the organization.

Enterprises need to create a working environment where employees are feel respected and most comfortable to contributing their capabilities; where employees can actively work by their judgment of their within their power. A healthy and friendly working environment in which every employee is treated with respect, they always feel that s/he is a member of the company; they will be responsible for contributing to the development of such enterprises. That is the way to strengthen commitment of staff and minimize their turnover intention. Employees stay with the organization because they are engaged, are pursuing what they are passionate about, be challenged by the work. Besides, a healthy and professional working environment is a place where the employees are recognized fairly and transparently. If so, the employee will have more engagement to the organization and no intention to leave because they already found out the comfortability in such organization and they thought that all thing they contributed to the organization were worthy.

More importantly, staff should be satisfied with their jobs. From the recruitment and selection process, the company should consider carefully about the fit between person and organization. If it is a good fit, staff will feel more comfortable at work and contribute more effectively to the organization. Staff feel be developed at work and find out the meaning at their work that lead them satisfied with. Therefore, only there is a satisfaction with the job, staff will committ more to the organization and reject any plan or intention to leave the organization. How to put

right person in right place is also making staff more satisfied with their jobs. They will work by their actual competencies but not extra their capacities. They will perform better on what they really understand and know how to do. They will feel more confident to work. And they will engage and contribute more to the organization and vice versa.

In conclusion, in any organization, labor force plays an important role in any failure and success. In order to strengthen staff commitment and minimize their turnover intention, the business must find out appropriate solutions in their conditions. With SME in service sector like RTD Consult, when their resources are limited, high salary is not applicable factor to retain their employee. Instead of investing on creating a healthy and flexible working environment is more important. A workplace may encourage employee to contribute with their best efforts. Moreover, a workplace where their leader know to inspire their staff, show clear vision and match the individual career development with the company's development strategy that make staff more committed to the organization. Staff feel satisfied with their job, they find out the good match on the value and trust with the organization. They are key and decisive factors affecting staff's turnover intention.

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RESEARCH ON IMPULSIVE BUYING BEHAVIOR OF STUDENTS FOR FASHION PRODUCTS IN HANOI

Dr. Cao Thi Thanh

caothanhdhcn@gmail

Faculty of Business Administration, Hanoi University of Industry, Hanoi, Vietnam

Abstract

The study focuses on factors affecting the impulse buying behavior of students in the urban area of Hanoi for fashion products. To do this, the author uses a quantitative research method with a sample of 200 students from different universities in the inner city of Hanoi. The results show that gender, modern-self, and shopping enjoyment tendency have a positive effect on the impulse buying trend of students in inner Hanoi. Based on the research results, the study also introduces some implications for student fashion business.

Keywords: *Fashion product, impulse buying behavior, modern-self, shopping enjoyment tendency, student.*

1. Introduction

In the area of consumer behavior, an impulsive buying behavior is considered to be an important and completely common phenomenon. The impulsive buying behavior is an unplanned, unintended procurement of consumers, an arising need for procurements from the impact of special circumstances at a particular point in time, a buying behavior done in the blink of an eye. There are a lot of researches on the impulsive buying behavior around the world due to important influences and popularity of this topic.

There are a lot of researches using variables to research the impulsive buying behavior and build a theoretical foundation for it and related issues. According to the

researches by Sherhorn, Reisch and Raab (1990), there is a relationship between types of products and the impulsive purchasing. Impulsive consumers usually buy certain types of products which are called impulsive products. New products are more likely to inspire consumers to make impulsive buying than older products, and fashion items such as clothes, jewelry, cosmetics, etc. have a higher probability of impulsive buying than other items.

As can be clearly seen from an overview of the documents, that fashion items are very easy to stimulate consumers' buying behavior based on their inspiration. Fashion is the psychological and emotional sensation, which has a great influence on consumer behavior. As can be shown from the researches of Park, Kim and Fomey (2006), in fashion direction, positive and fashion-related variables play a role in promoting impulsive shopping behavior, while consumption tendency is a significantly important regulatory variable. Lan and Chant-Chin (2004) conducted an in-depth research of fashion consumers and found that most fashion consumers are improvisational, easily excited, fond of wildness, show clear personality traits, follow liberalism and always pioneer in fashion trends.

In the context of international economic integration today, Vietnamese consumers have access to modern retailing methods such as retailing through social networking sites such as facebook, instagram, zalo, etc. Impulsive buying behavior of Vietnamese consumers is getting more and more popular, especially for students in big cities. Therefore, Vietnam becomes an exciting context for any research on the impulsive buying behavior of students. This paper focuses on the impulsive buying behavior of students in Hanoi city with respect to the fashion items in order to discover factors that influence their buying behavior with fashion items, accessories, cosmetics, food, etc.

2. Theoretical overview and research model

2.1. Theoretical overview

Concept of impulsive buying behavior

In the early days of researching on the impulsive buying behavior, scholars often unify impulsive buying with unplanned buying in a simply manner. Rook's (1987) research created a turning point in the field of impulsive buying behavior through the summarization of past concepts of impulsive buying behavior and the introduction of a new definition of such behavior.

According to Rook, the impulsive buying behavior happens "*when consumers experience a sense of urgency, which is urgent to buy something immediately. This impulsive acquisition improves an emotional complexity and can create certain*

contradictions in the mindset of consumers. Moreover, when the impulsive buying occurs, the consumers tend to be less interested in the consequences of their buying"(P. 191).

Based on the previous definitions, it is possible to summarize the characteristics of impulsive buying behavior as follows:

1) The decision on impulsive buying behavior takes place quite fast (Rook, 1987; Rook and Hoch, 1985),

2) Impulsive buying behavior is associated with the emotional development of the buyer; more emotional nature than rational nature (Rook, 1987),

3) Impulsive buying does not involve buying a product for a given purpose, such as buying a birthday present for a friend (Beatty and Ferrell, 1998).

Thus, the impulsive buying behavior differs from the unplanned buying behavior and also differs from compulsive buying behavior (Flight et al., 2012).

Factors affecting an impulsive buying behavior

There are a lot of researches around the world to understand the factors that influence the impulse buying behavior. Factors influencing the impulsive buying behavior were found to include demographic variables (age, gender, income) in Nguyen Thi Tuyet Mai et al. (2003), Bellnger et al. (1978); individual differences: personality and adaptability in the research by Kacen and Lee (2002); individualism in the research by Nguyen Thi Tuyet Mai et al. (2003); materialism in the research by Dittmar (2005), Dittmar et al. (2006); enjoyment experiences (psychological states, shopping pleasure) and contextual variables (leisure time, money) in the research by Beatty and Ferrell (1998), Wells et al. (2011), Herabadi (2009), Flight et al. (2012), self - concept, shopping preferences in the work of Nguyen Thi Tuyet Mai et al. (2013) to research the impulsive shopping behavior and build a theoretical foundation for it and related issues.

Although many previous researches in the world have studied the impulse buying behavior; however, these researches are mostly concentrated in developed countries. This interesting and important buying behavior research seems to be limited in Vietnam. In addition to this, the researchers have previously focused on people who are already employed or married. Thus, this research will focus on a number of factors that influence the students' impulse buying behavior on an impulse product as fashion items to fill the gaps left from previous researches.

2.2. Research model and hypotheses

Based on a review of previous researches, the author proposes a theoretical model to test the effect of several factors that show individual differences in the

students' buying behavior. These factors include demographic factors, self-concept, and shopping enjoyment tendency of the students. Demographic factors are the very first factors, including gender, income, academic performance, academic background, and academic year, to reflect students' characteristics. These variables are derived from Nguyen Thi Tuyet Mai et al. (2003) and Bellnger et al. (1978). Such factors are followed by self-concept and shopping enjoyment tendency inherited from the research by Nguyen Thi Tuyet Mai et al. (2013). The research model is shown below:

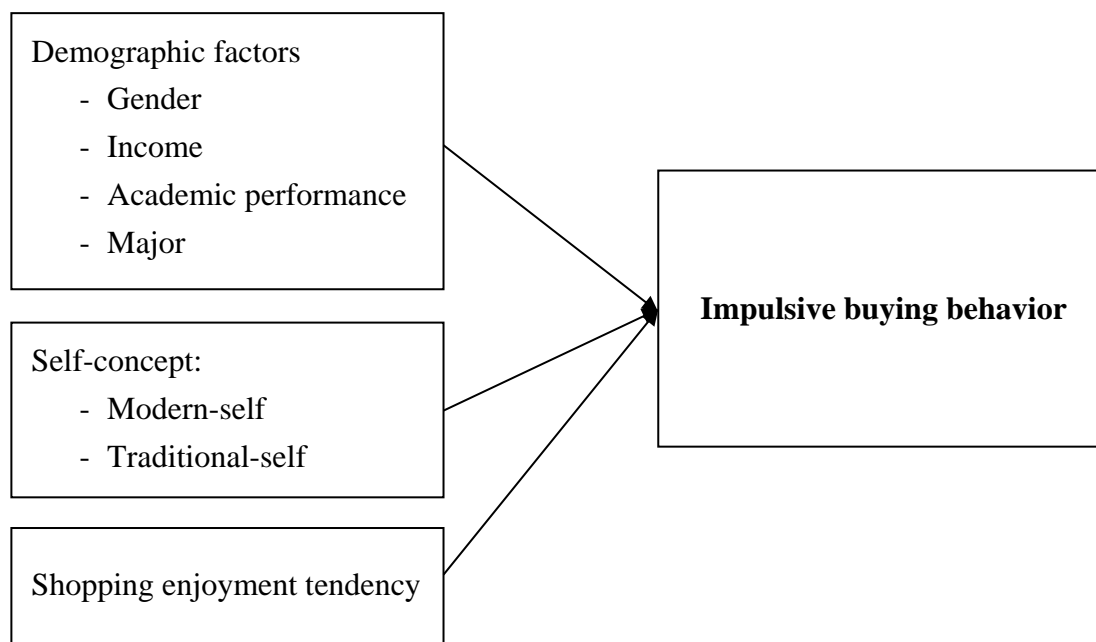


Figure 1: Research model

3. Method

Scale of variables in the model

- Dependent variable:

In the research model, a dependent variable or focus variable is the impulse buying behavior.

Impulse buying:

In this research, two impulsive buying behavior scales developed from previous researches are used.

The very first scale is *frequency of impulse buying* taken from the research of Kacen and Lee (2002) with two indicators. The frequency of impulse buying is shown through the frequency of spontaneous buying. The scale derived from the research of Kacen and Lee (2002) is translated twice into Vietnamese to ensure the author's intentions and consistency with Vietnamese style. The subjects surveyed were required to estimate their frequency of impulsive buying with fashion items. Frequency of impulsive buying is measured with a 5-point Likert scale, in which 1 = never, to 5 = very frequently

The second scale is *impulse shopping enjoyment tendency* taken from the research by Weun et al. (1998) with five indicators. The scale derived from the research of Weun et al. (1998) is translated twice into Vietnamese to ensure the author's intentions and consistency with Vietnamese style. It was included in the

questionnaire with a 5-point Likert scale, with 1 = strongly disagree, 2 = disagree, 3 = normal, 4 = agree, 5 = strongly agree.

- Independent variables

In the research model, independent variables or explanatory variables are demographic factors including gender, income, academic performance, majors, academic years and self-concept, shopping enjoyment tendency

Gender: male, female.

Income: Because the research subject is students, the income is reflected in the situation whether they work part-time and earn income or not.

Academic performance Academic performance is measured by the cumulative GPA of students who study at some universities in Hanoi. The academic performance is divided into four levels: Average, good, very good, and excellent.

Academic year: Which year the student is

Majors of students of some universities in Hanoi include Business Administration - Finance and banking, Accounting, Mechanical Engineering Technology, Automotive Engineering Technology, Electrical, Electronics, Computer science, Chemical Technology, Tourism, English, Vietnamese Studies, Fashion Design.

Self-concept

According to the research by Nguyen et al. (2013), there are two self-concepts, including the self-concept of a modern man (Modern-self) and the self-concept of a traditional man (Traditional-self). This research uses the scale "*Self-concept*" from Nguyen et al. (2013) developed in the context of transition economies in Asia such as China and Vietnam. Specifically, these aspects are defined as follows:

Modern-self: Modern-self is the extent to which an individual feels himself associated with modern elements found in a country experiencing a transitional economy (new norms, values and beliefs are derived primarily from developed countries due to economic transition and globalization. In other words, these norms, values and beliefs are primarily related to "consumer culture".

Traditional-self: Traditional-self is the extent to which an individual feels himself associated with traditional elements found in a country experiencing a transitional economy (the norms, values and beliefs are attached to the past before economic transition). In other words, these norms, values and beliefs are related to traditional culture.

The former self-concept is measured by five indicators. The latter self-concept is measured by five indicators. The self-concept is translated twice into Vietnamese to ensure the author's intentions and consistency with Vietnamese style. It was included in the questionnaire with a 5-point Likert scale, in which 1 = strongly disagree, 2 = disagree, 3 = normal, 4 = agree, 5 = strongly agree.

Shopping enjoyment tendency

Shopping enjoyment tendency is defined as the satisfaction a person acquired during the shopping process (Betty and Ferrell, 1998).

It is referred to as a fun, enjoyable activity, leading to a "happy" feeling for consumers (Jin and Sternquist, 2004). It can be considered as an individual difference variable, referring to consumer trends as shopping for pleasure (Shamdasami and Rook, 1989).

The shopping-enjoyment scale in the research conducted by Beatty and Ferrell (1998) is used in this research with four indicators. Shopping enjoyment tendency scale is translated twice into Vietnamese to ensure the author's intentions and consistency with Vietnamese style. It was included in the questionnaire with a 5-point Likert scale, with 1 = strongly disagree, 2 = disagree, 3 = normal, 4 = agree, 5 = strongly agree.

From the research model, the research hypotheses are proposed as follows:

H1: Female students are more apt to impulsive buying than male students.

H2: Income has a positive impact on an impulsive buying behavior.

H3: Academic performance has a negative impact on an impulsive buying behavior.

H4: Academic year has a negative impact on an impulsive buying behavior.

H5: Majors have an impact on an impulsive buying behavior

H6: Traditional-self has a negative impact on an impulsive buying behavior.

H7: Modern-concept has a positive impact on an impulsive buying behavior.

H8: Shopping enjoyment tendency has a positive impact on an impulsive buying behavior

Sample and sampling methods

For sample size, according to JF Hair et al. (1998), for the multiple regression analysis, the minimum sample size is calculated by the formula: $50+8*m$ (m is number of independent variables). Since there are 7 independent variables in this research, the minimum sample size is $50+8*7 = 106$. In fact, due to limited capacity

and resources, interviews were conducted over a period of 2 months (September-October/2016) with the assistance of students and colleagues according to the convenience, non-probability sampling method; and the more than 260 questionnaires were collected. After reviewing, the remaining 200 valid questionnaires can be used.

Data analysis

Data cleaning, data encoding in questionnaire, data entry and data analysis were conducted by the use of SPSS software version 18.0. An exploratory factor analysis (EFA) method for measuring the value of the scale, Cronbach's Alpha for measuring the reliability of the scale, multiple regression analysis method to test and determine any effect of factors on the impulsive buying behavior of students were used in this research.

Dependent variables are measured in two scales. The very first scale is the frequency of impulsive buying. The rest one is the impulse buying tendency. Therefore, the research model is represented by the following two regression equations:

$$(i) TS = \beta_0 + \beta_1.GT + \beta_2.TN + \beta_3.HL + \beta_4.NH + \beta_5.CN + \beta_6.QNA + \beta_7.QNB + \beta_8.TMS + \varepsilon$$

$$(ii) KHM = \beta_0 + \beta_1.GT + \beta_2.TN + \beta_3.HL + \beta_4.NH + \beta_5.CN + \beta_6.QNA + \beta_7.QNB + \beta_8.TMS + \varepsilon$$

In which: TS is the frequency of impulsive buying; KHM is an impulse buying tendency; GT is gender; TN is income; HL is the academic performance; NH is the academic year; CN is major; QNA is traditional-self; QNB is a modern-self; TMS is a shopping enjoyment tendency; β_0 is constant; β_i is the partial regression coefficient corresponding to the independent variables and ε is the random error.

4. Results

4.1. Statistics and description of samples

The sample size is 200 students of economics and engineering majors from Hanoi National Economics University, Hanoi University of Industry, Hanoi University of Science and Technology and Vietnam University of Commerce. Such sample was selected by the convenience sampling method.

In this sample, there were 99 male students, accounting for 49.5% and 101 female students, accounting for 50.5%; engineering students accounted for 48%, corresponding to 96 students, leaving economics students at 52% corresponding to 104 students. This ratio was very well balanced and suitable for testing the influence of gender and major on the impulsive buying behavior of students in this research.

Among 200 questionnaires, there were 12 freshmen (6%), 141 sophomore (70.5%), 35 third-year students (17.5%) and 12 final-year students (6%). The number of students with good GPA was 45.5%, equivalent to 91 students, followed by 80 students with average GPA, accounting for 40%, good students at 11.5% (23 students) and leaving the least proportion of 6% of the students with excellent academic performance. There are 65 students having income (working part-time), making up 32.5% of the total, leaving the remaining 135 students with no income, at 67.5%. This result was quite consistent with the current practice of students.

4.2. Assessment of scale

Firstly, multivariate scales (traditional-self, modern-self, shopping enjoyment tendency) of independent variables with 14 indicators are evaluated by EFA analysis. This analysis will test the convergence of component variables by convergence validity and simultaneously measure differential values to help ensure difference, without interrelation relationship among the elements used to measure the factors by discriminant validity. According to J. F. Hair and et. Al (1998) with a sample of greater than 350 factor loadings ≥ 0.3 which achieves a convergence validity, and the factor loading of one factor is larger than that of other factor load, it can be seen that the discriminant validity is guaranteed.

EFA results are obtained with 14 observed variables, which are categorized into 3 elements at "Initial Eigenvalues" > 1 . Total variance explained when the factor group is drawn is 55,808% ($>50\%$). Three conceptual factors as traditional-self, modern-self and shopping enjoyment tendency have observed variables at the same load on an independent factor corresponding to the loading factor to be guaranteed >0.3 .

After EFA analysis, the scale is evaluated for reliability by Cronbach's Alpha coefficient. Test results of scale reliability show that most of the Cronbach's alpha values are greater than the required value of 0.6 (see Table 1). Most of the Cronbach's alpha values in case of variable elimination are lower than Cronbach's Alpha values. Total variable correlation values are greater than 0.3. Therefore, the scales used are highly reliable. However, there is a correlation coefficient with the total variable of the modern-self variable 2 = -0.038 (<0.3). Therefore, the observed variable named modern-self 2 will be discarded. By then, Cronbach's alpha of the "modern-self" is 0.711. In addition, the correlation coefficient with the total variable of the variable named impulse buying tendency 4 is = -0.021 (<0.3). Therefore, the observed variable named impulse buying tendency 4 will be discarded. At that time, Cronbach's alpha of "Impulse buying tendency" is 0.630. The remaining variables are highly reliable and are used to carry out subsequent tests.

Table 1: Scale reliability

No.	Factor	Number of observed variables	Cronbach's Alpha
1	Traditional-self	5	0,616
2	Modern-self	4	0,711
3	Shopping enjoyment tendency	4	0,689
4	Impulsive buying tendency	5	0,630
	Subtotal	18	

4.3. Research Hypothesis Testing

4.3.1. Test results of model 1

As can be shown from the test results of model 1, $F = 0.685$ and sig value. = $0.704 (> 0.05)$, indicating nostatistical significance correlation between the frequency of impulsive buying and individual factors was not. Thus, the model 1 does not fit into the data set and cannot be used.

4.3.1. Test results of model 2

Test results show that thecoefficient of determination of adjusted R^2 is 8.3. This means, with this data set, gender, modern-self, shopping enjoyment tendency explained 8.3% of the variation in students' impulsive buying tendency to fashion items. The Durbin-Watson coefficient = 1.597 creates a basis for the assumption that the model has no autocorrelation. The value of $F = 3.251$ and the sig value. = $0.002 (< 0.05)$ indicate correlation between independent variables such as gender, modern-self, shopping enjoyment tendency and dependent variable, as an impulse buying tendency at 95% confidence. Thus, it is possible to conclude that gender, modern-self, shopping enjoyment tendency have an impact on the impulse buying tendency. The model 2 fits the data set and is usable.

As can be seen from the regression coefficient result, the sig values of the gender, modern-self, shopping enjoyment tendency are 0.030; 0.001; 0.001 (< 0.05), respectively. This represents that the gender, modern-self, shopping enjoyment tendency have an impact on the student's impulse buying tendency. Looking at standardized regression coefficient of impulse buying tendency, β in turn receives positive values of 0.161; 0.243; 0.251 which represent the positive relationship. The shopping enjoyment tendency has the greatest influence level on the impulsive buying tendency ($\beta = 0.251$). Moreover, since the sig value of the constant is 0.104 (> 0.05), there is not enough basis to keep the constant in the regression equation.

Thus, the model 2 is represented by the regression equation as follows:

$$\text{KHM} = 0.161.\text{GT} + 0.243.\text{QNB} + 0.251.\text{TMS}$$

According to this equation, female students, who tend to be modernists, are more apt to impulsive buying.

5. Discussion

It is found by this research that female students are more apt to impulsive buying than male students. Female has a positive impact on an impulse buying behavior. Female students when being asked have shopping enjoyment. For examples: Before going to buy an item, they clearly identify the target. But when they come to fashion stores, cosmetics shops, they tend to buy in the mood at that time. Female students buy any suitable, strange, new and beautiful fashion products that forget their original goal.

Unlike females, male students are less impulsive, because they often have a clear goal before buying, buy according to their own needs, while female students may buy on their preference, even not use at all after such buying.

Given the current state of our country's innovative economy, international integration and the research results, it is found by the author that students in major cities tend to be self-modern (modern-self), tend to enjoy, pamper themselves, which make them participate in more impulsive buying behaviors. This may not be the case in rural areas, where retail modes are still at a lower level of development.

The shopping enjoyment tendency has a proportional effect on the impulsive buying behavior. The feeling of fun, satisfaction associated with the impulsive buying process makes the buyer enjoy the feeling of happiness. Consequently, people who tend to like shopping often act as impulsive buyers, and consider shopping a pastime.

6. The implications of the research results

Impulsive buying behavior is becoming more and more widespread in our country's commercial market. The findings of the research show that fashion business enterprises in Vietnam at present have a lot of opportunities to develop business strategies, marketing and launch new products and services in line with target groups in the market.

To stimulate this behavior, the fashion business enterprises in Vietnam should have the following changes in business strategies:

- Enhance the supply of information to customers through marketing activities including advertising, catalogs and public relations, namely advertising on television, radio, newspapers, bulletin boards, putting products into movies, sponsoring TV

shows and radio stations that are widely watched by the public, sponsoring loyalty programs, selling by phone, direct mail, home referral, directory submissions, public relations, and frequently using paid advertising services on Google and Facebook. These forms help to provide customers with information about fashion products, make them giving informed purchasing decisions. As a result, the customers increase the sense of satisfaction and fun; reduce negative feelings after their impulsive buying.

- Design accessories, shop space, messages sent to customers in the modern directions to attract customers.

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FACTORS AFFECTING ORGANIC FOOD PURCHASE INTENTION AMONG URBAN RESIDENTS IN VIETNAM – CASE STUDY IN HANOI

Dr. Le Thuy Huong

huong13p@gmail.com

Faculty of Business Administration, Hanoi University of Industry, Hanoi, Vietnam

Abstract

Promoting organic food consumption is not only just the desire of organic food industry but also the goal of the whole society. The study was conducted to assess some of the factors that affect the purchase intention of organic food by consumers in Hanoi with a sample of 762 consumers in Hanoi by quantitative survey. Data were analyzed using SPSS 20. The results confirmed that the five factors that significantly affected the intention to purchase organic food of Hanoi residents were health consciousness, perceived quality, subjective norm, price of product and reference - information. The study also provides some suggestions for managers of organic food producers and traders and recommendations to the Vietnamese Government.

Key word: *Hanoi, organic food, purchase intention, urban residents, Vietnam*

1. Introduction

In urban areas of Vietnam, food safety is a pressing issue for consumers. Unsafe food is rampant in the market causing worry for consumers and the whole society. In recent years, the government has issued a number of policies on organic food production and trading and a number of measures to ensure food safety. However, these policies and measures have not been implemented widely and effectively. The food safety problem need to be solved with the cooperation of the government, producers, traders, consumers and whole society. For producers and traders, choosing organic food for business is a solution and also a new opportunity.

The producers and traders in the new era are eager to please their customers. Satisfaction customers' needs is not only a challenge but also a motive of the business. To meet the needs and desires of customers, manufacturers and businesses need to understand their customers. Therefore, the study of customer behavior becomes very important. There are many ways to access to shopping behavior and buying intention research is one way. According to Ajzen (1975), purchasing intention is the best

predictor of buying behavior. Therefore, buying intention research can help manufacturers, traders and marketers anticipate customer purchasing behavior.

There are many studies on organic food purchase behavior in the world but not in Vietnam. To contribute more finding to the organic food industry in Vietnam, the author research *“Factors affecting organic food purchase intention among urban residents in Vietnam – Case study in Hanoi”*.

2. Litteratural review

- Organic food

Organic foods are foods reared and grown and produced without any artificial appearance stimulating substances, insecticides, growing substances and gene altering drugs in order to the intact nature of output products (Perry and Schultz, 2005).

- Purchase intention

Purchase intention is readiness of potential customers who buy products (Elbeck, 2008). Companies' sale may be surveyed based on customer purchase intention. Predicting purchase intention is the very first step to predict actual buying behavior of customers (Howard and Sheth, 1967). Additional, based on several theories, purchase intention is deemed as a basis to predict future demand (Fishbein and Ajzen, 1975).

- Organic food purchase intention

Nik Abdul Rashid (2009) defined that organic food purchase intention was ability and will of an individual in giving favors to organic foods over normal foods as buying. Ramayah, Lee and Mohamad (2010) assumed that organic food buying intention is one of specific expressions of buying action.

- Health consciousness

Consumers who have health consciousness are those who concern about their health. They know their health and worry about their health benefits. They are willing to do things to maintain good health and to enhance their health and quality of life. (Kraft and Goodell, 1993). Scale for health consciousness is quoted in Oude Ophuis (1989).

Many consumers consider health protection as a motivation for buying organic food. Personal experience of illness and attention to healthy eating contribute to the trend of food consumption (Padel and Foster, 2005).

Similarly, studies by Kyrikopolous and Van Dijks (1997) also show that health attention is conducive to purchasing organic food.

Although many studies have suggested that health consciousness is a major determinant of attitudes, purchasing intentions, and consumer behavior, others have the opposite effect. Takianen and Sundqvist (2005) found in their study that health consciousness only has a small effect on the factors that influence the intention to buy organic food. And Michaelidou (2008) also found that health consciousness was the smallest factor influencing the intention to buy organic food.

- Perceived quality

Perceived quality of food is the understanding and belief of consumers about the good qualities of food by the expression of nature such as shape, color, size .. and external manifestations such as price, brand, source, location of sale .. (Olson, 1977). Perceived quality scale is derived from the study by Woese K, Lange D, Boess C, Bogl KW (1997). Perception of organic food quality plays an important role in guiding consumption (Olson, 1977; Padel, 2005; Fotopoulos, 2000; Magnusson, 2001). Perception of the quality of food is influenced by the experience of food consumption and, more importantly, by consumers' belief in the quality and origin of food (Gurviez, 2001).

- Environmental concern

Kalafatis Pollard, East and Tsogas (1999) describe environmental concern as consumers' awareness and perceive of the threatened environment and the depletion of natural resources. The scale of environmental concern is extracted from the study by J. M. J., Gracia A. and Sanchez M. (2000). Oyewole (2001) states that environmental concerns and perceptions are proportional to green marketing behaviors, and he finds a link between environmental concerns and purchase intentions. Hince (1986) and Newhouse (1990) assert that environmental concern will shape the feeling of supporting or not supporting environmentally friendly products.

- Subjective norms

The subjective norms is defined as the human perception of how to behave in accordance with the requirements of society (Ajzen, 2002). The subjective norms scale is derived from Ajzen (2002a). In the field of research, consumers' intention to buy organic food tends to be strong if they think their loved ones expect them to buy or they will be safeguarded by consumers. Other views (Chen, 2007). Oliver and Bearden (1985) have explained that this subjective norms is the basis for human decision-making and that human activity is also based on these rules.

- Product availability

Many supermarkets have pay attention to the fast growth of organic foods and put organic foods into their distribution channels. The present of organic foods in

supermarkets and traditional retail stores has increased the approach of organic foods to consumers (Dettmann and Dimitri, 2007). Product availability is one of main factors which encourage consumers to buy organic foods (Davies, 1995).

Previous studies also showed that the most important reason which prevented customer from buying organic foods was unavailability (Boccaletti and Nardella, 2000; Magnusson, 2001; Fotopoulos and Krytallis, 2002; Zanolli and Naspetti, 2002). Product unavailability is not a subjective factor on the side of consumers, but a distribution channel matter

- Product selling price

Price is the amount of money paid by a buyer to own a product or service (Philip Kotler et al. 2001)

The amount paid by a consumer for a product reflects actual value of that product in her awareness which is showed through price (Laroche, 2001). In another hand, Shaw (2007) found that most of consumers appeared like they were willing to pay higher for organic foods, however, in fact, they did not want to pay the difference between organic food and normal food prices.

The study of Truong T. Thien and Matthew H. T. Yap (2010) assumed that consumers were not sensitive to price and price had no impact to organic food purchase intention. The study of AnssiTarkiainen and SannaSundqvist (2005) also showed the same conclusion. In another hand, the study of Maria K. Magnusson, Anne Arvola and Ull a KaisaKoivistoHursti (2001) assumed that higher product selling price prevented organic food purchase intention. And many other studies also had the same conclusion (Radman, 2005; Robles el al., 2005; Padel and Foster, 2005; Wier and Calverley, 2002; Zanolli el al., 2004). This means there are two different conclusions

- Reference group

Reference group is defined as the clearly impact of another individual or a group existing in reality or in imagination to judgment, inspiration or behavior of an individual. Specifically, reference group affects to an individual from three points of view (Park and Lessig, 1977).

Information impact: an individual is under impact of information presented by others, as these information increase her knowledge and enhance her adaptability to several environmental aspects.

Compliance impact: an individual conforms to another one or a group as she aware that that another one or that group may award or punish her. She understands that her behavior may be observed by others, and she is encouraged to catch the prize or to avoid the punishment.

Self-value impact: this is an impact relates to the fact that an individual wants her Self value to be enhanced in the look of others.

There are not too many studies on impact factors to organic food purchase intention with Reference Groups as a main one. However, according to Philip Kotler (2001), Reference group is one of important factor affecting to purchase intention of consumers.

The study of Robin Robers (2007) asserted that reference group had impact on organic food purchase intention of consumers.

Based on the theory of planned behavior by Ajzen (1991) and the results of literature review, a model of factors affecting purchase intention for organic food in the context of Vietnam was introduced including: (1) health consciousness (2) percieved quality, (3) environmental concern, (4) subjective norm, (5) product availability, (6) product selling price, (7) reference group.

All variables and relationships between variables are shown in the following model:



Research hypotheses:

H1: Consumers who have more health consciousness will have more purchase intention for organic food.

H2: : Consumers who perceive higher quality will have more purchase intention for organic food.

H3: The more consumers concerne about the environment, the more they intend to purchase organic food.

H4: Subjective norms affects intention to purchse organic food of consumers.

H5: Consumers find more organic food available in the market will have more purchase intention.

H6: Product price influences purchase intention for organic food.

H7: Reference group influences purchase intention for organic food

3. Method

The study was conducted by quantitative method with 763 consumers through a survey. Data collection was used to evaluate the scales, factor analysis, and model testing and hypotheses by means of multiple regression with the support of SPSS software version 20.

Sample selection in the study was performed using layered random sampling. By this method, the author divides the sample by geographical criteria. Each group is an inner city district. The inner districts of the study area include 7 (seven) districts: Dong Da, Hoan Kiem, Ba Dinh, Hai Ba Trung, Tay Ho, Thanh Xuan, Cau Giay district. In each district, the author identifies supermarkets, markets and residential areas. Thereby select the consumer to investigate in these areas.

4. Results

4.1. Evaluate measuring scale

4.1.1. Testing value of measuring scales

Results show that $KMO = 0.826$ which meets the condition of $KMO > 0.5$ (Kaiser, 1974). So, we could conclude that the factor is appropriate with available data. By the same way, test result Barlett shows that $p = 0.000 < 5\%$, which means variables have relationship with each other and meet conditions to analysis factors by EFA examination.

Results show that from 32 observing variables, we can extract 9 factor groups. Total variance which is explainable as extracting factor groups is 63.895% (>50%).

EFA results of the health consciousness, perceived quality, environmental concern, subjective norms, product availability, product price show us that measuring norm of each independent variables is loaded in a factor. All of load coefficients meet defined standards and show that observing variables have significant relationships with each factor.

As for EFA result for reference group shows that load measuring norms for three different factors corresponding with three aspects in reference group's concept. Therefore, these are three independent factors which present three different categories of a concept.

- The factor with observing variables TK1, TK2, TK3, TK4 which presents the influence of reference group related to self-worth expression (the influence related

to an individual who wants to enhance his self-worth in the others' eyes) is called value expressive influence.

- The factor with observing variables TK5, TK6, TK7, TK8 which presents the influence of reference group related to compliance of consumer (an individual complies with other individual or group because they aware that other individual or group could give him award or penalty. He knows that his behavior may be seen by others, and encourages to take award and avoid penalty) is called utilitarian influence.

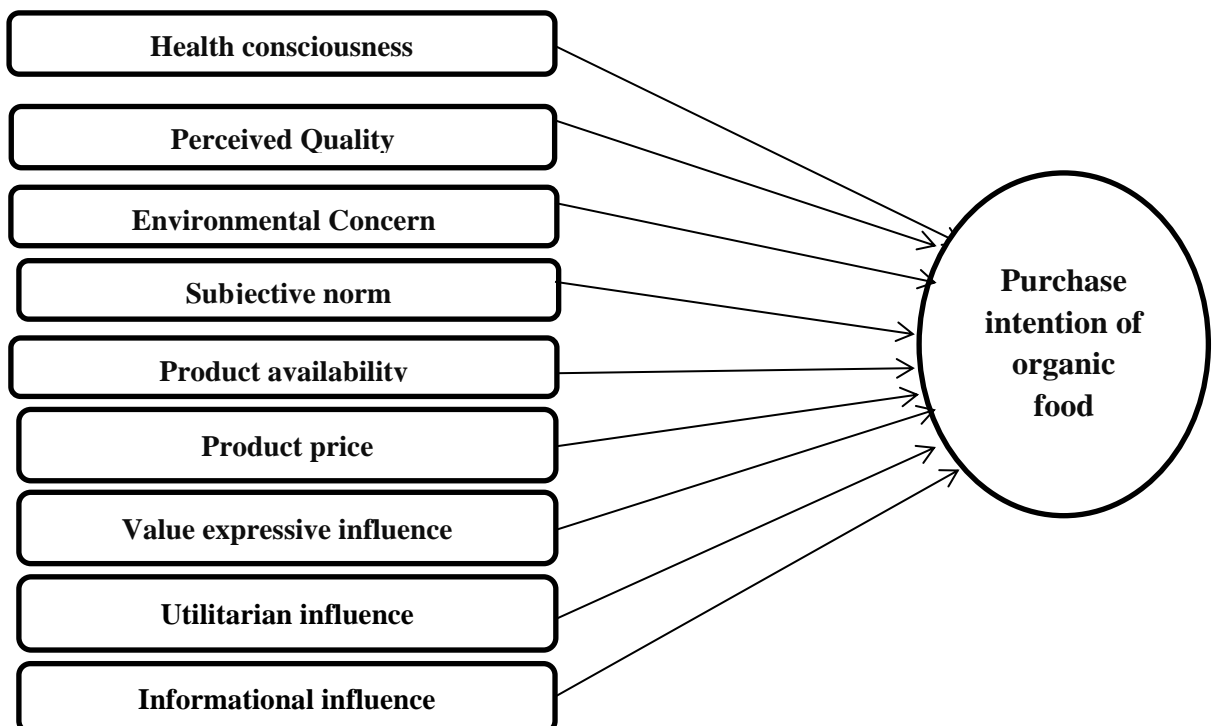
- The factor with observing variables TK9, TK10, TK11, TK12, TK13 which presents the influence of reference group related to information of consumers (an individual is under influence of others related to information because these information may increase his knowledge and raise his adaptability with several aspects of environment) is called informational influence.

Preserving encrypted symbols for observing variables as beginning.

4.1.2. Evaluating reliability of measuring scales

Results of evaluating reliability of measuring scales show that: both Cronbach Alpha value and total variable correlation coefficient meets standards. Therefore, these are good measuring scale with close correlation with each others in order to measure independent and dependent variables. All of these measuring scales guarantee reliability and may be used for following analysis.

From above results of evaluating measuring scale, I re-adjust the model as followings:



Accordingly the hypotheses are adjusted as follows:

H1: Consumers who have more health consciousness will have more purchase intention for organic food.

H2: : Consumers who perceive higher quality will have more purchase intention for organic food.

H3: The more consumers concerne about the environment, the more they intend to purchase organic food.

H4: Subjective norms affects intention to purchse organic food of consumers.

H5: Consumers find more organic food available in the market will have more purchase intention.

H6: Product price influences purchse intention for organic food.

H7: Value expressive influence affects purchse intention for organic food

H8: Utilitarian influence affects influences purchse intention for organic food

H9: Informational influence affects purchse intention for organic food

4.2. Hypothesis test and regression analysis.

The result illutrates that the adjusted coefficient R² of the model is 0.359. Thus, the independent variables were able to explain 35.9% of the variation of purchsase intention of organic food.

The F test result of the model shows that $F = 31.472$, $sig = 0.000$. Thus, this relationship assures the reliability with a permissible level of 5%. Therefore, it is possible to conclude that independent variables have an impact on the consumer's purchse intention of organic food and a linear multiple regression model that is consistent with the data set and is usable.

The results of the multi-collinearity test of the model show that the variance inflation factors VIF in this model are < 2 . Therefore, multicollinearity property of independent variables is insignificant and variables in the model may be accepted

The results of the regression analysis also show that:

- Sig. value of health consiousness factor < 0.05 , so we could accept hypothesis H1 Consumers who have more health consciousness will have more purchase intention for organic food

- Sig. value of percieved quality factor < 0.05 , so we could accept hypothesis H2. Consumers who perceive higher quality will have more purchase intention for organic food

- Sig value of environmental concern factor < 0.05, so we could accept hypothesis H3. The more consumers concern about the environment, the more they intend to purchase organic food

- Sig value of subjective norms factor < 0.05, so we could accept hypothesis H4. Subjective norms affects intention to purchase organic food of consumers.

- Sig value of product availability factor > 0.05, so we could reject hypothesis H5. Consumers find more organic food available in the market will have more purchase intention.

- Sig value of product price factor < 0.05, so we could accept hypothesis H6. Product price influences purchase intention for organic food.

- Sig value of value expressive influence factor > 0.05, so we could reject hypothesis H7. Value expressive influence affects purchase intention for organic food

- Sig value of utilitarian influence factor > 0.05, so we could reject hypothesis H8. utilitarian influence affects purchase intention for organic food

- Sig value of informational influence factor < 0.05, so we could accept hypothesis H9. informational influence affects purchase intention for organic food.

The above results answered the research question on what factors affect the intention to buy organic food of urban residents of Vietnam. The results confirmed that the nine factors studied, five of which were health consciousness, perceived quality, subjective norms, product price, and informational influence affecting purchase intentions for organic food of urban residents of Vietnam. The relationship between dependent and independent variables is shown in the following linear regression equation:

$$Y = 0,820 + 0,157X1 + 0,129X2 + 0,270X3 + 0,105X4 + 0,083X5$$

Y: Purchase intention

X1: Health consciousness

X2: Perceived quality

X3: Subjective norms

X4: Product price

X5: Informational influence

The regression equation shows that normalized Beta coefficients of independent factors are all > 0, which means independent variables concurrently influence to organic food purchase intention. Thus, according to the above equation, when an entity organic food purchase intention increases, then there must be a

positive resonance of 0.157 health consciousness, 0.129 perceived quality, 0.270 subjective norms , 0.105 product price and 0.083 nformational influence

Table 1: Results of regression analysis

Variable	Beta
Main independent variable	
Health consciousness	***0,157
Perceived Quality	***0,129
Environmental Concern	0,005
Subjective norm	***0,270
Product availability	0,022
Product selling price	***0,105
Value expressive influence.	-0,010
Utilitarian influence	-0,004
Informational influence	***0,083
Adjusted R2	0,359
F	31,472
N	762

*p=<0,05; ** p=<0,01; ***p=<0,001

All correlative coefficients have been standardized.

5. Discussion and conclusion

5.1. Discussion

Hypothesis H1 is accepted, affirming consumers are more concerned about health, the more they intend to buy food safely. Urban residents in Vietnam are mostly knowledgeable people and they care about their health. Health consciousness is expressed in many different forms such as morning exercise, functional foods, healthy food consumption. This leads to the intention to purchase whole foods to protect one's health.

- Hypothesis H2 is accepted, asserting that when consumers perceive that high quality organic food, their intention to buy organic food will increase. In the Vietnamese market, unsafe food is rampant too much, consumers are not easy to

access food quality assurance. The need to buy organic food on the market is always there, so when the Vietnamese urban consumers know that a certain food is really safe or when they are aware of the quality of food is good. This will give rise to the intention of buying them.

- Hypothesis H3 is rejected so there is no basis for asserting the interest in the environment affects the intention to buy food safely.

- Hypothesis H4 is accepted, confirms subjective norms affect the intention to buy organic food of consumers. Vietnamese urban dwellers are conscious people who want to follow social norms and what people around them expect. When the whole society speaks out about food safety, urban people find themselves needing to consume food safely to fit the new demands of society and those around them. That puts pressure on and raises the idea of buying organic food in them.

- Hypothesis H5 is rejected, so there is no basis to assert that awareness of the availability of organic food in the market increases consumer purchase intentions.

- Hypothesis H6 is accepted, confirming product price influences the intention to buy organic food. At present, in Vietnam, regulations on organic food are not widespread. There is only one rule of the PGS logo and VietGap for food safety standards. However, there are few organic foods on the market bearing this logo. Most organic foods only print organic information on the package. On the other hand, the management of organic food sold on the market is not tight so many foods labeled organic but not in accordance with standards. Consumers therefore use the price as an indicator of the nature of the product. High priced products are considered by consumers to be of high quality and are safe. This motivates them to buy higher.

- Hypothesis H7 is rejected, so there is not enough evidence to confirm that the value expressive influence affects intention to buy organic food.

- Hypothesis H8 is rejected, so there is not enough evidence to conclude that utilitarian influence affects influences purchase intention for organic food.

- Hypothesis H9 is accepted, confirming the informational influence affects the intention to buy organic food. Consumers have consulted with those around to formulate information about organic food, they use this information to buy organic food and the more information they have, the more likely they are to buy it. This information enhances consumers' understanding of food safety and hygiene and helps them find organic food to meet their nutritional needs. Consumers gathering information from people around them will help them have a basis for finding organic food and raising their minds to buy organic food.

5.2. Proposes and recommendations

5.2.1. Proposes to administrators

(1) Carry out nutrition counseling and health promotion programs that enhance the health and consumer awareness of food-related health issues.

(2) Provide products with good quality, meet safety standards in accordance with the state and meet the needs of consumers.

(3) Develop a general trend in the consumption of food safety through communication. From that guide on how to consume properly and safely.

5.2.2. Macroscopic recommendations

(1) It is necessary to have communication programs to propagate the law, bring legal documents closer to production and business enterprises and consumers, concretize these regulations for each Different sectors, different regions and different objects apply.

(2) Further monitoring, control and management of organic food production and consumption should be promoted.

(3) Introduce policies to socialize food safety inspections. Assignment of responsibilities and authority to various levels of audit to reduce the pressure on time and funds and increase the autonomy of organizations and actors in food safety management.

(4) Support and encourage organic food production and trading. Expand the areas of clean vegetables and clean livestock and poultry, support enterprises in safe farming of standard raising procedures and environmental treatment in concentrated livestock areas.

(5) Launch programs to disseminate knowledge about the environment related to organic food production and consumption. This will improve the understanding of consumers and raise the awareness of environmental protection through organic food consumption.

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DEVELOPING DISTRIBUTION CHANNELS OF RETAIL INSURANCE PRODUCTS IN VIETNAM'S NON - LIFE INSURANCE MARKET

PhD. Nguyen Thi Chinh

nguyenthichinhneu@gmail.com

Faculty of Insurance, National Economics Univerisity, Hanoi, Viet Nam

Abstract

Vietnam insurance market contains 29 non-life insurance companies, including 5 leading insurance companies (Bao Viet Insurance, PVI Insurance, Bao Minh, PJICO, PTI) which is account for 68% of total premium; this creates an intense competitive pressure on the remaining insurers. The impact of the global financial crisis and inflation has led to shrinking premiums from corporate clients, instead of growth in premiums from retail products (accounting for 33% of total non-life insurance premiums in 2012 and over 50% of total non-life insurance premiums in 2015); it shows that Vietnam is a potential market for retail insurance products. Except from the five leading insurance firms, the remaining non-life insurance companies have not much advantages to exploit corporate clients in non – life insurance market. Thus, the development of the distribution channel of retail insurance products will be more appropriate; this helps small insurance companies rise up to compete with the leading group. The paper highlights the current situation and trends of the distribution channels of retail insurance products in Vietnam non-life insurance market, thereby propose solutions to develop these distribution channel, then contribute to the success of the small insurance firms and insurance market.

Keywords: *Distribution channels, Insurance products, Non – life insurance, Retail.*

1. Introduction

According to Maslow's hierarchy of needs, when the lower level of human needs is satisfied, the higher level of need will emerge. When people are satisfied with basic needs such as eating and drinking, which will inevitably lead to the need for safety and protection. Since then insurance was created to meet the needs of human safety. When Vietnam move to market economy, insurance has been proving its active role in socio-economic activities. There are many insurance products that meet the needs of the market provided by the insurance companies. Retail non-life

insurance products are insurance products provided by non-life insurance companies to customers through various distribution channels. Regarding the approach to bring products to customers, the distribution channels can be classified into two categories: *direct distribution channels* and *indirect distribution channels*.

- Direct distribution channels: Insurance products are distributed directly by insurance companies, not by any intermediaries, and using direct marketing methods. In other words, this is the direct selling method of insurance companies through their employees, they also apply information technology and other online means for distance sales. The practices of these methods include: quote and insurance request via mail, catalog, telemarketing, T.V marketing, computermarketing, ...



Picture 1: Direct distribution channel

Direct distribution channels help to ensure the close relationship between the insurance company and the market and its customers. On the one hand, the company can directly introduce to customers about different types of products and help customers understand the practical benefits of participating in an insurance policy. On the other hand, thanks to directly contact with customers, the company has more accurate and honest information about their customers and they can receive customers' reviews about their products as well as find out customers' needs and financial capacity. Therefore, insurance companies can limit fraud. In terms of psychology, customers also feel more secure and confident when they deal directly with insurance companies. These channels are usually applied to customers who are aware of insurance, thus they join insurance contracts more simply and the rate of contract surrender will remain low. Moreover, when using direct distribution channels the company can reduce some intermediary costs, then enable it to reduce insurance premium and gain an advantage in competition.

Although there are many advantages, almost direct distribution channels are commonly used in countries with high levels of education and development. In Vietnam, these distribution channels have not been highly developed.

- Indirect distribution channels: distributing insurance products via one or more third party intermediaries such as brokerage firms, insurance agents, banks, register stations, etc.



Picture 2: Indirect distribution channel

The choice of distribution system to fit the insurance company's needs depends on many factors such as the characteristics of the clients in the target market, the characteristics of the product, the conditions of the enterprise: financial ability and business goals

2. Methodology

In order to clarify the goals of this paper, the data collection and statistical analysis and data comparison methods is used in this paper. The secondary data resources are obtained from hiep hoi bh viet nam to analyze and compare, and clarify the current situation and coming trends of the distribution channels of retail insurance products in Vietnam's non - life insurance mar

3. Results

Researching on the Vietnam non-life insurance market shows that many retail insurance products have been already distributed in the market, such as: premium health care insurance, fire and explosion insurance for motor, Motor insurance (including: compulsory owners' liability, motor insurance, car insurance, personal insurance for drivers and passengers) personal credit insurance, worldwide travel insurance, inbound travel insurance, personal insurance, electric user insurance; domestic travel insurance, ... However, two typical retail insurance products which accounted for the highest proportion of premium market share are *car insurance* and *health and personal insurance*.

When using distribution channels of retail insurance products, Vietnam non-life insurers often use *indirect* channels under the following forms:

- Online channel (via website)

The insurer's website provides information about the their products and the customer can find out other necessary information by sending an email to the company to request information about premiums, conditions of insurance contract participation, method of premiums payment, benefits of customers when joining contracts, attached auxiliary products ... This distribution channel has helped to improve the quality of online sales channels, to save time, effort and money for clients. Additionally, the popular browsers such as FireFox, Internet Explorer, Chrome, Opera, etc., the website is designed to be compatible with mobile and tablet interfaces. Therefore, customers

can not only easily look up information but also check online insurance quote and buy insurance quickly, conveniently and safely.

However, the sale of insurance products via the internet also faces many difficulties, including the causes related to the protection of private information. Moreover, because Vietnamese do not have the habit of online purchasing insurance products and sufficient awareness of online distribution channel, this channel contributes only a small part of insurance enterprises' total gross premium.

- Telesale channel (via phone)

Almost non-life insurance companies have recently developed the tele-sale channel since 2015 when they cooperate with telecommunication companies such as Viettel, Vinaphone and Mobiphone to introduce the method of purchasing insurance products via phone. This is considered a support channel for traditional distribution channels and it allows customers to use mobile phones to buy compulsory motorbike insurance and owner's liability insurance which are regulated by Ministry of Finance.

Payment can be made via Bankplus system or paid upon receiving the insurance certificate at the requested address. Within 24 hours working hours (for Hanoian customers) to 72 working hours (for other provinces in Vietnam), the postal staff will deliver the insurance certificate to the customer at the registered address.

The introduction of telesales channels has proved that non-life insurers provide their customers with the most convenient services. Insurers' customer care centers provide customer service consultants (which are always open 24/24) about the methods of purchase, benefits and necessary procedures relating to the policy.

- Viettel Post, VNPost channels

Since 2013, many post and telecommunication companies such as Viettel Post and VNPost are agents for many non-life insurance companies in distributing insurance products via its network of transaction offices nationwide. After many years of establishment and development in postal delivery, these companies have established a network throughout all provinces and cities in Vietnam. This is a big network that insurers exploit in order to reach their customers across Vietnam and neighbouring countries.

Customers can buy insurance products at Viettel Post, VNPost branches and transaction offices nationwide with competitive premiums and the best insurance coverages.

Co-operation between insurance companies and telecommunication companies has helped each party exploit their strengths and potentials, affirm their

reputation and expand their operation. This is also a good opportunity for insurance companies to reach the customers in areas where their network has not yet been established. In addition, this cooperation will enable telecommunication companies to share their management experiences, especially sales channel management, information technology systems as well as successfully - implemented development strategies, then aim to bring customers with added benefits, increase network services and improve employee incomes.

Meanwhile insurance companies use express services, stationery and branding services via the print on the telecommunication companies' envelopes, insurance companies also advise, introduce their partners and customers participate to the products and services of Viettel Post, VNPost. This brings benefits to both parties and impusles their cooperation and development. In the other hand, Viettel Post and VNPost will be the contact point and refer customers to insurance companies for advice on insurance products, etc.

- Distribution channel via Vietnam register stations

One of the most important distribution channels of retail insurance products is via Vietnam register stations. This is a specialized distribution channel for selling motor vehicle insurance. When a person arrives at the station, it will normally be the best place for the insurer to contact the customer, then introduce and sell the car insurance product to the customer., non-life insurers are applying the distribution channel via the station actively and thoroughly with their strength of selling car insurance products to customers and especially to individuals

- Bancassurance distribution channel

Currently Bancassurance is the main distribution channel for almost Vietnam non-life insurers. Especially for insurance companies that have advantages in the same banking system as MIC, BIC, ABIC, VBI, etc.

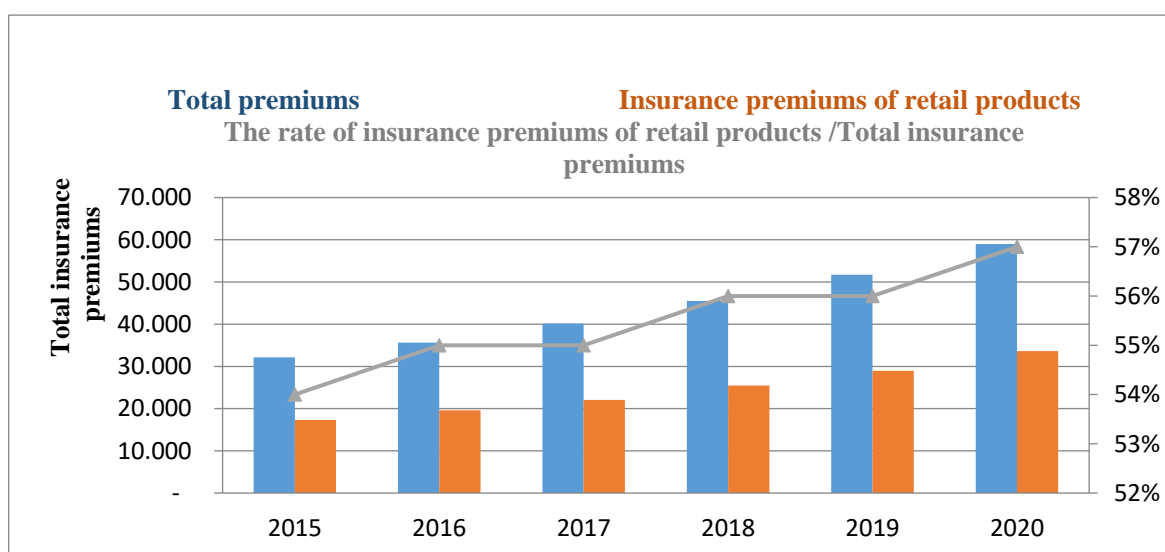
Most of the non-life insurance companies have signed cooperation agreements with popular banks such as Vietcom Bank, BIDV, TienPhong bank, Techcombank, Pvcombank, Vpbank, SHB, LienViet Bank ... to create their business network at all provinces and cities; then creates favorable conditions for customers to participate in insurance policy anytime and anywhere.

The results and the development trends of these distribution channels are shown in Table 1:

Table 1: The status and development trend of the sales of retail insurance products in Vietnam non-life insurance market (2015-2020)

Items	Unit	2015	2016	2017	2018	2019	2020
Total gross insurance premiums	VND billion	32,151	35,629	40,130	45,492	51,722	58,997
Growth	%	17	11	13	13	14	14
Insurance premiums of retail products (Motor vehicle insurance & health and personal insurance)	VND billion	17,309	19,596	22,072	25,476	28,964	33,628
Insurance premiums of retail products /Total insurance premiums	%	54	55	55	56	56	57

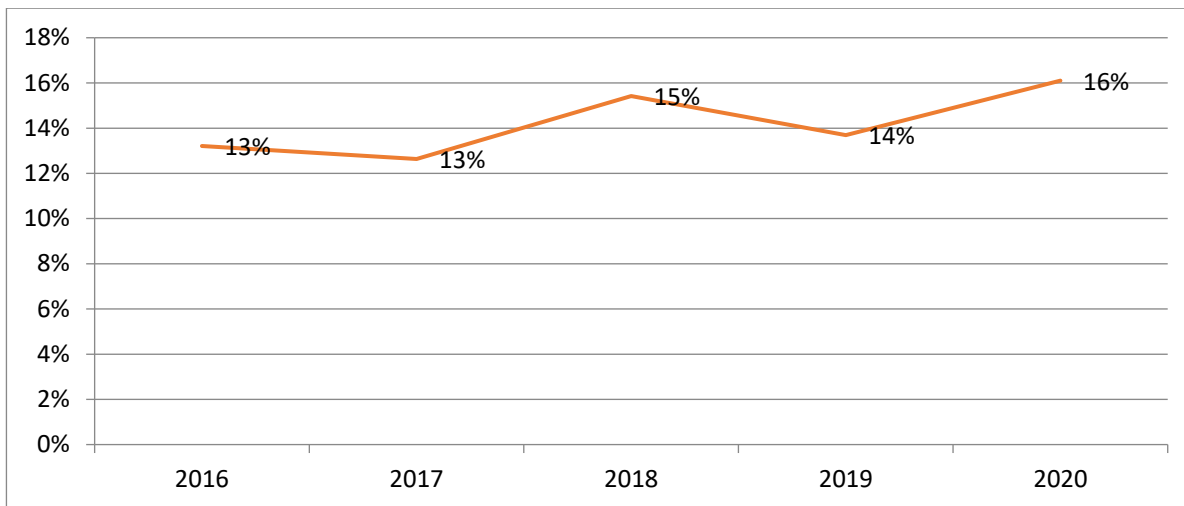
Source: Insurance Association of Vietnam



Picture 3: The status and development trend of the sales of retail insurance products in Vietnam non-life insurance market (2015-2020)

Source: Insurance Association of Vietnam

Picture 3 show that the total premiums from distribution channel of retail insurance products (especially motor vehicle and health & personal insurance products) always accounts for a high proportion of non-life insurance market's total premiums (about 55% in 2015 and in 2017). This figure is expected to continue to increase in coming years, reaching 57% by 2020



Picture 4: Growth rate of retail sales in Vietnam non-life insurance market (2016 - 2020)

Source: Insurance Association of Vietnam

Figure 3 shows that retail sales growth rate is over 13% per year and stable over the years. Therefore, the role of retail products in the development of the non-life insurance market is undeniable. Insurance companies need to grasp market trend in order to develop and achieve the best business performance.

The development trend of distribution channels for retail insurance products in the non-life insurance market is to develop new distribution channels in addition to traditional distribution channels. The emphasis is on bancassurance channel which reduce pressure on traditional distribution channels, increase sales and reduce competitive pressure on the market. This is the general trend of countries which have developed insurance market in the world. Additionally, distributing insurance products via different modern means such as online, mobile phones is also a developing channel in Vietnam insurance market.

4. Discussion and Conclusion

The flexible and diversified distribution of retail insurance products has helped some non-life insurance firms achieve some success.

Firstly, Bancassurance and Vietnam register station are the successful distribution channels of retail products which earn considerable amount of annual premiums for insurance companies. The growth rate of gross insurance premium of individual clients earned from bancassurance channel is about 50%, while the figure is 30% - 65% for distribution channel through the register station and showroom

In Vietnam, the number of both individual and corporate clients who get personal loan to buy cars, houses from banks is relatively high. When loan

disbursements is implementing, customers will be required to purchase a car insurance or house insurance. Therefore, the bank is an important channel to provide customers with insurance products, then increase the premiums for insurers. The register channel also brings a great number of customers. The number of vehicles is increasing, people are more aware of the role of insurance, and owner liability insurance is compulsory for most types of vehicle; this is the basis for the developments of motor vehicle insurance market. Via register channel, insurance companies easily reach the customers who register their vehicles. At the same time, the business staff of insurance companies also make full use of the registration of cars via their relationship with car showrooms, especially with the official showroom in order to sell insurance for their customers...

Secondly, in addition to the development of bancassurance and register stations channels, the remaining distribution channels such as online sale, Viettel post, VNPost, telesales, ... also contributed nearly 50% gross insurance premiums with individual clients, with a growth rate of approximately 50% per year.

Thirdly, new distribution channels such as telesales or online sales also have great development potential, especially in the ages of industrialization of modernization as nowadays. Customers are more aware of insurance products, they also need to save their time as well as get used to advance technologies for trading. This is one of the positive points or the opportunity for insurance companies to develop new distribution channels.

In addition to the positive results that the distribution network of retail insurance products in Vietnam non-life insurance market has achieved, there are still remaining limitations, that is:

- Bancassurance in Vietnam is just newly developed under the form of banks acting as agents selling insurance products. In many banks, cooperation is simply a matter for banks to lend to insurers the locations to sell insurance products because the bank does not trust the success of the sale channel via banks, the banks do not pay attention in this business.

- Almost Vietnamese customers do not have the habit of purchasing goods, especially products and services (insurance) via telephone and online because of high postage and telecommunication costs, such as mobile phone charges, internet usage charges ... This issue troubles clients purchase insurance products via these channels. In addition, another problem is that customers feel uncomfortable when the frequency of sale staff calls is high, and they focus solely on sales and marketing of their products but forget about the real need of customer...

- Individual customers are the potential groups who bring in high premiums for the insurance company's retail channel, but reality shows that the gross insurance premium share for from this group of customers is relatively low (accounting for about 30% of total gross insurance premium).

- There are various retail insurance products to meet individual customers' needs, but the main products are still motor vehicle and health & personal insurance products. Other retail insurance products account for too small proportion or they are almost inaccessible to customers...

Thus, in order to overcome the above-mentioned constraints and to develop distribution channels for retail insurance products, non-life insurance enterprises should bring into full play their strengths and also implement the following solutions:

Firstly, developing bancassurance channel

To be able to leverage the power of bancassurance - one of the distribution channels that is delivering the best business results for non-life insurance companies, it is necessary to continue to implement both product strategies, training for bank staff and appropriate rewards such as:

- The cooperation between insurance companies and banks: insurance companies should cooperate more closely with banks to produce specific products such as special financing package for bancassurance channel. Product design should be simple and easy to understand for both bank staff and customers. The easier it is to understand the product, the better the customer will understand and trust the product. At the same time, it is necessary to improve the quality of after-sales service and expand the after-sales program for customers such as get a loan from banks via insurance contracts, preferential use of ATM cards, etc.

- Training for bank staff: Insurers should continue to provide cross-training in sales between bank staff and insurance staff, organizing bancassurance training courses for bank staff in order to prepare for the distribution of insurance products. The course must provide basic knowledge of insurance products and bancassurance channel, sales skills such as counseling, introducing and persuading clients ... Training to improve staff's knowledge about information technology in banks and insurance companies, this must ensure the interconnection of data on customer base, mechanism of payment – reimbursement, periodic payment between banks and insurance company, etc.

- Rewarding: insurers should have a reasonable commission and reward mechanism for bank staff who contribute to insurance companies' premiums, thus strengthen the cooperation between them and banks in long term.

Secondly, connecting with professional agents through the register station system

Register station channel is extremely potential for insurance companies to distribute retail insurance products, especially when retail products account for a high share of total premium. car. Therefore, insurance enterprises should have a plan to expand the number of cooperative registry stations annually, to ensure the regular increase in the number of this channel; to review the implementation of the premiums report via the register stations channel to ensure the interests and measures to encourage these agents; to give incentives for the stations; to improve and to complete training professional agents programs via the register station system: training soft skills in sales as well as professional knowledge for sales staff about insurance products at the stations.

Thirdly, fully exploiting distribution channels via Viettel Post, VNPost

This mutually beneficial relationship needs to be further explored through various forms of cooperation as well as to make more use of the extensive network of telecommunication companies throughout Vietnam, such as: diversifying insurance products with competitive premiums and the best policy terms; continuing to utilize the wide network of telecommunication companies to reach the individual customers that other enterprises have not reached due to lack of distribution channels; expanding into neighboring countries in the region via the distribution network of Viettel Post, VNPost, etc.

Fourthly, improving and promoting online sales via the website, telesales

Online sales channels via the website should be designed with close interface, easy to use, simple purchase procedures and clear purchase instructions, it helps all customers feel convenient when purchase insurance products online; link to the online payment system of banks so that customers have more choices in paying premiums; develop appropriate premium levels and adopt a more specialized customer care policy to attract customers.

Telesales mobile phone sales software: sales staff (or customer advisors) who know the information and needs and inquiries of customers should regularly update and add customer information to the information system in detail so that telesale staff can communicate with the customer, avoiding over-calling only to advertise insurance product without regard to the actual needs of the customer; insurance companies need to promote telesales channels, then emphasize the convenience, speed and efficiency that this channel brings to customers in such an era of technology nowadays.

Fifthly, building a team of professional staff and collaborators

Insurance enterprises need to train their staff and collaborators to become professional staff in insurance, business management skills, sales skills, negotiation skills... to suit each and every customer's needs.

Sixthly, diversifying retail insurance products

It is necessary to develop retail insurance products, because the product is always the core when an insurance firm want to compete with others. No product no distribution channel, but it does not mean that insurance companies should develop as many products as possible, the product must be sufficiently competitive in the market. This requires market research, as well as scientifically based analysis, to screen continually products to get the appropriate product for the customer.

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IMPACTS OF DEMOGRAPHICS ON DETERMINANTS OF INTERNET BANKING ADOPTION BY SMALL AND MEDIUM ENTERPRISES

Dr. Nguyen Thi Hien

Foreign Trade University, Email: hiennt@ftu.edu.vn

Dr. Pham Thu Huong

Foreign Trade University, Email: huongpt@ftu.edu.vn;

Abstract

This study explores the impacts of demographics (age, gender, and experience) on determinants of Internet banking adoption by the small and medium enterprises (SMEs). The model UTAUT with seven determinants including facilitating conditions, social influence, price value, anxiety, performance expectancy, effort expectancy, and behavioural intention has been developed and tested to figure out how the demographics impact on those determinants of internet banking adoptions of SMEs.¹ In this study a total of 63 valid responses in 82 questionnaires sent were collected using convenience sampling, the data were then keyed into Excel for analysis. The target sample was from the CEOs of small and medium enterprises operating in various industries in Hanoi. The results indicated that demographics factors (age, gender, and experience) were found to be significant factors impacting on determinants of the adoption of internet banking by SMEs.

1. Introduction

Definition of internet banking may vary among researchers but a simple definition is the act of conducting financial intermediation on the internet (VanHoose, 2003). Internet banking has evolved into a one stop service and information system that promises great benefits to both banks and consumers. The services customers conduct through internet banking ranges from writing checks, paying bills, transferring funds, printing statements, applying for loans, trading stocks or mutual funds, and inquiring about account balances (Nasri, 2011; Turban, Lee, King & Chung, 2000). Internet banking has brought efficiency and convenience to many customers, since customers can transact any service 24 hours a day, seven days a week without having to physically go to the bank.

¹This study assesses the impact of demographics on the 7 constructs, which had been considered as determinants of Internet banking adoption in the UTAUT model.

The objective of this study attempts to identify and better understand the demographics factors influencing the adoption of internet banking by SMEs located in Hanoi. The knowledge gained will generate a better understanding of what drives businesses' adoption of internet banking and what can be done to improve internet banking adoption by small and medium enterprises. Additionally, it is in the banks' and clients' interest to direct their communication from bank branches to online channels in order to be more productive and cost-effective for both parties.

2. Research question

This research study will address the following question:

Does the demographic factors (age, gender, and experience) acting as moderating variables on all the determinants affect the behavioural intention to use internet banking by SMEs?

3. Literature review

3.1. Benefits and factors of internet banking adoptions

Internet banking offers many benefits to SMEs; however, in global terms the majority of SMEs have not adopted internet banking as quickly expected (Al-Fahim, Wan-Jusoh&Abideen, 2014; Chuwa, 2015; White & Nteli, 2004). Like any other information technology, internet banking faces many obstacles in its adoption because it requires the acceptance of technology which can be complicated and it involves the change of behavior patterns (Nasri, 2011). Several researchers have conducted studies on internet banking adoption using information technology adoption models. These studies show that there are a number of variables that influence the adoption and usage of internet banking.

The acceptance and use of technology has been the subject of much research, and in recent years several theories that offer new insights have emerged at both the individual and organizational levels, focused on a country or a set of countries (Im, Hong & Kang, 2011). Various theoretical models that have been developed in psychology and sociology have been employed to attempt to explain the acceptance and use of technology. Psychology models such as the Theory of Reasoned Action (TRA) that was developed by social psychologists to study conscious intentional behaviour (Fishbein, & Ajzen, 1980), Theory of Planned Behaviour (TPB) which expanded TRA with the concept of "perceived behavioural control" (Harrison, Mykytyn, & Riemenschneider, 1997), and the Social Cognitive Theory (SCT) have been valuable in understanding what drive users to accept and use technology. Other models developed by various scholars specifically to understand technology acceptance and use include: Technology Acceptance Model (TAM) and Extended

TAM (TAM2) (Davies, 1980; Venkatesh & Davis, 2000), User Acceptance of Information Technology: Toward A Unified View (UTAUT) which amalgamated eight models and theories (TRA, TAM, MM, TPB, C-TAM-TPB, MPCU, IDT, and SCT) (Venkatesh, Morris, Davis, & Davis, 2003) and explains as much as 70% of the variance in intention. UTAUT suggest that Performance Expectancy (PE), Effort Expectancy (EE), Facilitating Conditions (FC), and Social Influence (SI) are the main determinants of intention to use technology (Venkatesh, Morris, Davis, & Davis, 2003). The latest model is Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology (Venkatesh, Thong & Xu, 2012), also known as UTAUT2. This model extended UTAUT by incorporating three more constructs: hedonic motivation, price value, and experience and habit to study acceptance and use of technology in a consumer context. These models and theories have served as baselines in many studies and have been applied in understanding a variety of technologies in both organizational and non-organizational settings (Venkatesh, Thong & Xu, 2012).

3.2. Facilitating Conditions (FC)

The amount of information online has been found to influence adoption of internet banking (Pikkarainen, Pikkaraine, Karjaluoto & Pahnla, 2004). Pikkarainen et al. 2004 found that the clearer and more understandable the information on the bank website concerning internet banking, the more likely a customer is going to use internet banking. Other factors such as availability of internet and convenience (24hour service availability, home access) have been found to be a strong predictor of internet banking use (Gerrard, Cunningham & Devlin, 2006; Nasri, 2011 Sathye, 1999). In UTAUT model's construct of Facilitating Conditions is defined as the consumers' perception of the resources and support available to perform a behaviour (e.g. Brown & Venkatesh, 2005; Venkatesh et al., 2003). Similar constructs from existing models that capture the concept of Facilitating Conditions construct include: perceived behavioural control (TPB/DTPB, C-TAM-TPB), facilitating conditions (MPCU), and compatibility (IDT).

3.3. Price Value (PV)

One of the benefits associated with internet banking is low costs: there are fee reductions (10-50% of the ordinary fees) for the electronic payments and reduced costs associated with expenses in transportation to and from the bank building (Chuwa, 2015; Simona, Dragos & Daniela, 2010). According to Krauter and Faillant (2008), internet banking allows customers to conduct a wide range of transactions electronically anytime and anywhere, faster, and with lower fees compared to using traditional brick and mortar bank branches. Chuwa, (2015) found that perception of

cost plays an important part in the consumer decision-making process and when viewed negatively, hampers customer acceptance of internet banking. These resonate well with the findings in marketing research that state that monetary cost/price is usually conceptualized together with the quality of products or services to determine the perceived value that is Performance Expectancy of products or services (Ziethaml, 1988). In the UTAUT2 model this is known as Price Value (PV) and is defined as cognitive trade-off between the perceived benefits of the application and the monetary cost for using them (Dodds, Monroe & Grewal, 1991; Venkatesh, Thong & Xu, 2012). The price value is perceived to be positive when the benefits of using technology are perceived to be greater than the monetary cost and such price value has a positive impact on the behavioural intention to use technology (Venkatesh, Thong & Xu, 2012).

3.4. Social Influence (SI)

Social influence may affect the adoption of internet banking for early adopters (Al-Abdallah & Al Qeisi, 2013; Montazemi & Sarem, 2013; Tsai, Zhu & Jang, 2013). Montazem and Sareem (2013) found that internet banking services create uncertainty on the expected outcomes for the potential adopters and so they tend to interact with their social network (e.g., friends, peers, online chats groups) to consult on their adoption decisions. They further found that the feedback they receive from their social network often influences their perceptions of perceived usefulness, ease of use, and trusting beliefs towards the internet banking. In the UTAUT model, Social Influence (SI) refers to the degree to which an individual perceives that others important to them believe he or she should use the new system (Venkatesh, Thong & Xu, 2012). Similar constructs are represented in existing models: subjective norms (TRA, TAM2, TPB/DTPB, and combined TAM-TPB), social factors (MPCU), and image (DOI).

3.5. Anxiety (ANX)

Anxiety is drawn for SCT model and is defined as the state of evoking anxious or emotions reactions when it comes to performing behaviour (e.g., in our case is using internet banking) (Bandura, 1986). In this study we will use anxiety to represent the feeling of nervousness or fear associated with using internet banking. Customers fear using internet banking because they do not trust its security, this arises from the use of open public network and has been emphasized as being the most inhibiting factor in adoption and use of internet banking (Sathye, 1999; Polatoglu & Ekin, 2001; Tan & Teo, 2000). Anxiety demonstrates risk as an additional dimension in adoption

and use of internet banking. Only those customers who perceive using internet banking as a low risk undertaking would be inclined to adopt it (Tan & Teo, 2000).

3.6. Effort Expectancy (EE)

Adopting and using a new technology depends on its efficiency and effectiveness (Pikkaraine, Pikkarainen, Karjaluoto & Pahlila, 2004). Ease of use has been cited as another variable that determine whether consumers will adopt internet banking (Bruno, 2006; Singh, Mustafa, Ondracek, Saeed & Bertsch, 2015; Sungathi et al., 2001). So a technology that is easier to use is more likely to influence behavioural intention to use it. A bank website that is easy to read, easy to navigate, easy to find, consistent layout, and with detailed instructions and information would more likely attract customers to adopt and use internet banking (Bruno, 2006; Singh, Mustafa, Ondracek, Saeed & Bertsch, 2015; Jaruwachirathanakul & Fink, 2005). According to Technology Acceptance Model (TAM) perceived ease of use is a major factor that affects the acceptance of information system (Davies, Bagozzi & Warshaw, 1989). Perceived ease of use is defined as the degree to which a person believes that using a particular system would be free of effort (Davies, 1989). Moon and Kim (2001) stated that information technologies that are easier to use will be less threatening to individual and thus likely to encourage the adoption. According to Davies (1989), people will tend to use the system if they believe that it's free of effort (it affects the behavioural intention). Davies, Bagozzi and Warshaw (1989) also noted that perceived ease of use determined the perceived usefulness (Performance Expectancy) of a system; users believe that the system is useful if it's free of effort or easy to use. In the UTAUT model this is known as Effort Expectancy (EE) and is defined as the degree of ease associated with the consumer's use of the system (Venkatesh, Morris, Davis & Davis, 2003). Similar constructs from existing models capture the concept of EE include; perceived ease of use (TAM/TAM2), complexity (MPCU), and ease of use (IDT).

3.7. Performance Expectancy (PE)

In the TAM model Perceived Usefulness is defined as the degree to which a particular person believes that using a particular system enhances his or her job performance (Davies, 1989). Perceived usefulness is an important variable that has been identified as a key factor in influencing users to accept technology (Davies et al., 1989). Subsequently several studies have supported perceived usefulness as having a direct effect on the adoption of internet banking (Jaruwachirathanakul & Fink, 2005; Eriksson, Kerem & Nilsson, 2004; Pahlila, 2004). Perceived usefulness is evidenced in internet banking through the advantages that internet banking offers: convenience, quick service, and accessibility (Karjoluoto et al., 2002; Polatoglu & Ekin, 2001;

Gerrad& Cunningham, 2003). Davies (1989) concludes that people will tend to use the system if they believe it will help them perform their job better. In the UTAUT model this known as Performance Expectancy (PE) and is defined as the degree to which an individual believes that using the system will help him or her attains gains in job performance (Venkatesh, Morris, Davis & Davis, 2003). Similar constructs from existing models that capture the concept of PE include perceived usefulness (TAM/TAM2 and C-TAM-TPB), extrinsic motivation (MM), job-fit (MPCU), relative advantage (IDT), and outcome expectations (SCT).

3.8. Behavioural Intention (BI)

According to TAM, one's actual use of a technology system is influenced directly or indirectly by the user's behavioural intentions. According to TPB, behavioral intention is the direct antecedent of the actual behavior.

4. Demographics characteristics

Demographic factors such as gender, age, experience, and voluntariness of use have been found to have significant influence in the adoption of internet banking. In the UTAUT model, these demographic characteristics are theorized to play a moderating role. These variables have been shown to have significant influence in determining customer's intention to adopt internet banking (Flavian, Guinaliu, &Gurrea, 2006; Karjaluoto et al., 2002; Sathye, 1999).

Methodology

A questionnaire-based survey instrument was employed to collect data for this study. The items selected for the constructs were mainly adapted from prior studies. Items for Facilitating Conditions (FC), Social Influence (SI), Performance Expectancy (PE), Effort Expectancy (EE), Price Value (PV), and Behavioural Intention (BI) were adapted from UTAUT2 model. Items for the Anxiety construct were adapted from the UTAUT model. The first part of the questionnaire-based survey instrument contained demographic questions and the second part included the items for all the determinants (see the appendix for the final instrument). Five-point Likert scales with end points of "strongly agree-5" and "strongly disagree-1" were used to assess participant's perceptions on all the construct items.

The data analysis is processed by using Microsoft Excel in order to test how demographic factors acting as moderating variables on all the determinants affect the behavioural intention to use internet banking.

5. Data Analysis and Findings

Gender

The analysis indicates that female score higher on five constructs (Facilitating Conditions, Price Value, Effort Expectancy, Performance Expectancy, and Behavioral Intention). In Facilitating Conditions construct, the average score for male and female was 3.84 and 4.34 respectively. The difference was significant at $p < 0.05$. This indicates that female perceived FC to be important construct in the intention to use of internet banking. Women attach more importance to resources and support that are available in their intention on whether to adopt and use internet banking.

In Price Value construct, male average was 3.63 while female average was 4.05 at $p < 0.05$). This implies that women place more salient on PV construct than men. The cognitive trade-off between the perceived benefits of internet banking and the monetary cost for using it is more important to women as a determinant factor than it is for men.

In Effort Expectancy construct, the male average score was 3.78 and female average score was 4.28, the difference was significant at $p < 0.05$. This indicates that EE construct is more salient for women than men. Women place more importance on the ease of using internet as a determinant factor for adoption than men. Prior research supports the notion that EE construct will be stronger determinant of individual's intention for women (Venkatesh & Morris 2000; Venkatesh et al., 2000)

In Performance Expectancy construct, the male average score was 3.77 and female average score was 4.30, the significant difference at $p < 0.01$. Women perceived PE construct to be important determinant in the intention to use internet banking. This implies that women tend to place more importance on the technology helping them to enhance their job performance more than more.

Behavioral Intention (male average: 3.80, female average: 4.43, $p < 0.01$) women shows higher intention to use internet banking than men.

In contrast, male score higher than female in Anxiety at averages of 2.70 and 2.26 respectively at $p < 0.05$ significant difference. This shows that men are more carefully when it comes to using technology and they place more importance to security and privacy as determinants of whether to use internet banking than women. There was no significant male and female in Social Influence, so this construct does not effect to gender.

Age

The analysis indicates that only younger individuals (age 35 years and below) score higher in Social Influence construct ($p < 0.05$, averages are 3.56 and 3.19 respectively) compared to older individuals. This shows that younger individuals are easily influenced by others in adopting internet banking. Younger individuals are more susceptible to social influence by others especially their peers and family in adopting technology and in the era of social media craze this seems to be true.

Experience

The analysis also indicates significant relationship between experience and Social Influence. Those with less years of experience (5 years and less) score higher in Social Influence ($p < 0.05$, averages are 3.62 and 3.21 respectively). This shows as the level of experience goes people place less significance on Social Influence or are no longer influence by others.

6. Summary

The findings revealed that demographic characteristics such age, gender, and experience play an important role in internet banking. The analysis indicates that female score higher on five factors; Facilitating Conditions, Price Value, Effort Expectancy, Performance Expectancy, and Behavioral Intention. In contrast, male score higher than female in Anxiety, men are more concerned with security and privacy of internet banking than women. With age, younger individuals are more susceptible to social influence, are easily influenced by others to adopt internet banking. With less experience, social influence plays an important role in internet banking acceptance but as the level of experience goes up Social Influence plays a less significant role as an influencing factor.

An understanding of the factors identified in this study allows bank managers to direct efforts and resources in the most effective and efficient way. Doing this will improve bank business in the long run and encourage their bank customers' to adopt internet banking at a faster rate than it is currently.

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Appendix

Questionnaire

Section A: Basic demographic questions

1. What is your age?
2. What is your sex?
3. Has your company ever used Internet Banking for for the business?
4. If your answer to question 3 was YES, for approximately how many years has your company been using Internet Banking?
5. Select from the list what best describes the industry your company's business is in?
6. How many people are employed at your company? (Please include part-time and full time employees)
7. In which year was your company's established?

Section B: Items used in the model

Please tick on the best option for your company in the column of your perception, of which, the scores have following meaning:

- 1. Strongly dissatisfied; 2. Dissatisfied; 3. Neither dissatisfied nor satisfied; 4. Satisfied; 5. Strongly satisfied*

<i>I. Performance Expectancy</i>	Perception
1. PE1. I find Internet Banking useful in my work.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1 2 3 4 5
2. PE2. Using Internet Banking helps me accomplish things more quickly.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1 2 3 4 5
3. PE3. Using Internet Banking increases my productivity.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1 2 3 4 5
4. PE4. Using Internet Banking saves, me the hassle of traditional banking (convenience)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1 2 3 4 5
5. PE5. With Internet Banking I can access the business bank account any time (convenience)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1 2 3 4 5

II. Effort Expectancy	
EE1. Learning how to Internet Banking is easy for me.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1 2 3 4 5
EE2. My interaction with Internet Banking is clear and understandable.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1 2 3 4 5
EE3. I find Internet Banking easy to use.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1 2 3 4 5
III.Social Influence	
SI1. People who are important to me think that I should use Internet Banking Internet.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1 2 3 4 5
SI2. People who influence my behavior think that I should use Internet Banking	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1 2 3 4 5
SI3. People whose opinion I value prefer that I use Internet Banking	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1 2 3 4 5
IV.Facilitating Conditions	
FC1. I have the resources necessary to use Internet Banking	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1 2 3 4 5
FC2. I have the knowledge necessary to use Internet Banking	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1 2 3 4 5
FC3. Internet Banking is compatible with other technologies I use.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1 2 3 4 5
FC4. I can get help from others when I have difficulties using Internet Banking	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1 2 3 4 5
V.Anxiety	
ANX1: I feel apprehensive about using Internet Banking	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1 2 3 4 5
ANX2. It scares me to think that I could lose a lot of money/information using Internet Banking if I press the wrong button	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1 2 3 4 5
ANX3. I hesitate to use the Internet Banking for fear of making	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

mistakes I cannot correct	1 2 3 4 5
ANX4. Internet Banking is somewhat intimidating to me	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1 2 3 4 5
VI. Price Value	
PV1. Internet Banking services (money transfer, etc.) are cheaper than Traditional Banking	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1 2 3 4 5
PV2. Internet Banking is reasonably priced.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1 2 3 4 5
PV3. Internet Banking is a good value for the money.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1 2 3 4 5
PV4. At the current price, Internet Banking provides a good value.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1 2 3 4 5
VII. Behavioral Intention	
BI1. I intend to use Internet Banking in the future.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1 2 3 4 5
BI2. I will try to use Internet Banking in my work in the future	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1 2 3 4 5
BI3. I plan to use Internet Banking frequently in the future	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1 2 3 4 5

ROAD MAINTENANCE FUND IN VIETNAM: CURRENT STATUS AND FACTORS CAUSING LOSS OF MAINTENANCE COSTS

Hoang Ngoc Son

Inspectorate of Ministry of Finance, Email:hoangngocson1982@gmail.com

Hung Bui

*Faculty of Urban & Environmental Economics and Management, National
Economics University*

Email:hung.mtdt2012@gmail.com

Abstract:

Experience from countries over the world shows that if road management and maintenance are not paid due attention, it will result in loss of national assets. According to the recommendations of international financial organizations, if spending 1 Vietnamese dong for maintenance to ensure the roads in good and safe condition, 3 Vietnamese dong can be saved in transportation operation by saving fuel, reducing depreciation and improving vehicle productivity, reducing travel time. In contrast, if spending is short of 1 Vietnamese dong for road maintenance, it will cost 4 Vietnamese dong for rebuilding and rehabilitation. By identifying the inadequacies of road maintenance management at the moment, the article clarifies the factors that influence the quality of traffic works causing loss of road maintenance costs.

Keywords: *Fee, management, maintenance, road, transportation, traffic.*

1. Introduction

In Vietnam, transportation accounts for a large proportion of inland transport. Along with the socio-economic development, this proportion continues to increase next year. In order to meet the demand for road transport, in addition to investing in building new roads, upgrading existing routes, management and maintenance are very important and this is a strategic asset management division, road traffic infrastructure control in our country.

During the process of exploitation and use, the roads should be maintained as technical requirements. In some countries (such as China, India etc.), there are formed Highway Investment Funds, the revenue of the Fund from the collection of petroleum and the collection of vehicles using high-speed roads (for vehicles and number of

kilometers). Both meet the maintenance needs, and meet the needs of investment and renovation. In general, the Fund's revenue mainly serves the maintenance of the national highway system. Over the past years, the Government has also paid much attention to allocation of funds for road maintenance and management, but this fund only meets nearly 40% and about 20-30% of the maintenance management needs for national system and local road system respectively¹. It is also recommended that Vietnam should increase its investment in transport infrastructure by 3% of GDP (of which investment in new construction should be about 2.4% of GDP and management, maintenance and repair should be about 0.6% of GDP). Road use is also considered as the use of other public services, and road users need to pay for better service.

After 30 years of “Doi moi” (renovation), the country and people's lives have changed significantly, trade exchanges between localities have increased, which led to increasing demand for cargo transportation and vehicle traffic in which heavy-duty vehicles are accounting for an increasingly high percentage, family car is more popular. Road network and road work systems are subjected to a lot of vehicle load. The deterioration of roads is an indispensable problem in operation process. Only careful management, continuous attention can mitigate the deterioration of road traffic system. If road maintenance and repair is not paid due attention, there will be many consequences for people and property. Traffic participants will be prone to road crashes because of driving on the bad roads. Transportation costs will increase due to poor roads which cause fuel losses. Moreover, as traffic continues to operate over time, deterioration of road quality also increases, if these roads are not maintained timely, they must be rehabilitated costly. Towards a balance between maintenance and recovery, contributing to reducing road traffic accidents, strengthening capacity in accident prevention and mitigation, on March 13th, 2012, the Government issued the Decree 18/2012 / ND-CP on Road Maintenance Fund. In particular, to ensure road maintenance and restoration of damaged roads, the Prime Minister issued Decision No. 1486 /QD-TTg dated 5th October 2012 regarding the structure and operation regulations of the Central Road Maintenance Fund, the Road Fund Management Board, for the performance of related works.

The Road Maintenance Fund is established at the Central (the central fund) and in the provinces and cities directly under the Central Government (local funds). The cost of the annual maintenance fund is very large (in 2016, it is over 10.1 trillion) and it is predicted that next year the cost will increase more than the previous year.

¹ Summary report of Central Road Maintenance Fund in 2016 and planned to 2017

Therefore, it is very important to evaluate factors that directly affect maintenance costs.

2. Methods:

By studying the current state and factors that directly affect the costs of the Road Maintenance Fund, the authors have used the following methods:

2.1. Data sources and collection methods:

- Secondary data sources: The study collects road maintenance fund review reports from 2013 to 2016.

- Primary data source: Based on the criteria and norms, the study uses the questionnaire to investigate the information for the state management assessment of the expenditure status of the Road Maintenance Fund.

2.2. Analytical Methods:

By using mathematical statistics methods to process data as a basis for measuring scale and research model. The main tool used to process research data is SPSS, AMOS and One-Way ANOVA for comparison. In addition, the topic also uses factor analysis method.

2.3. Expert based methods:

During the study, the author has consulted experts working in the Central Maintenance Fund, the Local Maintenance Fund, the General Road Administration, the Ministry of Transportation, the Ministry of Finance, the local Department of Transport.

3. Results:

3.1. Organizational Model of the Road Maintenance Fund

The Central Road Maintenance Fund established by the Prime Minister is located at the Ministry of Transport; the local road maintenance fund is established by the president of the province or city under central authority, which is located at the Department of Transport.

Local road maintenance funds receive amounts allocated from the Central Fund, from local budgets for local maintenance; Revenues related to the use of local roads in accordance with regulations such as the tolls for the use of local road traffic infrastructure, the circulation of vehicles over the permitted weight of roads and bridges licensed by local, etc.

The Fund Management Council (hereinafter referred to as the Board) performs the task of managing the Fund and assist the Central Fund Council with the Fund Office.

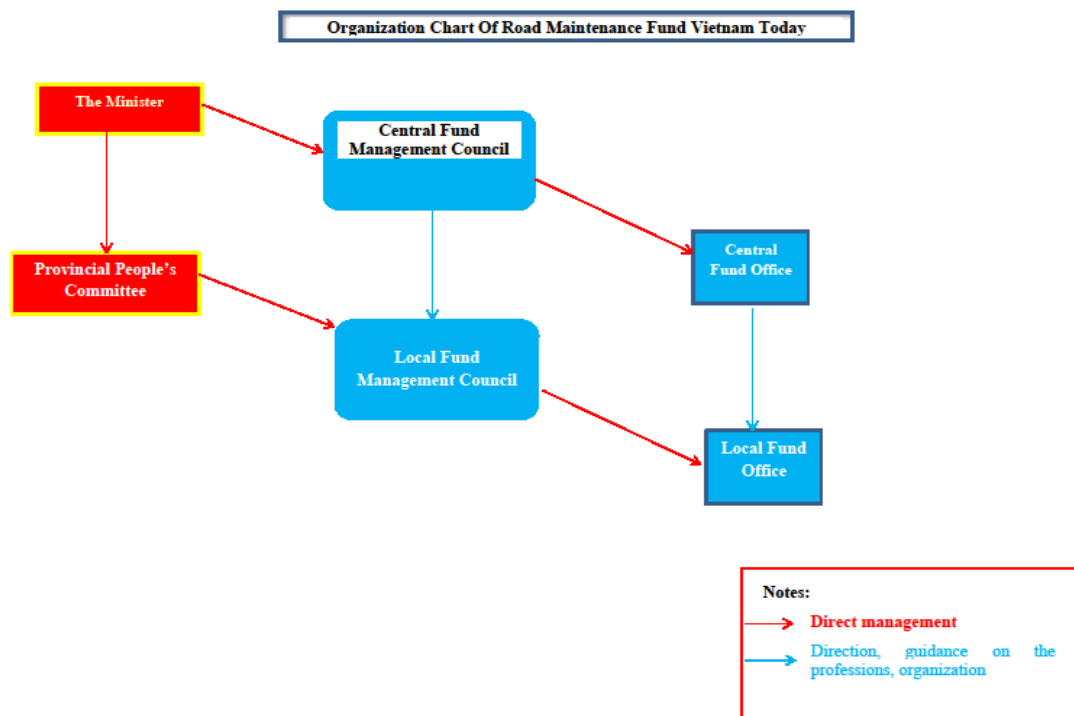
The Central Fund Management Council consists of the chairman, vice presidents and part-time committees, appointed by the Prime Minister. The Chairman of the Council is the Minister of Communications and Transport; The Vice Chairmen of the Council are the Vice Minister of Transport, the Vice Minister of Finance, the Vice Minister of Planning and Investment and the General Director of Vietnam Road Administration. Board members include: Permanent Member of the Board cum Chief of the Fund's Office; Deputy Director General of VRA; Leaders of Department of Finance, Ministry of Transport; Leader of Department of Transport Infrastructure, Ministry of Transport; Leader of the Vietnam Register. Leaders of the Administrative Department, Ministry of Finance; Leader of the Budget Department, Ministry of Finance; Representative of Vietnam Automobile Transportation Association.

The local Fund Management Council is made up of the Council President, the Vice Presidents and the part-time Commissioners. The Chairman of the Council is the Vice Chairman of the Provincial People's Committee; The Vice Chairman of the Board includes the Director of the Department of Transport, Director of the Department of Finance; The members are leaders of the Department of Transport, leaders of the department of the Department of Finance, representatives of the Association of automobile transport of the province. Local Permanent Fund Management Councils are located at the Department of Transport.

The Central Fund Office operates on a full-time basis and has its own stamp and funds in the Fund's accounts in support of its operations.

Inputs of maintenance funds from the following revenues:

- Road tolls collected from cars (*From Vietnam Register and Automobiles of Ministry of Public Security and Ministry of Defense*)
- Fee collection of motorbikes in localities (starts from June 1, 2012 and stops from June 5, 2012)
- Additional budget allocations.



The total expenditure for road maintenance in 4 years (from 2013 to 2016) is about 32,905.28 billion VND.

Statistics show that, in 2013, the Central Maintenance Fund's disbursement was 6,391.107 billion, namely:

- For highway maintenance expenditure, the disbursement from the Central Fund for maintenance of the national highway system and road maintenance tasks in 2013 was 4,670.547 billion VND (Excluding expenses for the operation of the Fund Council and the Central Fund Office), regular maintenance expenses were allocated to 04 Road Administration Department under the General Department of Traffic and 48 Departments of Transport to carry out maintenance tasks. National Highway was 1,196,410 billion VND (maintaining 102 highway with a total length of 17,868 km, 281,781 meters long for 4,486 bridges); Expenditures were periodically repaired for periodic repair of 904 projects. Specifically as follows: 483 transition works from 2012 were completed all; 421 new refurbishments, 395 completed works (72 of which had been refurbished to improve black spots and potential for unsafe traffic), 26 transitional works were completed in 2014.

- For funding activities (35%) from the Central Fund for Local Funds: By the end of December 31st, 2013, the amount of money the Central Fund had transferred to the Local Funds was 1720.56 billion. Local funds planned to use 35% of the funds

from the CENTRAL FLOW Fund to carry out repair projects of 201 local routes (including 185 provincial roads, 04 urban roads and 12 ward routes)

In 2014, the money that The Central Maintenance Fund disbursed was 7,360,157 billion, namely:

- For maintenance activities of the national highway system: Regular maintenance is assigned to 04 Road Administration (under Vietnam Road Administration) and 49 Department of Transportation to carry out maintenance tasks for 125 main highways and 18 additional routes (national highways, ATK lines or bypass) with a total length of 17,641km; Periodic repairs have completed 279 transition works from 2013 to 2014, disbursements 85% of the work done. For the refurbishment projects, based on the Central Fund Council's expenditure plan, the Vietnam road central board completed the approval of all projects (485 projects). By the end of December 31st, 2014, there were 386 bridges and 2,883 km of repairs, 24 black spots and 101 missing points of unsafe traffic, etc.

- For the operation of capital (35%) from the central fund transferred to the local fund: By the end of December 12th, 2014, the amount the Central Fund transferred to the local Funds was 1572.5 billion dong. Local funds planned to use 35% of funds from the Central Fund to carry out projects to repair 212 local roads (including 188 provincial roads, 06 urban roads and 18 ward roads).

By the end of December 31st, 2015, the Road Maintenance Fund disbursed 9,016,547 billion VND, specifically:

- The Central Road Maintenance Fund allocated the plan for the year 2015 and transferred the capital to the General Department of Roads of Vietnam for a total value of 6,899,844 billion dong causing 19.2% compared to 2014, successful bidding 129/131 packages for management and maintenance of national highway from 2015 to 2017. In terms of overall volume up to now, the units have been repaired: repairing 230 bridges with 9,685m of bridge beams, 21,849m² steel bridge bridges; 22.832m gap expansion joints and 14.351m² sphere surface repaired; Renovated 40 black spots, hidden traffic accident; 20,688,084m² asphalted pavement; 2,904,364m² 3 layered asphalt surface ; 2,151,666 m² asphalt pavement; 754.690m of sluices were built, replaced and supplemented; 96,987 m of wavy roof, etc.

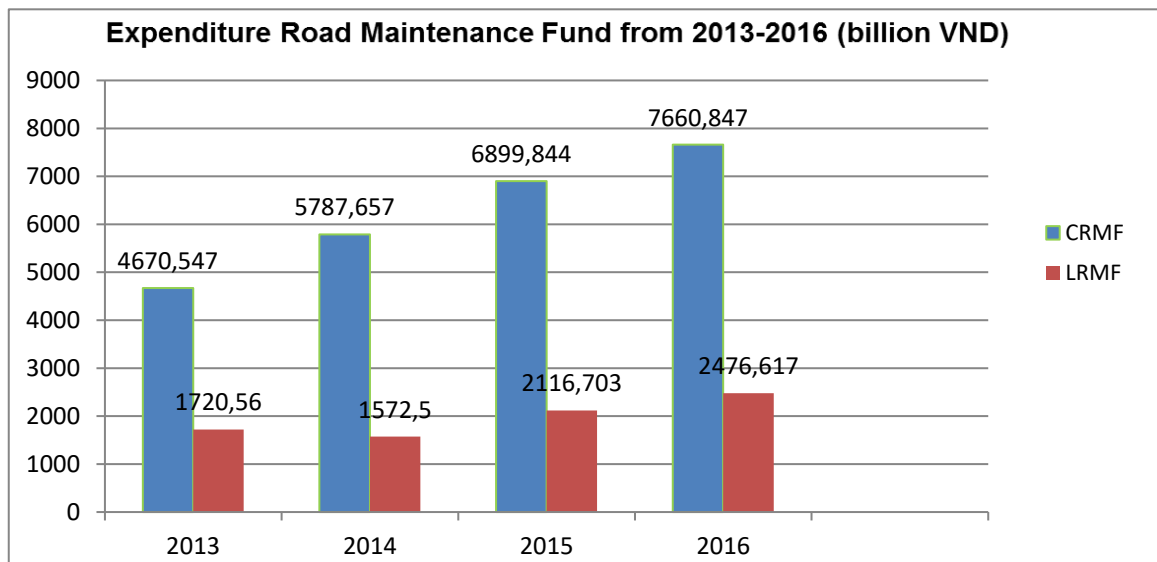
- Regarding the allocation of 35% of the central motor vehicle toll collection fees for Local Road Maintenance Funds, The Central Fund Board approved the allocation plan for 2013 for 63 funds which was 116.703 billion VND. Local funds

utilized 35% of the funds transferred from the Central Fund to repair 224 roads (including 184 provincial roads, 07 urban roads and 13 ward roads).

To 31/12/2016, total expenditure for repair, maintenance of road traffic systems in our country (According to data of State Treasury after separating expenses for organizational work as prescribed) is 10,140,416 billion VND (increase by 1,124% compared to 2015)¹:

- The Central Fund issued additional allocation and allocation decisions for the General Department of Vietnam Railways to carry out national highway maintenance and related tasks with a total budget of 7,660,847 billion VND. The General Directorate of Roads of Vietnam carried out the following tasks: Regular maintenance, periodic repairs, traffic safety, handling of black spots, overcoming storms and floods and other related tasks.

- For funding of 35% allocated to local funds, the Central Fund Fund approved the 2016 allocation plan for 63 local funds of 2,476.617 billion VND. Local funds had repaired 263 local roads (including 204 provincial roads, 27 urban roads and 32 ward roads) and support to localities with a total budget of 369, 4 billion VND in 2016. At the same time, it was agreed to continue supporting localities when capital conditions were available.



The cost of the annual maintenance fund is very large (in 2016, it is over 10.1 trillion) and it is predicted that next year the cost will increase more than the previous year. Therefore, it is very important to evaluate factors that directly affect maintenance costs.

¹ Summary report of Central Road Maintenance Fund about works in 2013, 2014, 2015, 2016

3.2. Factors That Affect Road Quality And Road Maintenance Costs

Factors that affect road quality and road maintenance costs, including the two main groups of direct influence factors:

3.2.1. Group of natural factors:

- *Topographic factor:* Due to the nature of terrain, the road also depends on the terrain and faces some disadvantages such as straight road segment in the delta or winding roads with straight and curve segments in mountain road intersection, even with vertical curves due to complex terrain. Geologically, many places have weak soil, usually organic clay soil with high water content, small volumetric weight, very small water permeability, low anti-shear strength and high compression ability such as: Soft clay, muddy, peat... Therefore, quality of road surface is easy to be affected.

- *Climate factor:* Our country has a tropical climate, the North has a tropical monsoon climate which makes the road surface dirty and wet. The factors such as surface water, groundwater and water vapor also reduce the intensity of the soil in the roadbed talus and inside the road which cause the whole block unstable and unstable intensity.

- *Hydrothermal conditions of the roadbed:* It is influenced by many factors such as rain water, surface water, ground water and water vapor, which affect the road structure. If the road is not compacted, embanked and applied regularly drainage measures, the roadbed structure and pavement layer will be quickly destroyed.

- *Disaster factor;* In our country, natural disasters usually occur by seasons. Floods and hurricanes damage the roads, cause landslides and break down the road structure. At present, under the impact of climate change, natural disasters are increasingly complex and unpredictable. Therefore, it is necessary to set up an early warning system so that we can actively and timely respond to the risks caused by natural disasters and reduce human and economic losses.

3.2.2. Group of human factors:

- *Poor quality construction:* Design and construction processes are not appropriate. Investment in equipment and technology of the contractors are limited, without technology renovation. Corporate finance management is poor; Calculating costs of management and serving the construction is not correct. Management and supervision during the implementation process has many weaknesses, lack of professionalism. Bidding low prices to win the bid results in poor quality in construction, unable to cover the cost... All of these can affect the quality of the works.

- *The design criteria of many roads are not appropriate for existing vehicles,* the designs are outdated and construction standards do not comply with international standards that affect the structure and engineering of the road. This is the cause of damage to sidewalks due to overloaded roads.

- *Overloading:* This is a common problem common in transportation activities. The following objects are often overloaded: trucking companies, drivers, passers, overload to reduce transportation cost which causes deterioration of the road.

4. Discussion and Conclusion:

Inspection of Ministry of Finance and the audit of State Audit have been resulted in conclusions on the activities of Central Road Maintenance Fund over the past years. Basically, the units have managed and used the funds properly as prescribed but some units still have some shortcomings and limitations in preparation and allocation of expenditure plan, payment and settlement... The inspectors and auditors have recommended Vietnam Road General Department, Local Funds and related units to rectify financial management on which Central Fund Council has instructed relevant agencies and units to implement the conclusions of Inspectorate of Ministry Finance and State Audit.

The inspection and examination has initially achieved positive results, contributed to reduce the negative consequences, loss of road maintenance fund. The inspection showed that the use of funds to maintain the road was not on the right way, "not timely," especially in the south during the rainy season expenditure plan for road maintenance was not timely. The inspectorate also pointed out that Departments of Transport (about national highway which they are authorized to manage) has made incorrect estimation and payment of road maintenance (in terms of norms, quantity, labor unit price, fuel price...), which resulted in settlement of road maintenance fund improperly.

Information and propaganda work had been carried out in a synchronized manner and focused on the collection of road toll charges by means of media on some mass media and updated information on the projects. Road maintenance on national highways, however, the repair of local roads and issues related to local road maintenance funds had not been fully informed leading to a part of people had seen all the positive and social effects of the Road Maintenance Fund leading to the Central Fund must propose the Government to temporarily stop the collection of road tolls from motorcycles and motorbikes, new village in the locality

Suggested solutions from the authors:

- In order to ensure the transparency in using road maintenance funds, in addition to communicating, disseminating and propagandizing the activities of Road Maintenance Fund, ensuring that the operation of Fund is publicized, transparent and effective and meets requirements of society and people, it is necessary to develop a survey program to get road users' comments on the improvements in national road networks and the effectiveness of road maintenance.

- In the future, investments in modern technology for data collection and analysis of road maintenance information are very necessary to monitor the status of road network systems requiring maintenance and to evaluate rehabilitation programs and avoid overlapping information and funding. In addition, investments in modern equipment can help identify funding forecast for road rehabilitation and maintenance projects, calculate long-term resources to protect the road network optimally.

- Actively coordinate with the specialized inspection and auditing agencies so that the Fund Council can operate the Central Fund's activities in accordance with the regulations and remove difficulties and problems arising in road maintenance activities.

- To step up the application of science and technology, apply mechanization in road maintenance, and at the same time request the road management agencies to intensify the work of managing and controlling the truck's load, managing the hallway safety and road traffic infrastructure for efficient use of Road preservation funds.

- Coordinate with the agencies of the Transport Department to further promote the socialization of maintenance through bidding, ordering the supply of public utility products and services, using the right source of capital. Ministry to improve the quality and maintenance of road works. Renew the organization of management of road traffic infrastructure in order to improve the effectiveness of management and supervision of the units performing the maintenance.

- Continue to coordinate with the National Traffic Safety Committee and relevant agencies to handle some black spots and potentially dangerous traffic jams.

- Actively mobilize capital from ODA and other legal capital for road maintenance....

When road maintenance is carried out optimally, the roads with good quality will significantly reduce traffic accidents, save transportation costs and fuel. To achieve sustainable development and operation of roads, road maintenance funds need the long-term and stable solutions./.

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CONSIDERATION OF COSTS IN SELECTING TECHNOLOGY FOR WASTEWATER TREATMENT IN VIETNAM

MA. Nguyen Thi Que

garlickey@gmail.com

Accounting Faculty, Hanoi Industry University, Hanoi, Vietnam

Assoc. Prof. Dr. Nguyen Trong Co

co.hvtc@gmail.com

Academy of Finance, Hanoi, Vietnam

Assoc. Prof. Dr Nguyen Thi Phuong Hoa

phuonghoaneu@gmail.com

*School of Accounting and Auditing, National Economics University, Hanoi,
Vietnam*

MA. Ngo Thi Hong Tham

thamnth@ftu.edu.vn

Accounting Faculty, Foreign Trade University, Hanoi, Vietnam

Abstract

For waste treatment such as wastewater treatment, selecting technology that is appropriate to the site, area and waste can help to save up-to billion Vietnam dongs. This is because selecting the right technology helps to ensure economy, and to increase productivity and efficiency of treatment. This is very important to Vietnamese waste treatment companies when capital is always a big constraint. Selecting the right technology is thus essential, helps to protect environment and to develop socio-economic status. This article analyses costs of wastewater treatment by looking at the selection of treatment technology, then draw recommendations for authorities and companies.

Keywords:

Wastewater treatment, costs, technology

1. Introduction

Wastewater treatment is an increasing pressure in Vietnam because the wastewater from business and production activities, and from households increases rapidly in volume and complexity. Beside such pressure, wastewater treatment companies in Vietnam receive their revenue based on the volume of treated water, so for sustainable development and growth, they have to do controls over their costs effectively. Among the costs of wastewater treatment companies, costs relating to technology are large and complex, hence attract attention of the companies' managers. Costs of wastewater treatment technology includes costs of initial investment in technology and operational and maintenance costs in running the selected technology.

The article analyses and compares costs of each technology and gives recommendations to the technology that may be chosen for wastewater treatment companies in Vietnam.

Depending on wastewater and criteria for processed water, there can be corresponding technology to be chosen. Selection of treatment technology will be done by investors based on consultancy of technology providers. In the current practice, there is more and more projects being conducted, then practical information from undergoing projects can have strong influence on selection decision. There are many selection criteria, but the quantitative and often used criteria are:

- *First*, good and pervasive application in practice. Pervasive application is important because investors can observe and verify the effectiveness of the technology recommended. Due to the importance of good practice, to recommend the new technology A2O, JICA funded a large amount of capital to establish Kim Lien and Truc Bach plants to demonstrate their effectiveness;
- *Second* is the area of land used for a water treatment plant. This criterion is especially important for plants to be located in crowded urban regions. For example, HoTay wastewater treatment plant in Hanoi has capacity of 15,000 m³/day, uses OD technology, and occupies a large area of 4.6 hectas. Large plants in crowded areas may generate wide pollution impacts on surrounding citizens. According to QCVN 07:2010/BXD, the safety distance of a waste treatment plant to surrounding inhabitants is 300 meters, which seems impossible in crowded cities. Large areas for plants also increase the costs of compensation and site clearance, generate dangers for food safety and reduce land resources for agriculture and/or industry. Hence, the project was

cancelled. Instead, a new project using SRD technology, with capacity of 30,000 m³/day, occupying only 0.46 hectares was introduced. A small area of plant helps reduce costs of building. Besides, undergrounded buildings reduce environmental impacts, so the safety distance is only 30 meters. Therefore, the project is selected. The small area needed makes the selection of place easy, and convenience for transporting and assembling systems. Total costs of the treatment activity can therefore be reduced. As such, land area is an important criterion for selecting technology.

- *Third*, costs of initial investment and costs of plant operations are the next important criteria. If a project has both its initial investment and operational costs lower than other projects, the selection of the former is clear. In case there is no project like that, Net present value (NPV) of costs of each project should be calculated for comparison. The priority will be given to the project with the lower NPV of costs because it saves the total costs (in present value) to the company.
- Besides, other criteria can be used but they can be finally attributed to 3 criteria aforementioned. For example, difficulties in running the selected technology, and easiness to change/replace components... are included in operational costs because operational costs include labour costs, maintenance costs, etc.

2. Method

The study is conducted using literature review on wastewater treatment technologies, analysis of features, advantages and disadvantages of each type of technology, and survey of technologies used in wastewater treatment plants in Vietnam.

3. Results

Results of the survey of wastewater treatment companies in Vietnam are shown in Exhibits 2.1 to 2.6. Exhibits 2.1 and 2.2 demonstrate capacity of technology used in Vietnam:

- In terms of the number of plants, SBR is the most popular used technology in urban wastewater treatment plants in Vietnam. SBR currently accounts for 32% of total wastewater treatment plants. The next popular technology is lake (27%), then OD (16%), CAS (10%), TF (6%), and A2O (6%);
- In terms of capacity, technologies are much different from each other. SBR has the highest capacity of 48%; then CAS (23%); Lake (18%); OD (8%); TF

(2%); A2O (1%). The higher capacity the higher productivity of technology, hence the higher efficiency to the company. This can be a reason why SBR is the most popularly used technology. The low capacity of A2O, TF, OD implies inefficiency of investment. Further improvements to increase capacity of these technologies will be needed.

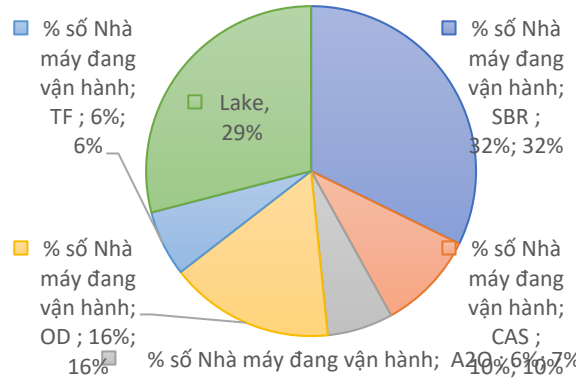


Exhibit 2.1: Share of Technology used in Wastewater treatment plants in Vietnam

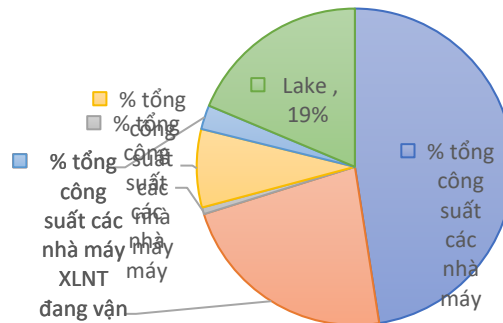


Exhibit 2.2: Capacity of Wastewater Treatment Plants using Different Technologies

On the variation of capacity of technology, Exhibit 2.3 illustrates the average, maximum and minimum capacity of different technologies applied in Vietnam.

- SBR normally has capacity among 2,000 ÷ 250,000m³/day; CAS 5,000 ÷ 220,000m³/day; OD 2,350 ÷ 40,000 m³/day; Lake 3,000 ÷ 46,000m³/day; TF 7,400 ÷ 15,000m³/day; A²O 2,300 ÷ 8,000m³/day. So OD, Lake, TF, and especially A2O are run with small capacity, and thus not appropriate for large and crowded cities such as Hanoi, Hochiminh. Capacity of SBR, CAS varies greatly, so they can be used for small plants, medium and large plants.

- The average capacity of wastewater treatment plant using CAS technology is 65,000m³/day, using SBR is 41,000 m³/day; using Lake is 18,000 m³/day; using OD is 14,000 m³/day; using TF is 11,000 m³/day; and using A²O is 3,000 m³/day. These again demonstrate that SBR and CAS are more appropriate to large and crowded regions. Meanwhile, OD, TF, A2O are more suitable to small areas.

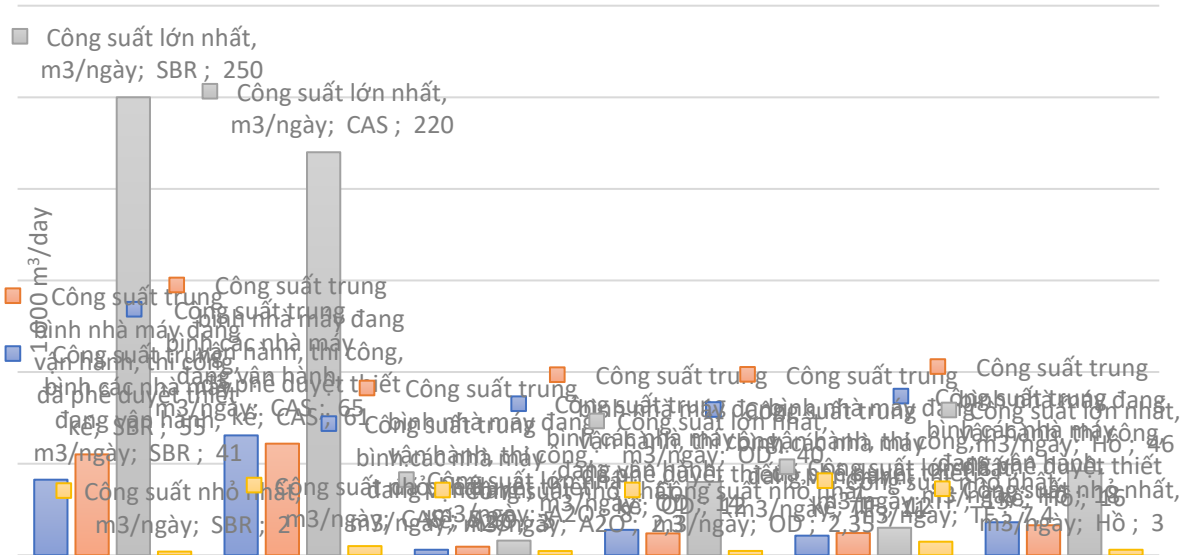


Exhibit 2.3: Capacity of technology applied in Vietnam

On the land rate, Exhibit 2.4 demonstrates capacity of wastewater treatment plant and land used (m²/1,000 m³/day). SBR has the lowest area rate for 1000 m³/day, then is the CAS, Lake, OD. Lake shows a little bit difference of investment rate with capacity of 8,000 m³/day and 30,000 m³/day. Lake-technology plants in Danang occupy small areas, comparable to OD and TF. However, these lakes cannot process wastewater for QCCP and thus are replaced by other technologies.

Similar to the land rate, investment rate and plants' capacity are shown in Exhibit 2.5. Lake technology has the lowest investment rate, the next is SBR, then TF, OD, CAS, A2O. However, because lake technology uses large areas of land, eg. Binh Hung Hoa plant in Hochiminh City, costs of compensation and site clearance were a lot making the total investment rate of lake higher than other technologies.

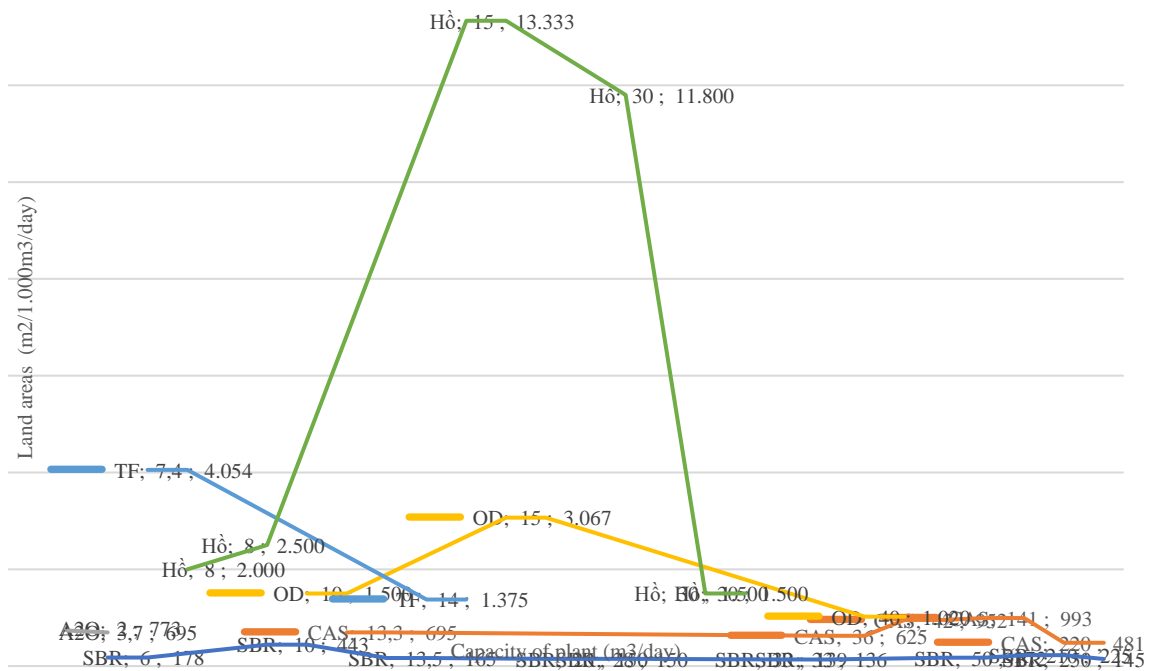


Exhibit 2.4: Land used by wastewater treatment plants in Vietnam

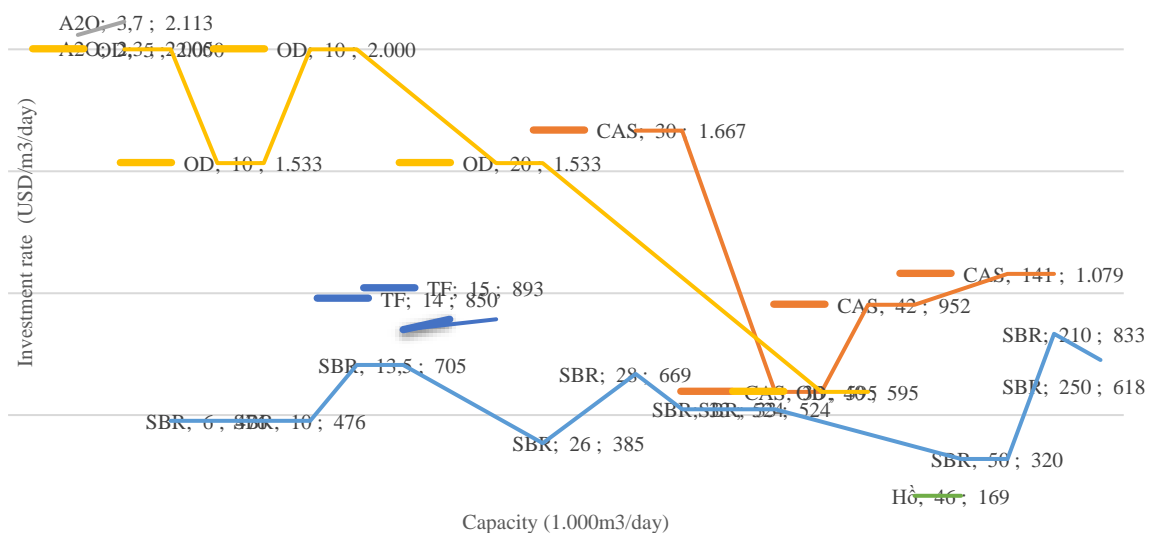
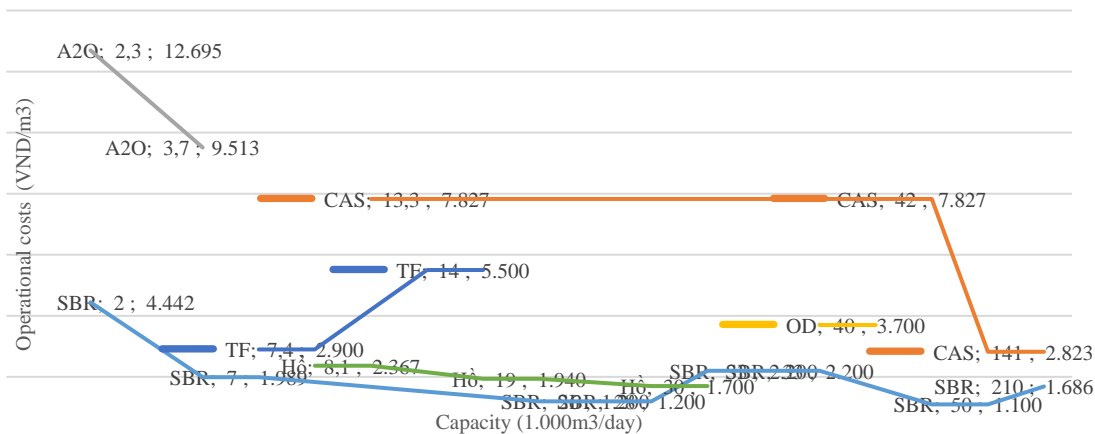


Exhibit 2.5: Investment rate and capacity of wastewater treatment plants in Vietnam

On the operational and maintenance (O&M) costs and capacity (Exhibit 2.6), SBR has the lowest operational costs, then is lake, OD, TF, CAS, A2O. The operational costs criterion therefore lends priority to SBR.



In summary, practices in Vietnam show that SBR is popularly applied, low land usage, low operational costs. Lake has the lowest rate of investment, but if compensation and site clearance costs are included, the investment rate of lake is high.

CAS, SBR, TF, OD, A2O all have low reserve so an advantage of lake is environmental reconciliation. Nowadays, water treatment plants have SCADA (Supervisory Control and Data Acquisition) that makes plants more efficient. Reservations supporting SCADA should therefore be planned: automatic SCADA, semi-automatic SCADA, and manual SCADA. In case of manual operations, SBR requires direct supervision of operators, and this is a drawback of SBR as compared with CAS, OS. TF, A2O. But SBR plants can overcome by using a timer control system.

4. Discussion and Conclusion

The authors' point is that selection of wastewater treatment technology should meet 3Es (effectiveness, efficiency and economy) for sustainable development and growth purposes of wastewater treatment companies in Vietnam. This in turn contributes directly and significantly to environmental protection and sustainable development purposes of Vietnam.

Effectiveness of an operation means that the actual output of the operation meets the targets, eg. Quality of treated water, amount of treated water. Economy means that actual costs of conducting an action are lower than the budgeted costs of such action. Efficiency implies that given the constrained input eg. capital, the output achieved is high. Selection of technology depends on investors, criteria for water after treatment, economy of investment and operations, feasibility of place, accessibility to verify... SBR is the technology that meets these criteria rather well so has been selected and should be continued to be selected for wastewater treatment in Vietnam.

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MUNICIPAL SOLID WASTE MANAGEMENT AT LOCAL MARKETS: THE CASE OF HAI BA TRUNG DISTRICT, HANOI, VIETNAM

MA, Ph.D Candidate. Ngo Thanh Mai

thanhmai_ngo@yahoo.com

B.A Vu Thuy

vuthuy1101@gmail.com

*Faculty of Urban & Environmental Economics and Management, National
Economics University, Hanoi, Vietnam*

Abstract

"Market" is known as an integral part of social life and plays an important role in the socio-economic development of each locality. Due to the habit of shopping and consumption, most Vietnamese people prefer purchasing commodities at local markets to going to the supermarkets or convenient shops. This habit leads to the persistence of local market in the big cities such as Hanoi capital. In order to preserve traditional market models existing in big cities like Hanoi, it is necessary to reconcile between the development of retail trade and environmental protection. This article analyzes the status of municipal solid waste management at local markets in Hai Ba Trung district, Hanoi; and use contingent valuation method to assess people's willingness to pay for improving the market environment. Based on these analyses, some recommendations are proposed to improve the effectiveness of MSW management at the local markets toward the sustainable development.

Keywords: *municipal solid waste, solid waste*

1. Introduction

"Market" is known as an integral part of social life and plays an important role in the socio-economic development of each locality. In the ordinary sense, local markets are not only known as places for purchasing the common and essential commodities, mainly retail for people's daily life but also a measure of life quality.

In comparison with other countries, due to the habit of shopping and consumption, most Vietnamese people prefer purchasing commodities at local markets to going to the supermarkets or convenient shops. This status leads to the

persistence of local market in the big cities, such as Hanoi capital, Ho Chi Minh city and so on.

In order to preserve traditional market models existing in big cities like Hanoi, it is necessary to combine between development of retail trade and environmental protection. If the environment is not well-managed at the local market, this results to environmental pollution, causing urban aesthetics, negatively affecting both seller and buyer's health. And surely, people will switch to shopping in modern retail models instead of going to local markets.

Some real surveys show that in recent years, the management of municipal solid waste (MSW) at the local market in Hanoi still has some difficulties and shortcomings because of people's bad attitude toward waste collection, lack of proper collection time, collection tools, etc. Although MSW management is not a new issue, there's still a need for more studies with other point of views. Thus, the study '*Municipal solid waste management at local markets: the case of Hai Ba Trung district, Hanoi capital*' was done by the authors with aiming at: (i) evaluating the status of MSW management at local markets in Hai Ba Trung district, Hanoi; (ii) using contingent valuation method to assess people's willingness to pay for improving the market environment and (iii) proposing some recommendations to improve the effectiveness of MSW management at the local markets toward the sustainable development.

2. Method

2.1. Research methods

The first method used in this paper is *exploratory approach*. The exploratory works were conducted through serial field observations, household survey and personal communication. Field observation entailed informal observation of MSW management as well as 'participant-as-observer' activities. This method was used to know detail environmental circumstance and problem associated with MSW, such as water pollution, dump, and landfill externality.... Vital information was sourced from the research field through face to face personal communication. These include updated and detailed information that could not be sourced from the field.

The second method utilized in this study is *the contingent valuation method (CVM)*. This method is used to estimate economic values for all kinds of ecosystem and environmental services. The CVM involves directly asking respondents, in a survey, how much they would be willing to pay (WTP) for specific environmental services. In this case, the scenario is that the market's environment would be better if we invested more temporary waste bins, warranted the standards of environmental sanitation, provided enough people who are responsible for sweeping and collecting

garbage at each kiosk in the markets. The individuals in the survey represent for the market demand for environmental services, the interviewer provides information describing the scenario so that the respondent understands the rights and obligations of contributing to the socialization of environment protection. After being informed the information, the respondents will answer how much they are willing to pay for these kinds of environmental goods and services. The demand curve for this environmental service is also the WTP curve.

2.2. Data collection

Two main sources of information and data were utilized in this study.

* *Secondary data source* was obtained Hanoi Statistical Yearbook published in 2016. This data is used to analyze information on socio-economic status in Hai Ba Trung district and to understand the causes of pressure on the generation of MSW and the challenges for this management system.

* *Primary data source* was collected from the field. In Hai Ba Trung district, there are totally 7 local markets, with 3437 business households (N = 3437). The authors select 4 markets which have different management models, different scales for surveying. 100 households were randomly chosen for interviews to obtain the following information: (i) general information about households, (ii) households' assessment of the quality of SW services and their satisfaction in terms of time, frequency and fee collection; (iii) households' willingness to pay for improving environment at the local markets.

Table 1: Information about survey at local markets

No	Market Name	Rank	Management model	Business household number	Selection rate	Surveyed household number
1	Hom- Duc Vien market	Ranked 1	Management board	774	5%	40
2	Mo market	Ranked 1	Enterprise management	625	5%	30
3	Dong Tam market	Ranked 2	Management board	298	5%	15
4	Back Khoa market	Ranked 3	Management team	143	10%	15
Total (n)						100

Source: The authors' calculation

3. Research Results

Hai Ba Trung District is located in the southeast of Hanoi. It is one of the core districts of Hanoi capital, with a natural area of 14.1 km², including 20 wards. Thanks to the location of the southern traffic gate and the favorable natural conditions, in the past few years, its economy has strongly developed with structural change. The economic growth is fairly high with other districts in the capital, reaching 10% in 2015. The population is about 316.3 thousand people (in 2015). In addition, there are so many office buildings, state agencies and large universities located in the district, so the service industry and commerce are growing significantly. In the retail trade service system, there are 7 local markets in operation. Development of local market and improvement of its environment, especially MSW management, have attracted many attentions of local leaders, managers and environmental activists. The results of MSW management survey in local markets in Hai Ba Trung district will be presented in the following sections.

3.1. Municipal solid waste collection and transportation

3.1.1. MSW Sources

In the markets, MSW comes mainly from the business households and a part from the purchasers.

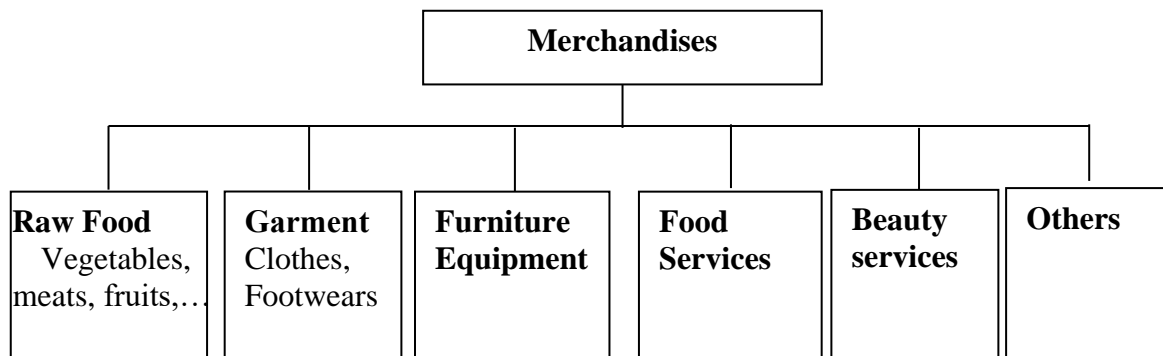


Figure1: General classification of merchandise at the local markets

Source: Authors' compile from the field survey, 2017

Of all the merchandises in the market, the sector accounting for the highest proportion is raw food, including vegetables, fruits, meat, seafood This merchandise accounts for 70-80% of the livestock sector and is also the largest source of MSW. The main MSW are rotten vegetables, roots, fruits, plastic bags, rotten meat/seafood, skin, feathers ... In general, solid waste from this merchandise is mainly organic, so it is easily decomposed, which spreads smells, emissions and pollute the market's environment. On average, each household trading in raw food merchandise generates from 4 to 7 kilograms of garbage per day.

The second largest source of MSW can be attributed to the households catering food services. In the local market, there are many households open catering services such as vermicelli, cake, tea, coffee shops,...The waste is mainly the food leftovers, rotten food, paper, tissues , bottles, plastic bags... Mostly waste is also organic, also easy to decompose. Especially, in this merchandise, solid waste is often associated with domestic sewage. On average, about 3-5 kilograms of waste is discharged by each household per day.

The third source is garment, mainly exhausts re-woven fabrics, labels and plastic bags. Especially, the clothes and shoes kiosks create a lot of plastic bags, goods packages. In comparison with other merchandises, waste coming from garment is not as easily decomposed as others'. If not be collected, it will disperse everywhere, or be kept in soil, leading to bad impacts on environment and aesthetic.

The bigger the market is, the more MSW is generated. In Hai Ba Trung district, three largest market is Hom-Duc Vien market comprising 774 business households, Mo market including more than 600 business households, and the number of Dong Tam market nearly 300 households. The amount of waste is generated from 0.7 to 1 tons of waste every day. Smaller markets such as the Bach Khoa market with 143 business households, the amount of waste generated in the market is less than the others.

In general, most of the generated waste in the markets is organic solid waste. They do not put the impact on the environment and human health immediately like hazardous waste. However, in long term, any kind of wastes, if not be collected and treated, will have negative effects on the environmental and human health.

3.1.2. Municipal solid waste collection at the local market

The collection, transport and disposal of MSW at the local markets is undertaken by Urban Environment Limited Company (URENCO), co-ordinated by the market management board and business households.

In the waste collection process, the kiosk holders are responsible for collecting the waste, then bring them to the temporary waste bins or the garbage truck that are arranged around the market. Each market is equipped with 5 to 10 temporary waste bins and from 3 to 5 special waste trolleys. The environmental team of URENCO is in charge of the collection and cleaning the markets. Because the exchange in the markets occurs so continuously that garbage also arise consecutively. Beside common waste bins, each household has their own waste basket. Each kiosk holder has responsibility for collecting their own generated waste for the first reason to clean up their sell-goods place. With the help from the sellers in the markets, the collection task of the environment teams can be reduced.

In term of time and frequency of collection, because the market activities happen twice a day in the morning and late afternoon, so the environmental team also have to collect and sweep the market at least twice a day, even three times a day. It is up to the arrangement and organization of the environmental teams. Normally, the collection time will be from early morning, before the sellers come to the markets, or late in the evening after the markets finish. Because roads in the market is quite narrow, environmental teams have to choose the collection time while the markets are not crowded.

In term of means of collection, local markets are all equipped with garbage trolleys and temporary waste bins. Business households also own their own waste bins. Small market has 3 garbage trolleys, big market has from 5 to 7 ones. Environmental teams are also provided with brooms, tools, rubbish, gloves, masks and uniform... However, the fact shows that the amount of MSW in the market arises a lot while the means of collection don't meet the need. Temporary garbage bins, garbage trolleys have been used for a long time so they should be degraded. There are still many kiosk holders do not have their own baskets they, therefore, often throw garbage at their feet indiscriminately.

The environmental team reveals that the collection rate reaches at 85-90%. The results of the survey on the actual assessment of sellers on some activities related to the MSW collection in the markets in Hai Ba Trung district is shown on the chart.

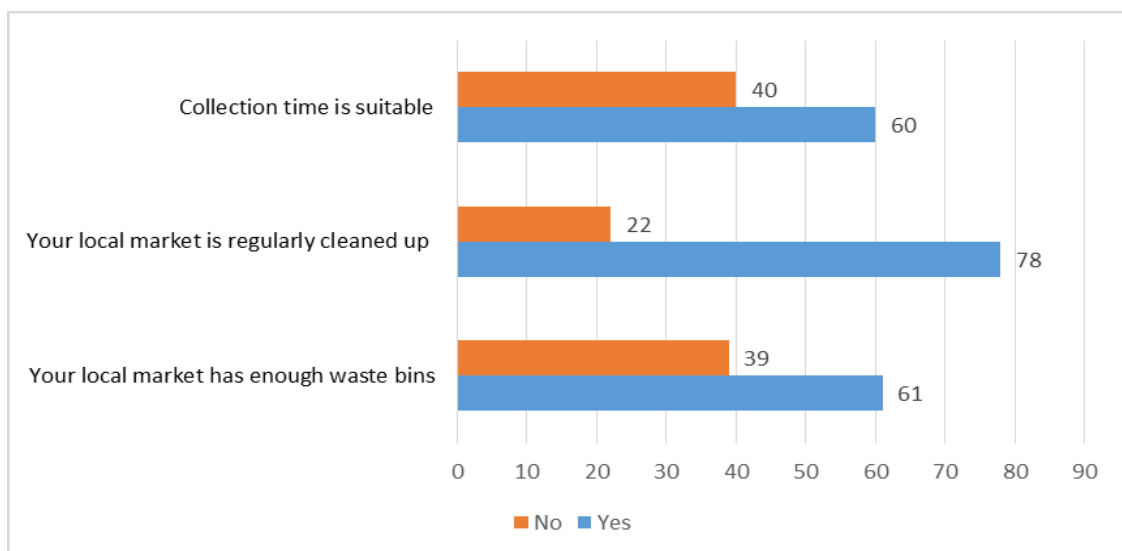


Figure 2: Opinions of business households on the MSW collection at the local markets

Source: Authors' calculation from the field survey, 2017

Firstly, with the question “ Whether your market has enough waste bins or not? “, 62% respondents said the local market didn't have enough waste bins. The

analysis above also shows that the temporary bins are very few, not only the quantity is not enough but the quality also gets downgraded. Both waste bin and garbage trolleys in the market look so dirty, very aesthetic.

Secondly, with the question, “whether your market is regularly clean up or not”. There is 78% surveyed sellers said that the markets was daily swept and cleaned up. This proves environmental activities in the markets happen regularly.

Thirdly, about the time of collection, 60% of respondents said that the collection time was reasonable, while 40% of respondents said that the collection time was not reasonable. In fact, there are some situations happening when the market is meeting, the environmental team comes to collect garbage and the garbage trolleys move in front of the sellers, this makes them very annoyed. Secondly, in some markets like Dong Tam market, collection activities take place in the morning instead of in the evening. Only one night can make rotten vegetables and fruits, rotten meat and fish, slaughtered goods easily decomposed with odor smell Rubbish water leaking into the ground, pouring on the floor for longtime can lead to landfill pollution.

3.1.3 Municipal solid waste transportation

The transportation of MSW in the local market is the activity of bringing garbage from the business households to the disposal site.

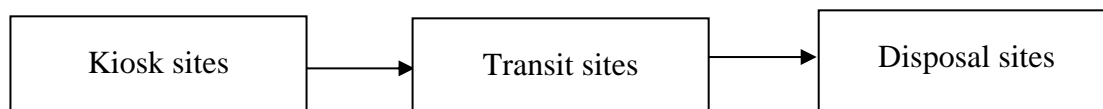


Figure 3: Process of municipal solid waste transportation at the local markets

Source: Authors’ compile from the field survey, 2017

Transportation process is divided into two steps. On step 1, waste from household businesses is brought to the transit waste station by kiosk holders, or by the environmental workers. On step 2, URENCO uses garbage trucks to collect waste from transit station.

Means supporting for this process are hand-garbage trolleys and garbage trucks. Transportation process is quite simple and safe, because most of the garbage transit sites are located near the market. Dedicated garbage trucks are used for taking MSW to the disposal sites step, so there is no waste fall down on the roads in this process.

However, the transportation process has a problem about building transit sites for waste transport. Because markets in Hai Ba Trung district are located in the inner city, so the land available for markets is quite limited, most of the markets do not have standard waste transit sites that meet the environmental standards. Some local

markets have to abuse roadside and pavements for waste transit sites. For example, at Dong Tam market, waste is gathered on pavement of Dai La Street. At the Bach Khoa market, waste is gathered on one side of Le Thanh Nghi street.

The lack of standard waste transit site can causes some problems. Firstly, garbage trolleys and trucks located on the sidewalks can hinder pedestrians. Garbage trucks on roadside can prevent means of transportation from moving smoothly. Secondly, the image of bulky, dirty waste trolleys in the streets not only affects passersby when they get unpleasant odor smell, but also damages the urban aesthetics.

This situation comes from two reasons, the land in the inner city market is not available for building a waste transit site meeting all the environmental technical standards, so we have to take advantage of pavements, roadsides for waste transport and collection. Moreover, the environmental team at markets have done their work while URENCO hasn't come for collecting from transit sites. Garbage trucks and trolleys from the market may have to wait very long before the dedicated trucks arrive.

This problem is the difficulty of almost markets in the inner city and need to be solved.

3.1.4. Environmental sanitation fees

Environmental sanitation fees are applied in every local market in Hai Ba Trung district. The levels of this fees are regulated by the market's management board based on the Decision No. 54/2016/QĐ-UBND of the Hanoi People's Committee promulgating the prices of services for MSW collection. The level of environmental sanitation fees depends on the kind of merchandise or the amount of MSW generated.

The management board of the market is accountable for collecting the environmental sanitation fees from kiosk holders. Fees can be paid per month or per day. The majority of business households registered to trade in markets in Hai Ba Trung district pay environmental sanitation fees monthly. There is difference on the level of fees among local markets. For example, in the Bach Khoa Market, the fee for business households is 150,000 VND per month, but in Dong Tam market, this fee is from 300,000 VND to 420,000 VND per month. In Mo market, this fee fluctuates from 120,000 VND to 450,000 VND per month. Besides, in Dong Tam market, at the temporary tent kiosks area, the activity of collecting the environmental sanitation fee happens daily with the level fee of 10,000 VND per day. The result of collecting environmental sanitation fees according to management board always reaches at 95-98%, that seems very high.

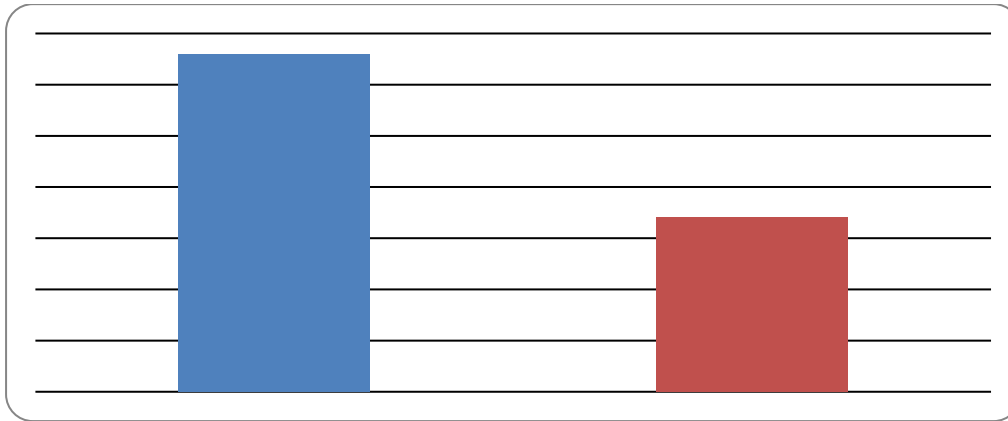


Figure 4: Business households' satisfaction about the level of sanitation fee

Source: Authors' calculation from the field survey, 2017

Assessing the level of environmental sanitation fees in the local market, 66% of respondents said that the level of fees was reasonable while 34% of respondents said that the level of this fee was still high and unreasonable. In fact, some traders think that the level of environmental sanitation fee is high because while their revenues are very low, other fees are very high, especially for the vegetable traders. Some traders in garments and household goods also think that the level of this fee is unreasonable because they throw the least solid waste in the market.

Regarding the support from the management board in the payment of environmental sanitation fees, nearly 95% of respondents did not receive any support from management board. And they are eager to receive support from the market managers, in order to set up a reasonable level for all sellers.

3.2. Business households' willingness to pay for improving environment in local market

It's necessary to assess the willingness to pay for a better environment in the market for promoting the policy of socialization done by the government. The paper defines the environmental quality as a commodity, which aims to establish a hypothetical fund to pay for environmental services including MSW collection, transport, disposal. The level of willingness to pay for market households is reflected in the demand for environmental service quality

Table 2: Number of people agreeing and disagreeing to pay for environmental services

Criteria	Quantity	Rate
Willingness to pay	90	90%
Willingness to contribute effort	10	10%
Total	100	100%

Source: Authors' calculation from the field survey, 2017

Although not all respondents in the markets are willing to pay money for environmental services, they are, somehow, eager for the environment where they are working at to be improved better. Based on the results of the survey, their willingness to pay is presented in below table.

Table 3: Summarizing the WTP levels of respondents at the local markets

WTP	Quantity	Rate
50.000	1	1.11%
70.000	2	2.22%
80.000	2	2.22%
100.000	11	12.22%
110.000	2	2.22%
120.000	3	3.33%
130.000	1	1.11%
140.000	2	2.22%
150.000	10	11.11%
180.000	1	1.11%
200.000	23	25.56%
210.000	1	1.11%
230.000	1	1.11%
250.000	7	7.78%
300.000	11	12.22%
320.000	1	1.11%
330.000	1	1.11%
350.000	6	6.66%
400.000	2	2.22%
420.000	1	1.11%
450.000	2	2.22%
500.000	1	1.11%
Tổng	90	100%

Source: Authors' calculation from the field survey, 2017

During the survey, the respondents provided various levels of WTP. Lowest is 50,000VND per month and the highest is 500,000VND per month. The reality is that the collection of environmental sanitation fees for each kiosk holders in the local markets is different. Therefore, this may also affect on the choice of payment level. Among the levels of WTP, the level of 200,000 VND per month is most chosen (23 households selected). The reasons that respondents are willing to offer such a level of payment are it suits with their income; secondly, they are eager to contribute to environment protection and cleaning the market’s environment. The average WTP per individual is about 218,000 VND.

Using Excel tool to regress WTP levels with the number of respondents who selected, the demand curve for environmental services in the local market:

$$P = 242.993 - 2.78.Q \text{ (P: Price, Q: Quantity)}$$

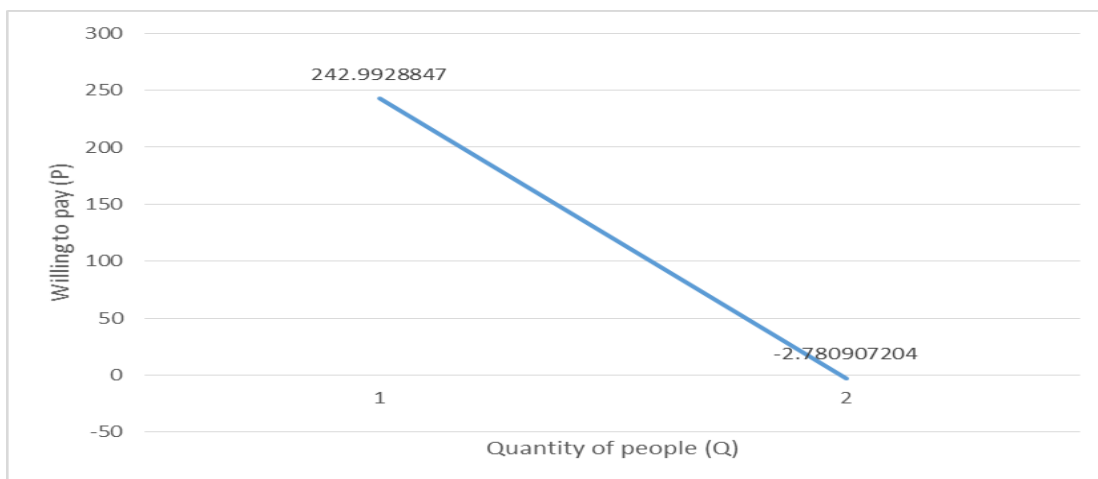


Figure 5: Demand curve for environmental services at the local markets

Source: Authors’ calculation from the field survey, 2017

Demand curve for environmental services is also the WTP curve of sellers for a better environment in the markets.

4. Discussion and conclusions

4.1. Evaluation of the pros and cons of MSW management in local markets

MSW management in the Hai Ba Trung district is a systematic management process with the participation of the State, the enterprise and the community. Nowadays, the local government really concerns about how to renovate the aspect of the local markets, investing capital to modernize infrastructure and improve the environment. Mo market is a typical example. The market is managed by Vinaconex Trading Development Joint Stock Company (VCTD). The market is in the basement of the commercial center. MSW management at this market is quite good, clean and hygienic.

All markets are invested with the basic material and tools for MSW collection and transport. As waste management activities is really concerned and systematic, so the collection rate is quite high.

However, there are some limitations in the management of MSW at the local markets. Several business households' awareness in the market is not good. There is still a situation of littering on the roads in the market, which causes aesthetic loss. The initial waste collection is not scientific because waste is not classified at source. Although facilities have been equipped but still do not meet the needs and the environmental standards. The fee collection is not synchronized.

The main difficulties that local markets have to face with are the location and area of the markets are insufficient to build a waste transit site in accordance with the environmental standards because land in the inner city is no longer available. The initial architectural design of the market is not reasonable and this also affects the environmental activities.

The market roof is so low that it's hard for emissions to escape, sewage system downgraded leads sewage mixed with solid waste, as a result, the market environment is humidity, organic waste is easily decomposed. They are the causes of air and land pollution. Especially, funding for market improvement is limited.

4.2. Factors affecting the WTP level of business households for environmental services

Using the SPSS application to regress the willingness to pay with other factors influencing it, we obtain the regression equation:

Table 4: The results of estimating factors that affect the WTP

Model	Coefficient	t-statistic	confidence rate (%)
Constant	112,86623	2,8	63,67
Income	0,009	3,425	80,66
Education	2,746876	1,67	46,67
Raw meet merchandise	5,323	1,853	52,76
Vegetale merchandise	2,4	0,749	48,83
Garment merchandise	1,264	1,324	69,12
Food Services	3,414168		61,87
Demographic	-27,95923	-2,204	60,87
R ²	0,6745789		
F - statistic	6,276		

Source : Authors' calculation from the field survey, 2017

Equation:

$$\text{WTP} = 112,886 + 0,009.\text{Inc} + 2,747.\text{Edu} + 5,323.\text{D1} + 2,4.\text{D2} + 1,264.\text{D3} + 3,414.\text{D4} - 27,959.\text{Demo} + \text{Ui}$$

Where:

- WTP stands for the willing- to- pay levels
- Inc is the monthly income of the business household
- Edu is the level of education represented by the number of school years
- D1 stands for meat and seafood merchandise
- D2 stands for the vegetable and fruit merchandise
- D3 stands for the garment merchandise
- D4 stands for the food services

With the confidence level = 0.1

Based on F-statistic test to conclude whether the model is statistically significant or not. Comparing F-statistic with F theory, we have F- test = 6.276 which is greater than F- theory (2,88) = 2.493 so the F-statistic test reveals that elements in the model are tight.

$R^2 = 0.67$ demonstrates that variables in the model account for 67% of change in WTP , while the rest are other factors that are not included in the model.

The factors influencing the willingness of people to pay are as follows:

(i) *Income*: The regression model shows that there is a difference in WTP level for each person with different income levels. The coefficient β_2 (of income) = 0.009 (>0) indicates that relation between income and the WTP are positive correlation. Thus, in the condition that other factors remain unchanged, the income increases by 1 million, the WTP increases by 9000 VND per month. If the market environment becomes cleaner, the number of buyers also increases and the business households' income increases as well. Thus, there is an opportunity to increase payments for environmental activities.

(ii) *Education*: The model for estimating the coefficient β_3 of education shows $\beta_3 = 2.747$ (>0). The β_3 coefficient of education factor is also positively correlated with WTP. Thus, in the condition that other factors remain unchanged, the number of school year increases one year, WTP increases 2.747 VND. The regression results also show the importance of education in each person's perception of environmental protection.

(iii) *Commodity factors*: Estimates $\beta_4 = 5,323$; $\beta_5 = 2,4$, $\beta_6 = 1,264$; $\beta_7 = 3,414$ are positive, indicating that the commodity merchandises is also directly proportional to the WTP variable

Specifically, the fruit and vegetable merchandise has an estimate of $\beta_4 = 5,323$. That is, in the condition that other factors remain the same, meat and seafood sellers are willing to pay 5,323 VND. The sellers of vegetable merchandise is willing to pay 2,4 VND; the sellers of germant are willing to pay 1,264 VND and the sellers of food services are willing to pay 3,414 VND.

The factor of commodity merchandise is one of the factors affecting the level of the WTP. Different merchandises have different WTP levels. Estimates of the model are well suited with the real situation, because the environmental status at meat and seafood kiosks is always more polluted. While vegetable traders also generate a great deal of waste, it seems that their willingness to pay is lower, as their income is in small scale.

(iv) *Demographic factors*: Estimates of demographic factor with $\beta_8 = -27,959$, negative coefficient coefficient show that demographics and WTP are negatively correlated. That is, if other factors remain unchanged, the number of people in sellers' family increases by 1 person, the WTP decreases by 27,959 VND.

4.3. Forecast the risk of pollution in the local markets

Because the management activities is still difficult and inadequate, so local markets are still at risk of pollution if there is no effective solutions to environmental issues.

Firstly, the local markets is at the risk of solid waste pollution. This is the most common type of waste in every market. Because the awareness of some business households is not high, the situation of littering on the market roads keeps on occurring. At some local markets, the ground is lower than the roads so the drainage system does not collect all the sewage. Solid waste is together with sewage makes the environment very unhygienic and damp. At the markets, only the garment zone has a cleaner environment. Food services zones, vegetable and meat zones, seafood zones are always in a humid, odor situation.

Secondly, the local markets may also be at risk of water pollution. The demand for water in the market is relatively large, especially for seafood zones, food services and beauty services. It is difficult to collect all the sewage as the collection depends on the initial drainage system. The majority of local markets have been built for a long time, drainage systems are degraded so they do not meet demand of collection. Water from seafood zones still pours into the ground and we have no solution for this situation.

Thirdly, the local markets may also be at risk of air pollution. There are 3 sources that can lead to air pollution in the market. The first source comes from the decomposition of municipal solid waste that produces pollutant emissions. The second source comes from households serving food because they use charcoal stoves for

cooking, which generates CO and CO₂, which is harmful to human health. The third source comes from kiosks of selling and killing poultry ,because poultry can bring together with viruses remaining in the air and causes diseases to human health.

In the survey, of all business households and shoppers in the markets in Hai Ba Trung district, 65% of respondents recognized the market environment is not airy and have bad smell. Assessing and scoring for the market environment on a 5-point scale, the average score for the market environment was only 2.6. This also reflects the quality of the market environment. Unless we find the ways to improve the environment, it will be rapidly polluted.

4.4. Some recommendations

To face with the situation that the local markets will likely be at risk of environmental pollution, it is necessary to offer some solutions to upgrade the local markets and improve the environmental system in the markets.

Firstly, general management solution. Each market should establish a board responsible for environmental management, organize inspection and supervision of business households in compliance with the regulations on environmental sanitation in the market, and monthly monitor the environmental status. This environment board is also responsible for disseminating the law about environmental protection to business households to raise awareness of sellers through training courses. Dissemination of knowledge can be done through the mass media. Besides , each business households has to comply with the environmental sanitation regulations , collect all the generated waste and put them into waste baskets, do not throw away.

Secondly, design solutions. The design of the market must comply with the master plan, the market grounds and roofs must be built higher along with good drainage systems. In addition, it is necessary to design all kiosks in the market in the reasonable way. Kiosks with the same function should be arranged together, to avoid spreading pollution, especially for selling and killing poultry zones, catering food zones.

Thirdly, the solutions for management of MSW collection and transport. More waste bins should be arranged in the market. Business households have responsibility for cleaning their place and put all the collected garbage into the temporary waste bins. Waste bins must meet the environmental standards and be regularly cleaned. Garbage collection should take place several times a day, at least more than 2 times a day. The collection time should be early in the morning, at noon, and in the evening. Collection activities must be equipped with specialized tools. Environmental team shouldn't handle directly by hand with MSW.

Fourthly, economic solutions. Management boards need to strictly collect the environmental sanitation fees in the market, especially for whom generates more MSW, which can pollute the market environment. The market should set up

environmental regulations and force the business households to obey to. There are penalties for business households who do not comply with the regulations.

Fifthly, State policy solutions. The State should raise more capital investment for renovating the design of markets, raise funding for environmental protection in the markets. In addition, the State should promote its policy of socialization by finding out how public concern about the environmental protection and how much they are willing to pay to have a better environment. Environmental management need the coordination between the State and community.

5. Conclusions

In conclusion, the situation of environmental management at the local markets of Hai Ba Trung district shows the differences in the way of management, location and investment, lead to the difference in the quality of market trading and the quality of environment status.

MSW management in the local markets is assessed quite well. Research has shown some achievements in MSW management in the markets and find out several difficulties and shortcomings that need to be improved.

People's behavior comes from awareness. Environmental protection also requires new thinking, new ways of handling, and better management. That must come from the consciousness of people. The paper also figures out the willingness of the sellers at local markets to pay for environmental services. These analyses are the basis for solutions to improve MSW management at local markets in Hai Ba Trung district as well as in Hanoi capital.

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HYGIENIC AND SAFE FOOD: ISSUES FOR RESEARCH ON CONSUMER BEHAVIOR IN VIETNAM

Assoc.Prof., PhD. Vu Huy Thong

National Economics University, Vietnam

Dr. Le Thuy Huong

Hanoi University of Industry, Vietnam

Dr. Pham Van Tuan

National Economics University, Vietnam

Dr. Cao Thi Thanh

Hanoi University of Industry, Vietnam

MBA Le Thi Hai Ha,

PhD Candidate, University of Labor and Social Affairs, Vietnam

Email: thongvh@neu.edu.vn; vuhuythongktqd@gmail.com;

huongl3p@gmail.com; huongl3p@yahoo.com

Abstract

In recent years, hygienic and safe food is a major concern of the Vietnamese people as well as functional agencies of Vietnam. Life improvements lead to increasing application and utilization of technology to production and the growing demands for natural, hygienic and safe products have become the top priority. In fact, the political system is also taking steps to prevent dirty food; at the same time, promoting and creating a legal corridor for hygienic and safe food business, an emerging and rapidly growing business sector in Vietnam. Therefore, the role of applied research in this field, especially the research on consumption behavior of hygienic and safe food in Vietnam, is becoming more and more important. However, there is a research gap, in which there is no research focused on exploring and analyzing the effects of factors that interfere with hygienic and safe food consumer behavior. That poses an urgent need and also creates an opportunity for a new research topic.

Key words: *hygienic and safe food, consumer, factors influencing buying behavior*

1. Introduction

More and more articles and information on mass media have mentioned food poisoning, food containing carcinogens, unsafe food, etc., resulting confused psychology of consumers. Consumers do not know the origin of food from markets, supermarkets, or stores, *and whether food is really hygienic and safe* or not. Literally, hygienic food means food containing no "dirty" substances. Dirty substances are the substances that can possibly and be at risk of harming to human health such as: Toxic chemicals from pesticides, heavy metal ions, mechanical contaminants such as feces or contaminated water, microorganisms or simply dirt from the environment causing food contamination throughout the entire food production and supply chain.

- **Hygienic food** is a generic term for foods that meet one of the quality standard requirements. At present in Vietnam there are three types of standards recognized as follows:

1. / VietGAP standards - Vietnam's advanced agricultural practices based on four criteria: (i) Production techniques satisfying stringent standards. (ii) Ensuring no available chemical contamination or physical contamination during the harvesting. (iii) No labor abuses of farmers in the production environment. (iv) Easy product traceability. *Food according to VietGap standards is commonly called Safe food.*

2./ GlobalGap Standards - Global Good Agricultural Practices that require producers to set up a food safety monitoring and surveillance system throughout from farm preparation to harvesting, processing and storage, including: (i) Farming environment: Land, water and tools. (ii) Drugs and chemicals used. (iii) Packaging. (iv) Working conditions and welfare of Workers. *Food according to GlobalGAP standards is commonly called Safe food.*

3./ Organic standards produced by organic farming, including four no-requirements: (i) No chemical fertilizers. (ii) No toxic plant protection chemicals. (iii) No growth stimulants (iv) No genetically modified chemicals. *Organic food is often called hygienic food.*

- **Hygienic food** is divided into three categories:

(i) Non-polluting food: is so-called *non-toxic or "hygienically safe" food* produced in an environment that adheres to the process of ensuring the final products' satisfaction with quality standards in accordance with state regulations or the requirements of non-contaminated foodstuffs of the industry. It is also a primary food certified by competent authorities to be certified as non-contaminated food. Product standards, environmental standards, and production document standards are

mandatory standards of the state and the industry. Non-contaminated food does not contain harmful pollutants (including pesticides, heavy metals, harmful microorganisms) or harmful pollutants controlled below the permitted limit and ensure food does not harm the health of consumers.

(ii) Ecological food: is also called *Green food*, which is produced under non-contaminated ecological conditions, complying with the regulations of competent functional bodies. Ecological foods meet safety requirements and regulatory criteria and standards for non-polluting, safe and hygienic food.

(iii) Organic food: Is a product produced based on organic agriculture practices and processed in accordance with the procedures of organic products confirmed and certified by competent organ of organic agricultural organizations. Production documents and raw materials for organic products are required to be natural products of the production system (hence, *transgenic products are not organic products*). Strictly prohibition of the use of chemical synthesizers is an important feature of organic agriculture. Organic agriculture must build an integrated production management system that improves and enhances the vitality of the agro-ecosystem. Areas chosen for production of organic agricultural products must ensure that no chemical is used in the three preceding years and that they comply with the organic farming procedures and standards.

2. Overview of research in Vietnam

2.1. Literature review of the factors influencing hygienic and safe food consumption behavior

One of the main focuses of research works on the hygienic and safe food consumption behavior is research on the influencing factors. In consumer behavior science, there are three main groups of factors that influence consumer behavior, including: External environment factors (culture, society, reference group, family); Consumer factors (personality, motivation, understanding, perception and attitudes); Marketing stimuli (variable product variables, prices, distribution channels and integrated communications). In fact, in Vietnam, there have been a number of studies on the factors that influence the consumption behavior of hygienic and safe food, including official research and research findings published on magazines and seminars, etc. These studies have time to carry out and publish highly updated research results (from 2010 to now).

- The research "Phân tích các yếu tố ảnh hưởng đến hành vi tiêu dùng rau an toàn tại thành phố Cần Thơ" by Nguyen Van Thuan and Vo Thanh Danh, published in Vietnam Journal of Science (2011), concluded that: There have been no extensive consumption networks for safe vegetables. In addition, the factors related to the

organization of distribution have a great impact on the consumption levels of safe vegetables. In particular, the position of sales and quantity assurance and diverse supply of safe vegetables are important issues to take into consideration. In addition, safe vegetables without labels and certificates issued by relevant authorities can impede the consumption behavior of safe vegetables. Moreover, the research further pointed out that there are three main factors that influence the buying behavior of Vietnamese people including: Purchase distance, consumer confidence in the product, and availability of safe vegetables.

- The article: "Một số yếu tố ảnh hưởng đến sản xuất và tiêu thụ rau an toàn ở tỉnh Thừa Thiên Huế" by Le Thi Hoa Sen and Ho Thi Hong from Hue University of Agriculture and Forestry, Vol. 71, Issue No. 2 (2012), has pointed out many aspects influencing consumers' buying behavior of safe vegetables in Hue. Data shows that less than 20% of the province's safe vegetable output is consumed in supermarkets and restaurants at higher prices and about 80% of safe vegetable output is consumed in the free market without the need for identification of quality and has prices equal to normal vegetables. In addition, difficulty in output markets and limited consumer awareness of safe vegetables, consumers in Hue have little information about safe vegetables and lack of confidence in safe vegetables. Disadvantageous sale locations are also an obstacle for Hue consumers to use safe vegetables.

- Another article titled "Các yếu tố tác động đến việc người tiêu dùng chọn mua hàng thực phẩm Việt Nam" in Vietnam Journal of Science - Issue No. 01 (2013) by Ngo Thai Hung shown 5 factors influencing the decision to buy Vietnamese food from consumers in Ho Chi Minh City and Vung Tau, representing strong to weak levels of influence: Patriotism, food safety, product information, pricing strategies, promotions and appetites. This means that, when the higher the patriotism, safety level of Vietnamese food, price strategies and promotion of the enterprises and the degree of suitability of taste are, the higher the priority shall be given to Vietnamese products. The research was conducted carefully with high persuasiveness by the author. However, the author only pointed out positive factors, i.e. the factors favorable to the buying behavior of consumers; meanwhile, negative factors were merely mentioned.

- The research of Truong T. Thien and Matthew H.T Yap (2010) identified and analyzed the perception of potential consumers in Vietnam for safe food using the inference model from the causes, through survey research. Quantitative data was collected from 246 potential consumers in Vietnam. The research hypothesized that: Gender and age influence perceptions and potential for safe food purchases in Vietnam. The research also indicates that potential consumers have a different perception and are willing to pay a higher price for safe food than non-potential

consumers. And the results were found as follows: Age affects the potential of Vietnamese consumers to buy safe food with health and safety awareness. Gender does not affect the potential for purchase, however, female consumers attribute an importance on nutritional value. Environmental concern does not affect the purchase intention safe food. Vietnamese people are not sensitive to the cost of safe food because they attribute an importance on quality.

Thus, there are quite a lot of research works on the factors that affect the buying behavior of safe and healthy food in Vietnam; the results are recorded are practicality updated. However, these works still have the following shortcomings: (i) each work only found a number of influencing factors, the results of research are not comprehensive; (ii) the influencing factors are found to be composed of both positive and negative factors (obstructive factors); the analyses fail to focus on the obstructive factor group, while they are considered important factors with complicated effect on hygienic and safe food consumption behavior.

2.2. Overview of research on purchase intention hygienic and safe food

Research on behavior intention is one of the most common research catching attention of scientists in various fields. A number of well-known research models around the world on factors influencing behavior intentions have been selected by domestic researchers as the basis for their works. Of these, it is possible to mention two research works on purchase intention hygienic and safe food based on internationally known models of behavior intention (TRA and TPB models).

- The first work by Nguyen Phong Tuan (2011) was conducted in two major cities of Vietnam, namely Hanoi and Ho Chi Minh City, using quantitative methods to explore the relationship between some factors and purchase intention safe food of Vietnamese consumers. Additionally, the author compared the effects of these factors on consumers in the Southern and the Northern Region of Vietnam. The sample selected included 201 consumers in the Northern Region (Hanoi) and 201 consumers in the Southern Region (Ho Chi Minh City). Research results indicated that: Environmental attitudes, perceptions of values, health concerns, knowledge of safe food and subjective norms are clearly associated to the consumer's willingness to buy safe food both in the Southern and the Northern Region of Vietnam. In the comparative relationship, the research also found differences in the effect of health concerns and subjective norms on the purchase intention safe food of consumers in the Southern and the Northern Region of Vietnam.

- The second work is a doctoral thesis named "Nghiên cứu các nhân tố ảnh hưởng đến ý định mua thực phẩm an toàn của cư dân đô thị - Lấy ví dụ tại thành phố Hà Nội" by Le Thuy Huong (2014). The research results identified six factors

affecting the purchase intention safe food, including: health consciousness, perceived quality, subjective norms, product prices, informational influence and mass media.

Thus, with the research group on the purchase intention hygienic and safe food, research results identified a number of factors that influence the intention to consume hygienic and safe food. The author examined in depth the impact of each factor on consumer behavior. Obviously, the behavior intention is an intermediate variable in the relationship between the influencing factors and consumer behavior; meanwhile environmental factors, marketing stimuli, or consumer factors can affect the behavior of the same hygienic and safe food by affecting their purchase intention. Consequently, behavior intention research is a very important basis for research. On the other hand, recently- conducted research works are highly dated. However, as the authors themselves commented, they did only mentioned a few aspects and overlooked many other influencing factors. Moreover, these research works have not set a focus on behavioral obstructions, therefore the research results have not been sufficient and insightful on the "obstructive factors". On the other hand, the authors only conducted research in some areas (Hanoi and Ho Chi Minh City) and then expanded to the national scale with not really large sample size. Therefore, the research results are not highly convincing.

2.3. Overview of research on consumers' willingness to pay for hygienic and safe food

It can be said that the level of consumer willingness to pay is similar to the behavior intention as an intermediate variable. The level of willingness to pay is influenced by a variety of factors; then, in turn, it also has a certain influence on the buying behavior in general as well as consumption behavior of hygienic and safe food in particular.

- One of the domestic case studies on the willingness to pay for hygienic and safe food is: Factors affecting consumer willingness to pay for safe vegetable products: Case study in Gia Lam District and Long Bien District, Hanoi, by Do Thi My Hanh, Do Thi Tuyet Mai, Tran Trong Nam and Nguyen Trong Tuynh from the Faculty of Accounting and Business Administration, Vietnam Academy of Agriculture published in Science and Development Journal (2015), Volume 13, Issue 5.

- The research has come some meaningful conclusions: (i) consumer perceptions of safe vegetables are limited, mainly due to incomplete information provided to them; (ii) consumers are not fully confident in the quality of safe vegetables as well as stores selling safe vegetables; (iii) high prices are one of the

major obstructions for consumers to buy safe vegetables; (iv) a lot of people have not used or only used few safe vegetables.

In general, the research findings showed a strong correlation between influencing factors, willingness to pay and consumption behavior of hygienic and safe food. These contents have a certain significance for the research topic, especially the conclusions about the obstructive factors of hygienic and safe food consumption behavior. However, as some of the above analyzed works, this research has not set a focus on behavioral obstructive factors, therefore there is no adequate and detailed analysis of these factors.

2.4. Overview of research works on obstructions to hygienic and safe food consumption behavior

As discussed in the previous sections, the impact of obstructive factors on hygienic and safe food consumption behavior is an important part of the overview of research works on hygienic and safe consumer behavior. In fact, in Vietnam, there are also some research results providing analysis of this content.

- The article "Thực phẩm sạch loay hoay ở vựa xuất phát" by Le Phuong posted on People Weekend Newspaper (November 02, 2014), addressed the difficulties of hygienic food production without output while demand is very high. Specifically, in Hanoi alone, the demand for cattle and poultry meat in 2013 reached about 745 tons/ day but slaughter, transport and trading management of animals and animal products have not been implemented. Most slaughtered animals are uncontrollable. In terms of vegetables, the consumption demand of Ha Noi residents is about two thousand to three thousand tons of vegetables per day but by 2013, the quantity of safe vegetables only meets about 30% of the demand. The article also mentions the lack of coordination between enterprises and the State, causing enterprises to manage to survive with the State's failure to manage.

- Another article titled "Đâu là thực phẩm “sạch?” by Nguyen Hang, published in Thanh Nien Newspaper (April 1, 2016), shows that consumers' hygienic food consumption behavior is burdened by many obstructions and alarmingly reduced. Consumers in big cities do not believe in hygienic food enterprises but have to order them from home villages for gradual use. According to the article, one of the causes of this situation is that we are doing the reverse procedure. For example, animals must be transported to the slaughterhouse at least 6 hours in advance, subject to medical examination, hygiene and then bring to the slaughterhouses. But in many slaughterhouses, this rule does not apply. Slaughter of pigs, cows and chickens are conducted after being brought to slaughterhouses. Only after slaughter do veterinarians arrive and examine mostly as administrative procedure then pass seal

and meats are brought straightly to the markets. It means that instead of being tightly controlled at the place of breeding and growing as well as the slaughterhouses, people only focus on setting up a dense network of quarantine stations.

- The article "Rau sạch và định kiến" by Gia Hien, posted on Vnexpress (5/5/2016), especially referred to consumers' prejudices to hygienic food, especially vegetables. Consumers' prejudices towards hygienic food today are extremely bad. It is a fact that the number of enterprises and households cultivating agricultural products under GlobalGAP model is fewer and fewer due to the high cost but not effective outputs. Households that follow this model can produce high quality products and good outer appearance. However, with the prejudices of consumers that products with good outer appearance must have been sprayed with products, these products are difficult to prove origin and quality. This leads to the consequence that producers cannot continue to produce quality goods while consumers still prejudices about the use of hygienic products. The article, with interviews and dialogues with production and consumer representatives, pointed out the prejudice of consumers as one of the key factors that impede current hygienic food consumption behavior.

- Another article in this group entitled "Thúc đẩy tiêu thụ thực phẩm sạch" by Le Nghia, published on Baotintuc.vn (June 9, 2016), mentioned many obstructions to real consumption of hygienic products. Of which, the most important factor as quoted economic experts is the distribution system. Enterprises have to build their own systems while the government has not improved the management causing impact on the psychology and confidence of consumers.

3. Overview of foreign research works

3.1. Overview of research works on factors with positive impact on hygienic and safe food consumption

- The research by Zeinab Seyed Saleki (2012) focused on the factors that influence safe food buying behavior in Malaysia. The author presented a research model with the following elements: (i) knowledge of safe food, (ii) environmental concern, (iii) attention to product price, (iv) subjective norms, (v) product quality and (vi) product familiarity. Research results show that all six factors have a positive impact on consumer attitudes. In particular, attitudes are considered as an intermediate variable, which have a decisive influence on the buying behavior of consumers.

- The research by Andrei-Cosmin Dumea (2012), conducted in Romania by online surveys, aimed to understand the demographic characteristics and factors that influence safe buying behavior. Research results show that: Most respondents have a positive attitude towards safe food. Those who are more concerned about their health and the environment and who have more knowledge about safe food have a higher

buying frequency. Research variables: attitude, concern for health, environmental concerns, and knowledge of organic food have a positive relationship with the buying frequency. These variables are good predictors for the frequency of safe food purchases.

- Shashikiran L., C. Madhavaiah (2015) presented a research on socioeconomic factors that influence the safe food purchasing behavior. This research was conducted in India with a sample of 200 consumers, aimed at exploring and explaining the nature of the impact of socioeconomic factors on safe food purchasing behavior. Research results indicated that there was no relationship between demographic variables and purchasing behavior; however, buying habits was found to be closely linked to safe food buying behavior. Vegetarian people are more willing to buy more safe food.

Although the same goal is to find out the factors that affect the hygienic and safe food consumption behavior as the other two groups (ii) and group (iii); however, the results of this research group are mainly drawn only to come to conclusions about factors with a positive impact on safe food consumption behavior. In addition, another common feature of research works in this group is that the majority of the discoverable elements belong to the consumers themselves, including: knowledge, attitudes, beliefs, willingness to pay and habits.

3.2. Overview of research works on factors with opposite effect (obstructive factor) on hygienic and safe food consumption behavior

- Jessica Aschemann Witzel et al. (2014) conducted a statistical research from 2000 to 2014 on the effects of price and income on safe food purchases. The results showed that price is a major obstacle to buying safe food, while income has mixed results in terms of its impact. However, some studies have also shown that there is a clear disproportionate impact of income on safe food purchases.

- A research was conducted in Indonesia in 2013 by Budi Suharjo et al. The authors examined the factors that influence consumer attitudes about safe food purchases; by surveying over 200 consumers in the commercial centers of Jakarta and Bogor of Indonesia. Research has identified the factors that impede the purchase of safe food: Safe food is only found at certain locations and its price is too high compared to ordinary food; many products are not available; the product has short shelf life. It is difficult to distinguish safe food with ordinary food and to find safe food in traditional markets with less information on safe food. On the other hand, research shows that people who do not know about safe food are willing to buy as soon as they know the benefits of safe food. But some people do not want to buy safe food even knowing their benefits because of the high price.

- Rushdi Ahmed et al. (2015) investigated consumers' safe food consumption behavior in Bangladesh supermarkets with qualitative and quantitative research. The results showed that consumers think that safe food is healthier and more nutritious than industrial food. The main problem that prevented the purchase of safe food found in the research was the lack of knowledge and lack of information on safe food, unavailability of safe food, inadequate types and high prices.

- Amanda Christine Smith conducted her Master's thesis (2010) on customer response to higher prices of safe food. The research with surveys on the concept of safe food prices as well as specific questions about how much consumers are willing to pay for certain safe foods found six following results: Consumers are not willing to pay higher prices for safe food than conventional food. Consumer ideology plays an important role in making their decision to buy safe food.

- Oliver Meixner et al. (2014) studied consumer safe food buying behavior in Russia. Safe food market in Russia is an emerging and growing market. However, the fact that there is a high rate of low-income Russians; therefore, it is more difficult for them to buy safe food with higher prices. And there are no Russian safe food brands on the market so consumers have little knowledge about safe food. The research showed that Russian consumers prefer to buy traditional foods; they are very price-sensitive and that price hinders the purchase of safe food. Income influences safe food buying behavior but the effect is small.

- The research by Leong Guang Yi and Ng Yun Lin (2014) examined the relationship between demographic variables and non-demographic variables with safe food purchasing behavior. The research was conducted on 476 healthy food consumers aged 21 years and older by survey method. The results showed four factors that influence the safe food purchasing behavior. Willingness to pay impacts greatly on buying behavior; when consumers are more willing to pay, they tend to buy more safe foods. And the willingness to pay depends on the information consumers receive about the product. Income levels are found to have a direct effect on the purchase of safe food because safe food is often priced higher than normal food prices. Research also showed that low-income people feel price is a barrier for them to buy safe food. Additionally, families with children are more likely to buy more safe food and women are more likely to buy safe food.

Similar to the research group in the preceding section, research works in this group are mostly about the same factors that affect the hygienic and safe food consumption behavior. However, the results of these works mainly draw conclusions about factors with a negative impact on safe food consumption behavior. Therefore, this group plays a particularly important role in the research topic of the project. The

factors found largely belong to one of the three main groups of factors: (i) marketing stimuli (quality, product diversity, product brand, price, communications and distribution systems ...); (ii) personal factors (knowledge, perception, beliefs, attitudes, prejudices, willingness to pay, etc.); (iii) macro-environment factors (especially state management, coordination between state management agencies and distribution facilities, etc.)

3.3. Overview of research works on two groups of factors with both positive and negative effect on hygienic and safe food consumption behavior

- The research by Jay Dickieson and Victoria Arkus (2009) was conducted quantitatively to measure the effects of several factors on consumer safe food buying behavior in the UK. Data was collected from 204 consumers. Tested factors included health concerns, perceptions of quality, confidence in safe food labels, attention to food safety, and price. Research results indicated that health concerns, quality awareness, confidence in safe food labels, and food safety considerations have a positive influence on consumers' purchase intentions. Price is a deterrent to buying.

- The research by Parichard Sangkumchalianga et al. (2012) described the status of Northern Thai consumers' perception of safe food. The research was based on a survey with 390 respondents. The results showed that the main incentives for purchasing safe food products are environmental health and environmental expectations, plus local or farmer supports. People who are more likely to buy safe food are more educated and have more children than those who do not buy safe food products. Consumer confidence in the authenticity of goods and prices is a key factor in helping safe food suppliers increase their market share. However, an important factor considered a barrier to the development of safe food market share is consumer information.

- M. Frýdlová, H. Vostrá (2011) conducted a research on safe food purchasing behavior in the Czech Republic. The research was conducted using a questionnaire with 162 consumers aiming to identify factors that hinder or promote their safe food purchases. The results show that the factors that prevent safe food buying behavior are product prices and consumer incomes. Consumer attitude of the product is found to be the motivator, the better the attitude is, the more consumers will buy the product.

- Nihan Mutlu (2007) carried out a cross-references research on the consumers' safe food consumption behavior in two different countries including Germany and Turkey. The research found many different characteristics between consumers in these two countries. Turkish consumers are younger and have more children, and German consumers are better informed about safe food and buy more frequently. Consumers of both countries claimed that safe food is more nutritious than ordinary

foods. Research also showed that the biggest incentive for safe food purchases in the two countries is health care, support for organic agriculture and sustainable development. In contrast, the obstructions to safe food purchases in these two countries are the price and availability of safe food.

- S. Żakowska-Biemans conducted a research on safe food consumers in Poland in 2009. The research was conducted by qualitative method with in-depth interviews and face-to-face interviews. The research showed that the most important factors that promote safe food buying behavior are the health, food safety, and good taste of food. In addition, the factors that hinder the purchase of safe food products found in this market are the availability of the product, information about the product and the price of safe food.

Unlike the two groups, research works on this third group produced quite comprehensive results in addressing both groups of factors with positive and negative impacts on hygienic and safe food consumption behavior. However, therefore, the results of the analysis and conclusions made are not very comprehensive and complete on each group of factors, especially the obstructions of hygienic and safe food consumption behavior. Therefore, these research works are only considered as reference materials and a supplementary basis for the research.

4. Problems and further study

In broad terms, domestic studies have shown many aspects of hygienic and safe food. However, the number of studies is low and most of them focus on factors that influence safe food consumption. In particular, none of the studies focused specifically on factors that hinder behavior and their influence on hygienic and safe food consumption behavior in urban areas of Vietnam.

Generally evaluating foreign research on hygienic and safe food consumption behavior, it can be seen that most of these studies are aimed at exploring and analyzing the effects of factors influencing safe food buying behavior with both positive and negative influences. However, the results of these studies have similarities and differences.

Thus, overall, domestic and international research works on the factors in general, as well as the obstructions in particular, affecting hygienic and safe food consumption behavior are quite diverse with meaningful and highly updated research results. However, there is a research gap, in which there is no actual research focused only on exploring and analyzing the effects of factors that interfere with hygienic and safe consumer behavior. That poses an urgent need and also creates an opportunity for a new research topic with a focus on obstructions. As a result, the research can

provide the most comprehensive and in-depth analysis of the factors that impede consumers' hygienic and safe food consumption behavior; contributing to improve the theoretical and practical basis for solutions applied in hygienic and safe food industry in Vietnam.

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INVESTIGATION OF DELISTING PHENOMENON ON VIETNAM STOCK MARKET: EMPIRICAL RESEARCH AND IMPLICATIONS

Dr. Nguyen Duc Hien,

Email: nguyenduchien.bsi@gmail.com

Central Economic Commission, Vietnam Communist Party

MSc. Dao Le Trang Anh,

Email: daoletranganh.neu@gmail.com

School of Banking and Finance, National Economics University

Abstract

Up to December 2016, there were 246 stocks delisted on Vietnam stock market. However, there was no research intensively studied on this emerging issue in Vietnam. Therefore, the aims of this research include: (1) giving an overview of Vietnam delisting current situation; (2) estimating the effects of factors on delisting probability in Vietnam stock market; and (3) providing suggestions for Vietnam government, firms and investors to avoid delisting risks. By analyzing data of 246 delisted stocks from 1/2009 to 12/2016 and running logistic regression models, the research has found that the following factors: total assets, revenue growth, level of board members' education, number of board meetings, use of famous auditing firms, and amount of state-owned and foreign-owned equity are negatively related to delisting probability of firms. In contrast, leverage, PE ratio and organizational shareholders positively affect delisting risks of listed enterprises in Vietnam.

Keywords: *Delisting; Involuntary delisting; Voluntary delisting; Vietnam stock market*

1. Introduction

Corporate delisting is defined as the deletion of a listed stock from a regulated exchange (Onesti et al., 2014). On Vietnam stock market, delisting phenomenon has emerged in recent years that can hinder and threaten the sustainable development of the market. In 2009, there were 30 stocks delisted on Vietnam stock market. Up to December 2016, the accumulated number of delisting companies on Vietnam stock market increased to 246 entities.

According to Macey et al. (2008), delisting was classified into voluntary and involuntary delisting. A company involuntarily delisted because it experienced financial distress or violated exchange's requirements. In the

context of voluntary delisting, the firm decides to go private following to resolution of the general meeting of shareholders (Djama et al. 2012). Voluntary delisting also happens when a listed company is merged to a non-listed entity (Douglas, 2014).

Researches on factors affected delisting probability have been discussed in many previous papers over the world. In general, the impact factors are classified into two major groups: firm's financial indicators and corporate governance factors.

In terms of financial factors, Rao et al. (1995) consider the relationship between financial characteristics and the probability of going private of 229 voluntary delisted firms identified from Wall Street Journal Index and Research Compustat Status Report for the period 1981-1992. After running Probit regression model with dependent variable is a dummy variable, they conclude that: (1) the higher P/E, the greater P/B, and the higher Revenue growth rate, the less likely a firm will go private; and (2) the greater the ratio of cash flow to total assets and the higher the dividend yield, the greater is the probability that the firm will be taken private. Yuh-Jiuan et al. (2010) noted that the delisted firms are more likely having a higher leverage and experiencing a lower ROE. Similarly, Wang and Campbell (2010) concluded that if total liabilities exceed total assets and net income was negative for the last two years, the companies are more likely to be delisted. Algebaly et al. (2014) found that firm size, liquidity, growth rate in assets, cash coverage, operating performance, offering size, IPO activity, initial return, institutional ownership and insider ownership variables have significant negative relationships with delisting risk. Meanwhile, financial leverage has a significantly positive influence on delisting probability.

In terms of corporate governance factors, Charitou et al (2007) discover that companies having more independent board and larger insider ownership are less likely to be involuntarily delisted. Also in 2007, Thomsen and Vinten (2007) find that higher level of protection for small stock and strict use of regulations in the corporate governance could result in delisting but reduce the possibility of bankruptcy or closing. Yuh-Jiuan et al. (2010) observe the impact of corporate governance on the involuntary delisting risk of 130 companies in Taiwan from 2000 to 2008. The empirical results show that delisted firms have smaller board size and lower percentage of independent outside directors.

Additionally, companies with board of directors' members pledging a significant percent of their shares tend to go dark. In a research of Muhammad et al. (2014), the result shows that insider ownership, together with ownership concentration, is the most important variable in predicting delisting events in China.

Although delisting and its related topics has been discussed and studied by scholars over the world, the researches on this phenomenon in Vietnam are very scarce and incomplete. Among all the papers concerning this phenomenon, the most noticeable and academic paper is a journal of Truong Thi Nam Thang and Dinh Anh Tuan (2013). By analyzing the delisting cases from the beginning of 2012 to the first quarter of 2013, Truong Thi Nam Thang and Dinh Anh Tuan (2013) explore the reasons and determinants of delisting in Vietnamese stock market. Finally, the paper provides some directional recommendations for the authorities, companies and the investors. In general, this new study gives readers brief information about the delisting and the number of delisted companies in Vietnam from 2012 to Q1/2013.

With the aim of investigating delisting phenomenon in Vietnam stock market thoroughly, this study is going to provide an overview of delisting situation and evaluate the impacts of factors on delisting probability in Vietnam stock market during the period of 1/2009 to 12/2016. With findings from the research, State Security Commission of Vietnam (SSC), Vietnam enterprises and investors will have appropriate policies and strategies to control and avoid delisting risks in the market.

2. Research methodology

2.1. Research data

The research collected data from 246 companies delisted on Vietnam's stock market between 1/2009 and 12/2016. In addition, the research also collected data of the 30 biggest market capital companies on Ho Chi Minh stock exchange (HOSE) and 30 largest market capital firms on Hanoi stock exchange (HNX) for inclusion in the model. The data collected includes financial and management information from the companies' annual financial statements and annual reports prior to delisting (for 246 delisting companies) and in 2015 (for 60 largest companies on HOSE and HNX).

2.2. *Research method*

As voluntary delisted firms go private or delist following to the decisions of internal management board, the research only focuses on delisting probability in general and involuntary delisting in particular in their regression models.

Based on empirical studies by Yuh-Jiuan et al. (2010); Charitou et al. (2007), Wang and Campbell (2010) and Algebaly et al. (2014), the models of the impact of financial factors and corporate governance factors on the probability to delisting have been inherited, modified and synthesized as follows:

- *Regression models estimating the impacts of financial factors on delisting probability:*

$$\text{DELIST} = \alpha_0 + \alpha_1 * \text{LN_TA} + \alpha_2 * \text{LEVERAGE} + \alpha_3 * \text{CASH_OVER_TA} + \alpha_4 * \text{FA_OVER_TA} + \alpha_5 * \text{DIV_RATIO} + \alpha_6 * \text{PE} + \alpha_7 * \text{SALE_GROWTH} + \alpha_8 * \text{PB} + \alpha_9 * \text{ROE}$$

$$\text{INVOLUNTARY} = \alpha_{10} + \alpha_{11} * \text{LN_TA} + \alpha_{12} * \text{LEVERAGE} + \alpha_{13} * \text{CASH_OVER_TA} + \alpha_{14} * \text{FA_OVER_TA} + \alpha_{15} * \text{DIV_RATIO} + \alpha_{16} * \text{PE} + \alpha_{17} * \text{SALE_GROWTH} + \alpha_{18} * \text{PB} + \alpha_{19} * \text{ROE}$$

- *Regression models estimating the impacts of corporate governance factors on delisting probability:*

$$\text{DELIST} = \gamma_0 + \gamma_1 * \text{BOARD_MANAGER} + \gamma_2 * \text{NO_OF_BOARD_MEETINGS} + \gamma_3 * \text{ORG_SHAREHOLDERS} + \gamma_4 * \text{STATE-OWNED} + \gamma_5 * \text{FOREIGN_OWNED} + \gamma_6 * \text{DUMMY_AUDITOR} + \gamma_7 * \text{FEMALE_MANAGER} + \gamma_8 * \text{EDUCATION}$$

$$\text{INVOLUNTARY} = \gamma_9 + \gamma_{10} * \text{BOARD_MANAGER} + \gamma_{11} * \text{NO_OF_BOARD_MEETINGS} + \gamma_{12} * \text{ORG_SHAREHOLDERS} + \gamma_{13} * \text{STATE-OWNED} + \gamma_{14} * \text{FOREIGN_OWNED} + \gamma_{15} * \text{DUMMY_AUDITOR} + \gamma_{16} * \text{FEMALE_MANAGER} + \gamma_{17} * \text{EDUCATION}$$

Wherein:

- Dependent variables:

DELIST and **COMPULSARY** are dummy variable. **DELIST** is a dependent variable that represents delisting ability (both involuntary and voluntary). This value is "1" if the company is delisted, and is "0" otherwise.

INVOLUNTARY is a dependent variable that represents voluntary delisting ability. This value is "1" if the company is delisted, and is "0" otherwise.

- Independent variables:

LN_TA represents the total assets of the business, calculated by the natural logarithm of total assets

LEVERAGE represents the firm's debt ratio, calculated by the debt-to-asset ratio

CASH_OVER_TA represents the amount of cash held by the business, measured in cash and cash equivalents over total assets

FA_OVER_TA represents the long-term investment of an enterprise, measured by fixed assets and long-term investments over total assets.

DIV_RATIO is the rate of dividends paid by the business

PE is calculated by the market price per share per capita

SALE_GROWTH is the rate of revenue growth for a business, calculated as $(\ln \text{SALES in years } (n + 1)) / (\ln \text{SALES in year } n)$

PB is the market price of the stock over book value of the stock

ROE represents profitability over equity, measured by net income over equity

BOARD_MANAGER: is the number of executives who are board members

NO_OF_BOARD MEETINGS: number of shareholders meeting in the year

ORG_SHAREHOLDERS is the number of institutional shareholders

STATE-OWNED is the state's share of the capital

FOREIGN_OWNED is the percentage of foreign ownership

DUMMY_AUDITOR is a dummy variable, whose value = 1 if the independent audit agencies are BIG 4 (Deloitte, KPMG, E&Y, PwC), and = 0 if other companies;

FEMALE_MANAGER represents the number of female executive members

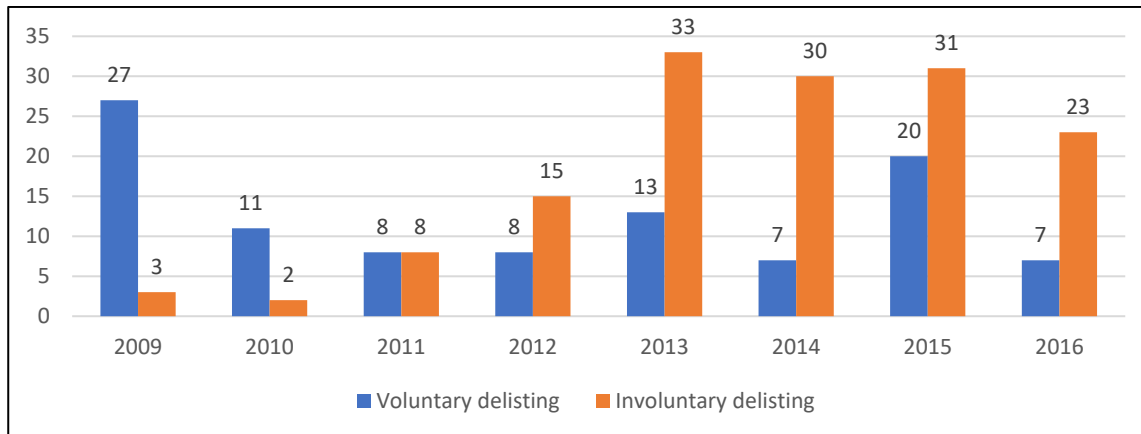
EDUCATION represents the number of board members with a master's degree or above

After the data is fully aggregated in excel format and processed, the data will be tested for multi-co-linearity among the independent variables and put in the models.

3. Research results:

3.1. Overview of delisting phenomenon in Vietnam stock market:

Chart 1: Number of voluntary and involuntary delisted stocks on Vietnam stock market during the period of 1/2009 - 12/2016



Source: Synthesis of the authors from data provided by Stockplus

Prior to 2009, there was no delisted stock on Vietnam stock market. Chart 1 illustrates the phenomenon of delisting in the Vietnam securities market for the period of 1/2009 - 12/2016. It could be seen that in 2009 and 2010, the number of voluntary delisting was much higher than the number of involuntary delisting. However, from 2012 to 2016, the number of involuntary delisted stocks suddenly increased and was higher than the number of voluntary delisted stocks. This tendency was appropriate with the condition and operation of Vietnam stock market, when the period of 2010 – 2012 was a difficult time for all the market. Then, the period from 2013 to 2016 was the period of recovery and selection of Vietnam stock market, thus all bad-performing companies and stocks were wiped out from the market.

3.2. Empirical results of regression models investigating impacts of financial factors and corporate governance on delisting probability in Vietnam stock market.

3.2.1. Effects of financial factors on delisting ability in Vietnam stock market

a. Correlation matrix test

The correlation matrix test results show that the correlation coefficients among the independent variables are very small. Thus, there is no multicollinearity phenomenon among the independent variables in the model.

b. Regression results investigating the impacts of financial factors on delisting probability

Table 1: Results of regression models investigating the impacts of financial factors on delisting and involuntary delisting probability

Variable	Delisting	Involuntary delisting
C	3.640987	41.42794
LN_TA	-0.557882***	-0.449673***
LEVERAGE	2.458871***	3.124151***
CASH_OVER_TA	-1.333899	-3.524157
FA_OVER_TA	-1.940782	4.807792*
DIV_RATIO	-0.011464	-6.887841
PE	0.001293*	-0.000189
SALE_GROWTH	11.4975	-31.80546***
PB	-0.00345	-0.003079
ROE	0.045558	-0.025846

***, **, * significant at 1%, 5% and 10% level respectively

Source: Data processed by the authors

From the results of the regression model studying the impact of financial indicators on the ability to delisting on Vietnam stock market, the research draws the following conclusions:

The LN_TA variable has a regression coefficient of -0.557, showing the negative relationship between the magnitude of the total asset and the ability to be delisted. If the original probability of being delisted is 10%, when the natural logarithm of the total asset increases to 1 unit, the probability of delisting is reduced to 5.98% (ie, a 4% reduction). With the probability $p = 0.00$, this result is statistically significant at 1%. This finding is consistent with conclusion in the research of Algebaly et al. (2014) indicating that the greater the company's total assets are, the lower the probability of delisting is.

The LEVERAGE variable with a regression coefficient of 2.458 represents the positive relationship between the ratio of debt to total assets and the ability to delisting. When the firm's debt ratio rises to 1%, the probability of delisting will increase to 56.41% (an increase of 46.41%) from the initial probability of 10%. With the probability $p = 0.00$, this result is statistically significant at 1%. In other words, the higher the debt ratio of a business, the

higher the likelihood of delisting. This result is appropriate with previous literature of Yuh-Jiuan et al. (2010), Wang and Campbell (2010) and Algebaly et al. (2014).

Similar to the LEVERAGE variable, the variable PE with the positive regression coefficient (0.001) indicates the positive relationship between the price on the earnings of the stock and the ability to be delisted. When PE of a business increases by one unit, the probability of delisting will increase to 10.01% from the initial probability of 10%. However, because $p = 0.065$, this result is statistically significant at 10%. This result, however, is contradictory to the finding of Rao et al. (1995) saying that PE variable had negative impact on the chance of delisting of the company.

For the remaining variables (CASH_OVER_TA, FA_OVER_TA, DIV_RATIO, SALE_GROWTH, PB, ROE), the p-values are too high, suggest that the results are not statistically significant.

When analyzing the impact of financial indicators on the ability to compulsory delisting on the Vietnam stock market, the research finds that LN_TA, LEVERAGE, SALE_GROWTH and FA_OVER_TA variables all give statistically significant results but different effects on involuntary delisting risks of firms:

The regression coefficient of LN_TA variable is -0.449, which means that as the total assets increase, the potential for involuntary delisting is reduced. Specifically, when LN_TA (assets) of the business increases to 1 unit, the probability of delisting will be reduced to 6.62% compared to the original probability of 10%. This result continues to prove the consistency with the finding of Algebaly et al. (2014).

The regression coefficient of LEVERAGE variable is 3.124, which means that the potential for delisting is positively proportional to the firm's debt ratio. When the company's debt ratio is increased by 1%, the probability of delisting would increase to 71.54% (an increase of 61.54%) from the initial probability of 10%. This conclusion agrees with conclusions in the papers of Yuh-Jiuan, Chung-Jen, Hsi- Cheng (2010) and Algebaly et al. (2014).

The SALE_GROWTH variable's regression coefficient of -31.80 represents the opposite effect of revenue growth for the mandatory delisting of the business. As revenue growth increases by 1%, the probability of involuntary

delisting reduces to 0% from 10% initially. This statistically significant result is consistent with Rao et al. (1995) showing that the risk to be delisted of a firm will be reduced when the revenue growth of that company increases.

FA_OVER_TA variable is statistically significant at 10% with a regression coefficient of 4.81. Thus, when the ratio of fixed assets to total assets increases by 1%, the probability of delisting will increase to 93.11% (an increase of 83.11%) from the original probability of 10%.

The remaining variables in the model have large p-values showing no statistically significant results.

3.2.2. Effects of corporate governance factors on delisting ability in Vietnam stock market

a. Correlation matrix test

When considering the correlation matrix, the correlation coefficient between the independent variables in the model was relatively small (the highest coefficient was 0.58), so there was no multi-collinearity between variables in the model.

b. Regression results investigating impacts of corporate governance on delisting probability

Table 2: Results of regression models investigating the impacts of corporate governance factors on delisting and involuntary delisting probability

Variable	Delisting	Involuntary Delisting
C	4.864839	0.66884
BOARD_MANAGER	-0.165553	-0.313615
EDUCATION	-0.39009*	-0.215652
NO_OF_BOARDMEETINGS	-0.08825***	-0.014365
ORG_SHAREHOLDER	2.04824**	0.635676
STATE_OWNED	-3.057585**	-0.871928
FOREIG_OWNED	-4.772857***	-9.024167**
DUMMY_AUDITOR	-3.184005***	-0.574464
FEMALE_MANAGER	-0.29345	-0.309544

***, **, * significant at 1%, 5% and 10% level respectively

Source: Data processed by the authors

Based on the results of the regression model examining the impact of corporate governance factors on the ability to delisting on Vietnam stock market, the research discovers that the variables: EDUCATION, NO_OF_BOARDMEETINGS, STATE_OWNED, FOREIGN_OWNED and DUMMY_AUDITOR have contrarily and statistically significant impacts on delisting ability of the business. More specifically:

The regression coefficient of EDUCATION variable is -0.39, which means that when the number of board members holding a master's degree or more prior to the delisting increases by 1, the probability of delisting is reduced to 7% compared to the initial probability is 10%. In other words, the higher the educational level of the board of management, the less likely the company will be delisted.

The regression coefficient of the NO_OF_BOARDMEETINGS variable is -0.088. Thus, the more the number of meetings of the Board of Directors, the more likely the company is delisted. As the number of board meetings increases by 1, the probability of delisting is reduced to 9.23% from the initial probability of 10%.

The STATE_OWNED variable has a regression coefficient of -3.057, which is also negative. The greater the state ownership of the business, the less likely the firm will be delisted on the stock market. As the state ownership rate increases by 1%, the probability of delisting is reduced to 0.52% from the original probability of 10%

Similarly, the greater the foreign ownership in the business, the less likely the enterprise is to be delisted. This is shown through the regression coefficient -4.77 of the variable FOREIGN_OWNED. With a 1% increase in foreign ownership, the probability of delisting is reduced to 0.09% from the original probability of 10%.

Finally, businesses using reputable auditors will reduce their ability to be delisted. The regression coefficient of DUMMY_AUDITOR variable is -3.18, that is, when the enterprise auditor is in BIG 4 group, the probability of delisting is reduced to 0.46% from the original probability of 10%

In contrast to the above variables, ORG_SHAREHOLDER variable represents the number of corporate shareholders that have a positive and statistically significant impact at 5% with the ability to be delisted of the

business. As the percentage of institutional shareholders increases by 1%, the probability of delisting increases to 46.2% from the original probability of 10%. That means the greater the proportion of institutional shareholders is, the more likely the company is delisted.

The remaining variables, including BOARD_MANAGER and FEMALE_MANAGER, had no significant and statistically significant impact on the company's delisting probability.

Regarding the regression model that studies the impact of governance factors on the compulsory delisting of the Vietnamese stock market, only the FOREIGN_OWNED variable has the opposite effect and is statistically significant. With a regression coefficient of -9.02, when foreign ownership increases by 1%, the probability of delisting is reduced to 0% from the original probability of 10%. All the remaining variables in the model have no significant and statistically significant impact on involuntary delisting probability of companies on Vietnamese stock market.

4. Conclusions and Implications

4.1. Conclusions:

In seven years from 2009 to 2016, there were 246 delisted stocks (101 voluntary and 145 involuntary) on Vietnam stock market. Inheriting and modifying regression models from previous literature over the world, the research ran four logistic regression models to investigate the impacts of financial indicators and corporate governance factors on the delisting probability of Vietnam companies. From the findings above, the research has discovered the factors that significantly affect the chance of delisting on Vietnam stock market as followed:

For delisting probability in general, the large scale of the companies, the high level of education for management board, the significant number of board meetings, the large amount of state-owned shares, the big proportion of foreign-owned shares and worldwide recognized auditors could help listed Vietnam enterprises to reduce the delisting risks on the stock market. In contrast, high level of leverage, high PE ratio and large number of organizational shareholders may result in delisting risks for firms.

For involuntary (compulsory) delisting probability, the firm size, revenue growth and foreign-owned shares were factors that negatively related

to delisting probability. Oppositely, high level of leverage and the ratio of fixed assets over total assets positively affected the probability to be involuntarily delisted from the market.

4.2. Implications:

4.2.1. For State Security Commission of Vietnam (SSC)

As an institution that directly manages the operation of Vietnam stock market, SSC may apply the research's proposed models to calculate and predict the possibility of delisting for each company which is listing or is applying to list on the stock exchange. With this tool, SSC can give warnings to risky companies and disclose information to investors on the markets.

4.2.2. For Vietnam listing companies:

In term of financial indicators, listing companies should increase capital but remain a safe level of leverage to reduce the risks of insolvency and bankruptcy. Making the companies' operation more efficient, then increasing revenue growth is also a good way to avoid delisting risks.

In term of corporate governance, the company should seek for foreigner owners and increase the shares of government in the structure of shareholder. Besides, delisting probability will be lower if members of board of management hold master degrees or upper. Therefore, investing in education for board of managers is another suggestion. Final recommendation is that companies should hire one of Big 4 auditor companies (KPMG, PwC, E&Y, and Deloitte). These audit companies have excellent auditing services in term of both skills and knowledge. Thus, they can notice problems and give advices to the companies to improve financial performance.

4.2.3. For investors:

Finally, the results of this study are potentially useful to investors on Vietnam's stock market. The research's main message to current and prospective investors is to invest in firms with high total assets and reasonable debt ratio. In fact, the companies with small scale and high debt ratio are vulnerable and likely to be delisted. Also, the companies employing famous auditing firms (such as KPMG, Deloitte, PwC or E&Y) should be preferred to invest. Lastly, firms with high-educated board members and frequent board activities are considered healthy and less likely to be delisted.

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Address: 207 Giai Phong Str, Hai Ba Trung Dist, Hanoi

Website: <http://nxb.neu.edu.vn>* Email: nxb@neu.edu.vn

Tel: (04) 3628 2486

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