WASTAGE IN HIGHER EDUCATION IN DEVELOPING COUNTRY: A COMPARATIVE STUDY ON SELECTED GRADUATES OF PRIVATE AND PUBLIC UNIVERSITIES OF SYLHET, BANGLADESH

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Abstract

This paper attempted to indentify the wastage of youths' higher educational efforts in both knowledge and compensation level. This is a descriptive analytical research done through primary and secondary data. The stratified probability sampling is used to collect the representative data from the population. Data collection was done by a well-designed questionnaire that was formulated with the help of the experts. The data were collected from 198 graduate respondents of different subjects who are studying and working at different careers in Sylhet-one of the seven divisional cities of Bangladesh. Due to lack of employment opportunity by lower educational level, people are directed to achieve higher degree in the expectation to start a better career. But it increases only the surplus of educated manpower in the employment race. The collected data were processed through Microsoft excel 07 and SPSS 19 to get the desired outputs to analysis in the viewpoints of objectives. The simple statistical methods (frequency distribution, cross tabulation, Chi-square etc.) are used to interpret the data. It is supposed to get better opportunity of getting better return from their career by using the knowledge and skill level earned in the valuable time of achieving higher degree from universities. But this study found a disappointing situation prevailing in the country where the respondents perceived that the design of the programs is not consistent with requirement of practical life and poor execution debar them in achieving the desired skill. Further the state of economy is not responsive to the expenses of time and efforts of individuals in achieving the higher degree along with inability of involving the excess supply of educated people in productive activities. Those increase the wastage in higher education of Bangladesh.

Keywords: Wastage, Higher Education, Unemployment problem, Supply of graduates

1. Introduction

Education is the constitutional right of all citizens. The Constitution of Bangladesh demands on state to ensure the non-paid and compulsory education for all citizens up to certain level, to arrange consistent education to the demand of society and to eradicate illiteracy within certain time limits (GOB, 2013). So the state must ensure the education according to the requirement of the society. The failure to do so would create burden on the society as the state must bear the expenditure of such unusable education in the cost of public money. The wastage of public money collected by taxes and other ways in the name of unnecessary education makes the economy pile and the authority must be liable for such wastage.

Education is supposed to increase the knowledge level of individuals that result in increased skill level of them. By using that knowledge and skill, the youths can make their career strategy in optimum level to get the appropriate return from it. Wastage is the result of gap between efforts and consequences. To achieve the higher educational degree, the individuals have to invest their time and efforts expecting greater return in the form of knowledge, skill and compensation from their career. But poorly designed educational program with inefficient execution debars them from achieving the desired knowledge and skill levels required by the career. Consequently they are deprived of getting expected return from their career. Additionally, the economy with stiff unemployment problem increases the wastage due to failure in occupy the supply of graduates from universities. This is because of heavy density of population in a comparatively smaller land.

Basic education is the right of every citizens but the higher education must be productive. The non-productivity of higher education intensifies the unemployment problems. If the higher education exaggerates the unemployment problem and proves useless in the work field then it is logical to question the continuation of such higher education. The sincere nation modified their education system according to the need of society by calculating every units of money in terms of return. Continuous modification is the routine work of every sincere nation.

In Bangladesh there are total 34 public universities. Total 1890543 (86% of total enrollment) students were enrolled in 2012 studying at those universities. But 90% of them (1693000) are studying at two largest universities; National University and the Open University. In 60 private universities 14% of total students (314640) were enrolled in 2012 (BBS, 2013).

Nearly 190,000 graduates are produced annually by these public and private universities (Nooh, 2011). It is questionable that whether those huge numbers of university graduates are demanded by the work fields or not. Graduates from public universities are completing their degree by the major support and subsidy of state. They students are destroying their valuable more than four years time of their life for that degree. It is supposed that he would repay the subsidy of state by contributing more to the economy. But if the graduates do not get any place to use their talents, then the state have no chance to get the investment returned from the graduates rather the state have to bear the load of these unemployed youths. The non-technical higher education is not totally failed. Very few of them getting job and also very few of them become entrepreneurs to create job for others. But what happened to the majority of them? They have to be enrolled themselves in the list of educated unemployed persons. Education is to remove discrepancy among the citizens but in developing countries like Bangladesh it is creating more discrimination. The able persons are

making more money by spending the money of the state and creating more discrimination among rich and poor. It is important to assess the need of graduates in History, political science, philosophy, sociology and other non-technical subjects by the country. As Bangladesh is not industrially and economically developed expectedly, so how many BBA and MBA degree holders is needed to be determined.

In developed country the structure of educated persons is like the pyramid. At the highest level the students enrolled and passed is the minimum. At the bottom, all are enrolled in the primary and secondary education. But in Bangladesh it is flat.

It is not necessary that all students enrolled in primary education must have the highest degree of universities whether it on Bangla or philosophy or other non-productive courses. Reports of education commissions like Sharif Commission of 1957, Hamdur Rahman Commission of 1960s, 1970's new Education policy, Kudrath-E Khuda Commission of 1974, Education Enquiry commission of 1977, 1978's & 1988's Bangladesh national Education Commission, Commission for National education policy of 1997, National education Commission of 2003, Twenty year strategic plan of 2006 – all emphasized on making the education consistent to real life problem rather than non-production education system (Nooh, 2011). But there is almost failure of the authority in implementing the recommendations of those commissions. Universities of Bangladesh are sliding back in the world university ranking. Many experts highlighted mismanagement, partisan, terrorism and deliberation of inferior quality education in the universities are the root causes for this position.

Having a youthful population, Bangladesh is suffering from 32% of unemployed and underemployed youths as per the census of 2011 (The daily Star, March 8, 2015). Failure in linking the education to the job requirement create a big problem of 47% unemployed graduates in this economy according to the report of The Economist (The daily Star, March 8, 2015). In this situation, it is important to study whether the higher education in Bangladesh is a wastage or productive?

2. Literature Review

Researchers tried to find out the return from education in many studies (Hermon & Walker, 1999; Appleton 2000). But it proved the difficulty in calculating the overall return. Though the financial return can be calculated and someone had done it (Psacharopoulos & Patrions, 2002) but the return in social and economic development of a nation is very difficult to calculate. The general perception is that people with more education make more money than those with less education. The difference between the pay of both may be considered as the monetary return on education. Another viewpoint is that ability of people makes that difference not the education. The college going people has that ability (Kolesnikova, Natalia A. 2010). Though the economists have not certainly able to calculate the return on education, Alan B. Krueger mentioned that an additional year of schooling can increase the individual's income by 10%. Among the social and cultural benefits, making friends, learning the social norms and rules and understanding the civic roles are important (Bernasek Anna, 2005). In some research it is proved that the economic return of individuals in some places of the world is very small but there is the hope for higher contribution in social and economic development of the nations (Murphy & Welch, 1992; Rouse, 1999). It is also found that schooling return is higher in LDCs, education provides indirect impact on growth, impact of education depends on the economic position of the country and the scholling quality and efficiency have impact on quantity of education growth (Sianesi and Reenen 2002).

Jorgenson-Fraumeni (1992) found that 26% of economic growth is depends on labor quality that is reflection of education. Among the indirect impact of education investment of human capital (Barro,1991, Gemmel, 1996, Benhabib and Spiegel, 1994), Speedy transfer of foreign technology (Griffith, Redding and Van Reenen, 2000, Cameron, Proudman and Redding, 1998, Benhabib and Spiegel, 1994), health issue like lower fertility and population growth ((Barro, 1991, Barro and Lee, 1994), and other dimension of human capital like higher life expectancy, lower infant mortality and higher levels of primary and secondary school enrolment rates (Barro and Lee, 1994) is to be mentioned. Everywhere return from primary education is very high but it is declining with the level of education. Public investment in higher education is found regressive (Psacharopoulos George,1994).

The world famous magazine The Economist reveals the fact that about 47% of Bangladeshi Graduate unemployed are creating frustration, unrest in the society. Among 22 lakh graduated entering the job market every year, Bangladesh can absorb 7 lakh suitably. Reducing only 2% unemployment rate can bring the GDP growth rate to 8%. So there must be a linkage between educational programs and requirement of jobs to achieve the goal (The Daily Star, March 8, 2015). Chowdhury (2015) opined that quality education is needed to address unemployment of graduates. Bhadra and Bhadra in their book 'Red and Green: A Bangladesh College' (1997) identified the Investment in Higher education as wastage. Sanath Kumar Saha in his article 'Education & skill building in Bangladesh' identified that the universities of Bangladesh seldom deliver the education for increasing skills in youths (Shaptahik 2000).Even the resources persons are not competent in doing so. Zillur Rhman Siddiqi in his book 'Visions and Revisions: Higher education in Bangladesh 1947-1992' (1997) highlighted the sources of wastage in higher education as: i. wastage in time and money ii. Wastage for admission in humanities iii. Wastage due to inconsistency of university education to job requirements and iv. Session-jam. He also identified wastages in universities due to corruption of student leaders and loss of lives due to political clashes in universities. Gazi Mahbubul Alam, Taher Billal Khalifa & Miraza Mohammad Shahjahan (2009) tried to assess rate of return in education in diffterent levels. They found Govt. total expenditure per unit in primary level is $4700. It is increased to $33200 in university level. The economic and social rate of return subtracting the unemployment cost in primary level is 12.1% and from higher education it is 13.5% only. From their analysis it is found that higher education is contributing only 1.9% more by spending huge amount of money from public fund.

3. Objectives

The main objective is to study the extent of wastage in higher education of Bangladesh. The specific objectives are:

i. To find out the perception of educated youths regarding their expenses of time in money in higher education.

ii. To find the perception of educated youths regarding their returns from higher education.

iii. To find the perception of educated youth regarding their use of knowledge and skill acquired from universities in working field.

4. Methodology

This is a descriptive analytical research done through empirical analysis of perception of educated youths regarding the use of higher education in work area. The stratified method of sampling used to include the professionals from educational institutions, business enterprises, public enterprises and unemployment to judge the extent of wastages in the

professionals of different sectors. The research was designed in survey method by questionnaire to get the relevant information in quantity and quality. The questionnaire was duly examined by the expert researchers to check the reliability and validity. Being assured in reliability and validity of the research, the data was collected from 198 individuals and processed through using SPSS 19 to get the outputs in the form of cross tabulation and Chi-square tests to come on conclusions. The respondents profile (age) is as follows:

Table 1: Age of Respondents

N	Minimum	Maximum	Mean	Std. Deviation
198	18	34	22.58	1.825

The range of the age of respondents proves that they are either students or employees of different organizations. The students are selected from undergraduate and graduate levels and employees are working at human resource department and have the responsibility of selecting the candidates for vacant positions. So, at a time the employees are employees and employers.

5. Findings

The graduates are produced in three major streams in Bangladesh; Public University, Private University and different colleges under state owned National and Open University. As the National and Open University are state owned, so the researchers have analysed the issue by considering two categories; Public and Private by considering the graduates from National and Open University as from Public University. The cost and return from higher education is the main concern of the study. So they researchers have tried to pinpoints the perceptions of respondents regarding the cost and benefits of higher education related to the two types of universities. Table 2 illustrates the issue.

Table 2: The Liking and Disliking of Institute in Respect of Cost And Benefits

Type	Description	Reasons for Liking/Disliking		Total
		Dislike for Cost	Liking for More benefit	
Private	Count	65	21	86
	Percent	75.60%	24.40%	100.00%
Public	Count	40	72	112
	Percent	35.70%	64.30%	100.00%
Total	Count	105	93	198
	Percent	53.00%	47.00%	100.00%

Source: SPSS outputs on Field Survey conducted on January - March 2015.

It is found that the respondents dislike the private university more than public university for excess cost involved with the degrees of that type of university. The graduates of public universities get priority in selection for employment due to the good reputation of such universities in job market for quality education. So the respondents opined that the return from public universities is more than that of private universities.

The student wings of political parties disrupt the normal flows of activities of universities. Exams and classes are to be suspended frequently in every session and create session jam. SO the students have to waste more times than the scheduled time to be awarded with the degrees. Without those certificates they cannot apply for jobs of suitable positions. The wastages due to the political unrest is reflected in Table 3 according to the perception of the respondents.

Table 3: Wastage in Both types of Universities due to Students' Politics

Type of Institution	Description	Waste due to Politics				Total
		Very High	High	Similar	Low	
Public	Count	22	3	38	0	63
	% within	34.90%	4.80%	60.30%	0.00%	100.00%
Private	Count	29	10	79	17	135
	% within	21.48%	7.40%	58.52%	12.60%	100.00%
Total	Count	81	13	87	17	198
	% within	40.90%	6.60%	43.90%	8.60%	100.00%

Source: SPSS outputs on Field Survey conducted on January - March 2015.

It is found that the perception of wastage due to political unrest is higher in the public universities than private universities. The Chi-Square analysis testifies that there are significant difference in the perception of wastages due to political unrest between the public and private universities and the wastages in the public universities is higher than the private universities ($\chi 2$ = 19.691, df = 3 and p-value = 0.000 < 0.05).

Better management ensures the efficiency by minimizing the wastages in every level of an university. Mismanagement brings wastages. The waste due to the managerial pro lems is depicted in Table 4.

Table 4: Waste due to Management Problem in both types of Universities

Type of Institution	Description	Waste due to Management				Total
		Very High	High	Similar	Low	
Public	Count	42	1	20	0	63
	% within	66.70%	1.60%	31.70%	0.00%	100.00%
Private	Count	37	0	78	20	135
	% within	27.40%	0.00%	57.80%	14.80%	100.00%
Total	Count	79	1	98	20	198
	% within	39.90%	0.50%	49.50%	10.10%	100.00%

Source: SPSS outputs on Field Survey conducted on January - March 2015.

The selections of authority in the public universities are somehow politically biased in this country. The efficiency of the management may not be given priority over political influences. So in the management of those universities, there may be indication of mismanagement that the respondents noticed. So, wastages in public universities due to managerial limitations are found more than private universities according to the perceptions of the respondents. The Chi-square tests duly testify the significant difference between wastages in private and public universities and the cross table verifies that wastages in public universities due to managerial problems is higher than that of the private universities ($\chi 2$ = 39.316, df = 3 and p-value = 0.000 < 0.05).

Universities have to design their programs according to the requirement of the practical field. The employers require that the graduates should be capable in implementing their modern and updated knowledge in their filed and bring competitive edge for their organizations. The failure in doing so brings wastage of time and talents of the graduates. The wastages in both types of universities due to the impractical programs of the universities are shown at Table 5.

Table 5: Waste due to Impractical Course Design in both Types of Universities

Type of Institution	Description	Waste due to Improper Course Design				Total
		Very High	High	Similar	Low	
Public	Count	41	9	13	0	63
	% within	65.10%	14.30%	20.60%	0.00%	100.00%
Private	Count	38	32	38	27	135
	% within	28.10%	23.70%	28.10%	20.00%	100.00%
Total	Count	79	41	51	27	198
	% within	39.90%	20.70%	25.80%	13.60%	100.00%

Source: SPSS outputs on Field Survey conducted on January - March 2015.

According to the perception of the respondents the wastages in public university is much higher than the private universities due to improper program designs for the graduates. Private universities are offering limited number of programs shaped according to the requirement of the working field. But public universities bear the responsibilities of enhancing knowledge of the citizen by offering various courses in different field of knowledge. They do not consider making their programs consistent with the requirement of working fields. The Chi-square test proved that ($\chi 2 = 30.065$, df = 3 and p-value = 0.000 < 0.05) there are significant differences between the public and private universities in making consistency of the programs with the job requirements.

Faculty members have the responsibility of prepare the graduates according to the requirement of working fields. So sincerity and efficiency of faculty members is required to carry out the programs effectively. Failure to doing so brings wastes in the youths' energy and intelligence. The Table 6 reflects the wastage due to inefficient and insincere faculty members in failure to prepare the graduates according to the requirement of job fields.

Table 6: Perception of Waste due to Inefficient & Insincere Faculties

Type of Institution	Description	Waste due to inefficient & insincere Faculties				Total
		Very High	High	Similar	Low	
Public	Count	30	14	18	1	63
	% within	47.60%	22.20%	28.60%	1.60%	100.00%
Private	Count	35	44	44	12	135
	% within	25.90%	32.60%	32.60%	8.90%	100.00%
Total	Count	65	58	62	13	198
	% within	32.80%	29.30%	31.30%	6.60%	100.00%

Source: SPSS outputs on Field Survey conducted on January - March 2015.

It is found that wastage due to insincere and inefficient faculties is severe in the public universities than in the private universities as the recruitment in public universities is not transparent but the private universities are taking the matter seriously and are successful in attract and restore the efficient faculties freshly and from experienced faculties of public universities. So wastage is much lower in private universities due to that reason. The Chi-Square test satisfies the criteria to announce that ($\chi 2 = 12.108$, df = 3 and p-value = 0.007 < 0.05) there are significant difference in sincerity and efficiency of faculties of public and private universities.

With a huge educated unemployed persons, Bangladesh cannot occupy the graduates of public and private universities timely. They have to wait for placement and waste their

efforts and knowledge due to lack of scope in use. Table 7 illustrates the waste due to wait for placement of graduates of public and private universities.

Table 7: Perception of Waste due to Wait for Placement

Type of Institution	Description	Waste due to waiting for placement				Total
		up to 1 year	1-2	2-3	6	
Public	Count	60	1	0	2	63
	% within	95.20%	1.60%	0.00%	3.20%	100.00%
Private	Count	52	11	62	10	135
	% within	38.50%	8.16%	45.92%	7.40%	100.00%
Total	Count	112	62	12	12	198
	% within	56.60%	31.30%	6.10%	6.10%	100.00%

Source: SPSS outputs on Field Survey conducted on January - March 2015.

It is found that private university graduates have to wait more for placement than the graduates of public universities. This is due to the fact that public universities have a reputation of producing more qualified graduates than private universities as more intelligent students choose public universities rather than private because of minimum tuition fees of such universities. The employers are still giving priority to the graduates of public universities over private. Public universities provide small number of graduates in each subject and the graduates are involved easily to the different organizations. Moreover the numbers of public universities are much lower than private universities who are producing more graduates in limited subjects and create excess of supply in the job market. Consequently, the graduates have to wait more for placement and make wastage of their efforts and merits. The Chi-Square test proved ($\chi2 = 71.950$, df = 3 and p-value = $0.000 < 0.05$) a significant difference between waiting time of private and public universities for placement.

Joining after primary and secondary saves the time and efforts for university degree. So question about joining the work after secondary education or after university degree of 4-6 years may arouse. The opinion of students and employees on this debating topic is illustrated on Table 8. As the students are at graduate levels and are much aware of the job market and its return, so they can participate in giving their opinion regarding this topic and the employees and employers are well known about it.

Table 8: Perception about Waste due to Joining Works after University Degree

Type	Description	Waste for joining work after university degree				Total
		Very high	high	similar	Low	
Student	Count	52	20	69	16	157
	% within	33.10%	12.70%	43.90%	10.20%	100.00%
Employee	Count	10	8	1	22	41
	% within	24.40%	19.50%	2.40%	53.70%	100.00%
Total	Count	62	28	70	38	198
	% within	31.30%	14.10%	35.40%	19.20%	100.00%

Source: SPSS outputs on Field Survey conducted on January - March 2015.

Students are facing frustration about future placement. Their opinion is in favor of joining the job after secondary education rather than after university degree. But the

employee/ employers are in touch of real world and they are experiencing the consequence of joining in job after secondary and after graduation. From their experience they are in favor of joining after graduation because the return of a secondary degree holder is much lower than the graduates as they observe.

The use of knowledge in the workplace is a vital question in this issue. The perception of both students and employees in this regard is expressed on Table 9.

Table 9: Perception about Use of Earned Knowledge in Works of Surveyed Students

Type	Description	Relationship of job with learning					Total
		very significant	significant	indifferent	insignificant	very insignificant	
Students	Count	63	48	36	10	0	157
	% within	40.10%	30.60%	22.90%	6.40%	0.00%	100%
Employee	Count	10	10	8	1	12	41
	% within	24.40%	24.40%	19.50%	2.40%	29.30%	100%
Total	Count	73	58	44	11	12	198
	% within	36.90%	29.30%	22.20%	5.60%	6.10%	100%

Source: SPSS outputs on Field Survey conducted on January - March 2015.

It is found that the employees opined that the relationship between learning and job requirement is not so significant as the students' perception. Students are acquiring knowledge and they have the perception that they could use their learning at the workplace but the employees observe that the relationship is not so significant because the academic programs could not co-opt the job requirement in their syllabus properly.

6. Overall Discussion

Attraction to public university is due to the lowest cost and better image in the job market. But private universities are preferred for better return in respect of easy access, timely completion of the degree and demandable programs (Table 2). Waste due to political unrest, managerial problems, impractical course design, insincere and inefficient faculties and wait for placement hampers graduates from both types of universities private and public. But students of private university suffer less than those of public university due to all limitation except wait for placement (Table 3, 4, 5, 6 & 7). Graduates from public university enjoy more demand in the market due to the fact that comparatively intelligent students get the chance of admission in the public universities. The individual intelligence and perception of better quality education in the public universities keep them a bit advanced than the graduates of private universities. The perception of wastage due to the placement after university degree prevails in the mind of both types of respondents' students and employees/employers (Table 8). But the students are seemed as more frustrated about their future and regrets more than employees for not joining after secondary education. Employees are in touch of practical world and they are less repenting for not joining secondary level except as entrepreneurs. Again students are learning as they thought that there will be implementation of their learning in the practical world but the employees are not so optimistic about relationship of learning with the practical world (Table 9). In all respects, we observe the wastage in the higher education is prevailing.

7. Conclusion

Education is important to convert the humans to valuable resources for any economy. The huge unemployment of graduates in Bangladesh raised the question about essentiality of higher education in Bangladesh. But the study explore that present competitive market needs graduates for employment. Though, there are wastage of time and efforts of youths to get graduation certificate from public or private universities, the students are attracted by the public universities due to less monetary investment and to private universities by less but certain time investment. More wait for placement by the private university graduates intensify the sufferings more than the graduates of public universities. Perceptions of employers regarding the intelligence level of students of both types of universities make the difference. The educational institutions are failed to provide quality education according to the need of job market. So, there are small linkage between learning and job requirements. Wastage is created in public and private universities in every aspect like political unrest, mismanagement, incompetent faculties, inappropriate course design, and lack of strong relationship of learning to jobs etc. Because of such wastages, students are found as more frustrated about their return from higher education than the employees- who perceive that the return from higher education is significant in youths' career. Proper demand assessment is needed to make the higher education fruitful in youths' career. Accordingly the proper planning Authority should address these issues and make proper policy and implement the planning to adept the learning to the requirement of practical world to solve the vital issue. Minimizing the wastage in higher education is important to increase the individuals' and societies' monetary and non-monetary return that is most important contributor in the economy.

8. Managerial Implication

The result of the study can be used in policy making about higher education. The higher education that create unemployment and frustrations among educate persons and making the society more unstable, it is not wise to spend the money of tax-givers in the form subsidy from the state for higher education in public universities.

The money that are to spend on subsidy and allotment is to be used to create productive market oriented education curriculum. Such investment is justified. It is the fact that the unemployed high educated person is less and less contributing to the country and society than the half educated technician of Jinjira (a hub of local technology).

It is also important to form a commission consisted by the production and market oriented persons of practical world to create a practical education commission. The inclusion of highly academicians, scholar or traditional bureaucrats in the commission would lead to a implementable education policy. And the commission must be ensured that the suggestions of them would be implemented and if it needed to modify the existing laws that creates barrier in implementing the education policy, it should be done to make a proper implementation.

9. Limitation

The study is suffering from the limitation of appropriate sample size and sampling frame. Besides these discussed factors there are other factors that are active in that issue. The unaddressed factors bring limitations. The return from education and wastage in acquiring the degree is not measures objectively by quantitative methods considered as another limitation of that research.

10. Further Study

The sampling size and frame can be extended to generalize the findings. Other factors can be addressed to do a research by the techniques of factor analysis. The return and wastage in education can be computed by quantitative measures for further study.

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CORPORATE GOVERNANCE AND FINANCIAL PERFORMANCE OF FAMILY BUSINESSES LISTED IN THE SECURITY EXCHANGE OF THAILAND

by

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Abstract

The objective of this research is to examine the corporate governance and its relationship to the financial performance of family businesses listed in the Security Exchange of Thailand (SET) during 2008-2015 by contrasting between the family business (FB) group with the non-family business (NFB) group. The corporate governance of the FB group is found to be not different from the NFB group at statistically significant level of .05 and for the FB group, the score for corporate governance is correlated with the market capitalization, the net profit margin, the gross profit margin, the return on asset and the return on equity of the group at statistically significant level of .05,; while it is not correlated with the earning per share at the same statistically significant level.

Keywords: Family Business, Corporate Governance, Financial Performance

1. Introduction

Family business is one of the oldest forms of business organization, and still could be found widely today, contributing to the world economy significantly. Currently, family business enterprises account for two thirds of the enterprises worldwide, generating revenue of over 70% of annual world GDP (KPMG Enterprise, 2015). They could be considered the backbone of the world economy because they are evidently influential both in the developed and the developing countries. However, family business enterprises are facing many challenges not only the decision making on business operation and investment, but also on ownership and family relations as well. Most of them would not survive for more than one generation, only one third have been successful in the succession of business from one generation to the next (Deloitte, 2016). They are most vulnerable during the succession process because of the potential conflicts such as the intention to maintain and honor the traditional practices being contradictory to the effort to adapt and make progress in response to the changing business environment. Thus they are in need of an appropriate management system one of the approaches would be good corporate governance. Several studies have pointed out that good corporate governance is essential for long-term survival of family business enterprises through the safeguarding of the interest of shareholders and stakeholders. The implementation of good corporate governance is another challenge for family business enterprises. It could enhance operational efficiency and safeguarding the long-term interest of shareholders, and improve the well-being and welfare of family members consequently maintaining family unity as well. It can be concluded that good corporate governance is basically essential for successful family business enterprises wanting to protect their assets

and transfer to their heirs in the future, because good corporate governance is the formulated internal working framework covering the roles, policy, process, and control guidelines for decision making to be implemented.

Family business enterprises pay greater attention to corporate governance currently than during the past 10 years (PwC, 2015). Although, the family business enterprises may have good framework for corporate governance but the new generation heirs might see the need for more organized procedures of corporate governance (Deloitte, 2016). Therefore, those enterprises aiming for improved performance and survival in the global market with increased competitiveness, profitability, being attractive to investors, and reaching more customers, would have to apply the principles and standards of good corporate governance to their strategy and decision making process (Todorović, 2013). Consequently, family business enterprises should study and understand good corporate governance practices to enable them to make decision on what are best for their operation in facing the existing challenges of the organizations efficiently.

The author is thus interested in examining the corporate governance practices and their relationship to the financial performance of business firms listed in the Security Exchange of Thailand (SET). Listed companies are in the position to recognize the importance of good corporate governance because they are owned by many shareholders who could not all participate in the management. They have to vote for trusted persons as directors to supervise the management. To foster the trust and confidence in the successive empowering of authority, there is a need for good corporate governance procedures. This study would examine the family business firms in comparison with non-family business firms. The criteria for being a family business firm would be those used by the Family Business Study Center, University of the Thai Chamber of Commerce. The parameters representing financial performance to be investigated include Market Capitalization, EPS, Gross Profit Margin, Net Profit Margin, Return on Asset and Return on Equity. These are tested for relationship with the level of corporate governance of listed companies.

2. Conceptual Framework and Research Hypotheses

With the objective of investigating the level of corporate governance of listed companies in the SET and its relationship with their financial performance, the relevant conceptual framework and research hypotheses are shown below:

2.1 Conceptual Framework

| **Firm Characteristics**
- Ownership
  (family/non-family)
- Years in Operation
- Years listed in SET
- Top Management (CEO)
  (family/non-family)
- Generation (CEO) | → | **Corporate Governance**
(CG Score) | → | **Financial Performance**
- EPS
- Market capitalization
- Net Profit Margin
- Return on Asset
- Return on Equity |
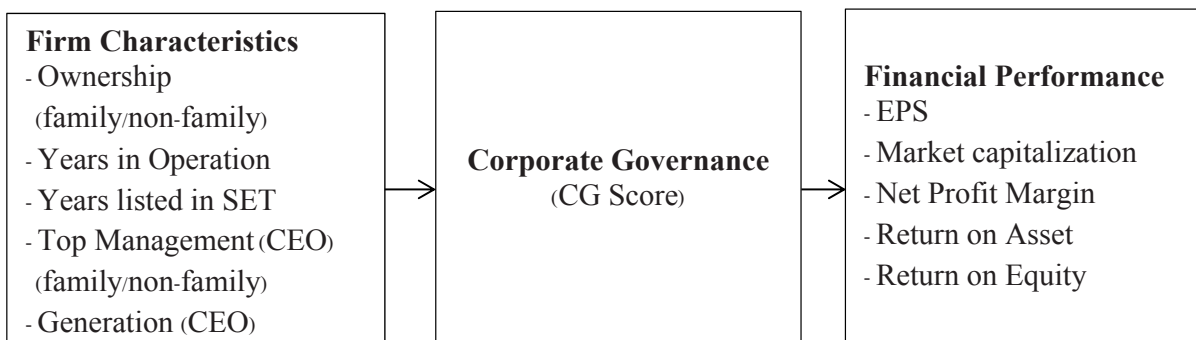
2.2 Research Hypotheses: (FB/NFB comparison)

H1: Years in operation is correlated with CG Score

H2: Years listed in the SET is correlated with CG Score

H3: Listed firms with family-member CEO exhibit different CG Score than those with non-family-member CEO.

H4: Generation of family-member CEO of listed firms is correlated with CG Score.

H5: Firms in different industrial sectors exhibit different CG Scores.

H6: CG Score of listed family firms is different from that of non-family listed firms.

H7: CG Score of listed firms is correlated with their financial performance.

       H7.1: CG Score of listed firms is correlated with EPS.

       H7.2: CG Score of listed firms is correlated with Gross Profit Margin.

       H7.3: CG Score of listed firms is correlated with Net Profit Margin.

       H7.4: CG Score of listed firms is correlated with Return on Asset (ROA).

       H7.5: CG Score of listed firms is correlated with Return on Equity (ROE).

       H7.6: CG Score of listed firms is correlated with Market Capitalization.

3. Research Method

3.1 Research Sample

The sample set used for this study is the set of 413 firms listed in the SET for 5 or more years (back to the year 2008) satisfying the given criteria fully and with complete data, breaking down to 202 family firms and 211 non-family firms. One of the criteria for selecting the securities is the exclusion of Mutual Funds, rehabilitating firms, potentially delisted firms, and firms under suspension (SP). The criterion for being family firms is being controlled by one family in accordance with the definition given by Family Business Study Center, the University of the Thai Chamber of Commerce as: "Family business must:

3.1.1 be owned by the founding family,

3.1.2 have at least one family member being one of the top 5 directors, and

3.1.3 have strategic shareholders or major shareholders being members of the family (all combined).

Note: Strategic shareholder according to the Security Exchange Commission (SEC) refers to shareholder having "management control" defined as (1) Holding more than 50 percent of shares with voting rights in the legal entity, (2) Having control of the majority of votes at the General Meeting of shareholders directly or indirectly for whatever reasons, (3) Having authority to appoint of remove half or more of the directors directly or indirectly.

3.2 Research Instruments

The instruments for this study are 1) corporate governance (CG) scores of listed firms as reported in the corporate Governance Report of Thai Listed Companies (CGR) published by the Thai Institute of Directors Association: IOD) compiled with the support of the Security Exchange of Thailand and the Office of the Security Exchange Commission from data surveyed during 2008-2015 (IOD, 2016), 2) financial performance measures being relevant financial ratios to represent the operational efficiency of the management from SETSMART

database of SET (as of 30 May 2016) consisting of parameters being: Market Capitalization, Net Profit Margin, Gross Profit Margin, Return on Asset, Return on Equity, and Earning per Share (EPS).

4. Summary of Results and Discussion

4.1 Summary of Results

Part 1: General Information

Of the sample set of 413 firms, there are 211 firms being non-family firms (NFB) accounting for 51.10 percent, and 202 family firms (FB) accounting for 48.90 percent. For the FB the minimum years in operation is 7 with the maximum of 83 and the mean of 35.08; for the NFB the minimum years in operation is 11 with the maximum of 140 and the mean of 38.26. With respect to the years listed in the SET, the minimum, maximum and mean of the FB are 5, 41, and 20.73 respectively; and those of NFB are 6, 41, and 21.51 respectively.

Part 2: Corporate Governance of Firms Listed in the SET

1) Corporate Governance of Family Business Firms Listed in the SET

Calculating the Pearson product moment correlation coefficients to test the correlation of the CG Score and Years in Operation for the FB group the results (Table 1) found no correlation at statistically significant level of 0.5.

Table 1: Correlation of CG Scores and Years in Operation for the FB group listed in the SET

Variables	n	r	p
CG Score – Years in Operation	202	0.124	0.08

Note: statistically significant level of .05

Calculating the Pearson product moment correlation coefficients to test the correlation of the CG Score and Years Listed in SET for the FB group the results (Table 2) found positive correlation at statistically significant level of 0.5

Table 2: Correlation of CG Scores and Years Listed in SET for the FB group listed in the SET

Variables	n	r	p
CG Score – Years Listed in SET	202	0.181	.010*

Note: * = statistically significant level of .05

To test whether listed firms with Family-Member CEO exhibit different CG Score than those with Non-Family Member CEO, independent sample t-test was performed for the data and the results (Table 3) show that the difference in CG Score is confirmed at statistically significant level of .05.

Table 3: Comparison of CG Scores between the Family Member CEO firms and Non-Family Member CEO firms

Variable	$\bar{x}$	SD	df	t	p
Family Member CEO -	19.78	10.931	200	-1.79	0.075
Non-Family Member CEO	22.72	11.733			

Note: statistically significant level of .05

To test the correlation between the CG Score with the Generation of CEO, the Spearman rank correlation coefficient calculated from the data (Table 4) confirms positive correlation at statistically significant level of 0.5 indicating further generation CEO firm to get higher CG Score.

Table 4: Correlation of CG Scores and Generation of CEO for the FB group listed in the SET

Variables	n	r	p
CG Score – Generation of CEO	202	0.294	.001*

Note: * = statistically significant level of .05

To test whether FB firms in different industrial sectors exhibit different CG Scores, the data were analysed by One-Way ANOVA (Table 5) showing no significant differences at statistically significant level of .05.

Table 5: Differences in CG Scores of FB Firms in Different Industrial Sectors.

Variables	n	df	F	p
CG Score – Industrial Sector	202	7	1.838	0.082

Note: statistically significant level of .05

2) Corporate Governance of Non-Family Business Firms Listed in the SET

Calculating the Pearson product moment correlation coefficients to test the correlation of the CG Score and Years in Operation for the NFB group the results (Table 6) found no correlation at statistically significant level of 0.5.

Table 6: Correlation of CG Scores and Years in Operation for the NFB group listed in the SET

Variables	n	r	p
CG Score – Years in Operation	211	-0.001	0.99

Note: statistically significant level of .05

Employing the Pearson product moment correlation coefficients to test the correlation of the CG Score and Years Listed in SET for the NFB group the results (Table 7) found no correlation at statistically significant level of 0.5.

Table 7: Correlation of CG Scores and Years Listed in SET for the NFB group listed in the SET

Variables	n	r	p
CG Score – Years Listed in SET	211	-0.005	0.944

Note: statistically significant level of .05

To test whether NFB firms in different industrial sectors exhibit different CG Scores, the data were analyzed by One-Way ANOVA (Table 8) showing differences at statistically significant level of .05. indicating at least one pair of difference in the CG Score.

Table 8: Differences in CG Scores of NFB Firms in Different Industrial Sectors.

Variables	n	df	F	p
CG Score – Industrial Sector	211	7	6.382	0

Note: * = statistically significant level of .05

3) CG Scores of Listed Firms in the SET: Comparing FB Firms with NFB Firms

Independent sample t-test was performed on the data (Table 9) to test the differences in CG Scores of the FB firms compared to those of NFB firms, the results point to no difference at statistically significant level of .05

Table 9: Differences in CG Scores of FB Firms compared to NFB Firms

Comparison	n	$\bar{x}$	SD	df	t	p
FB Firms -	202	20.86	11.291	411	0.325	0.745
NFB Firms	211	20.48	12.269			

Note: * = statistically significant level of .05

Part 3: Correlations between CG Scores and Financial Performance of Firms Listed in the SET

Examining the correlation between CG Scores and the financial performance of FB firms listed in the SET, the Pearson product moment correlation coefficients (Table 10) calculated indicate positive correlation for Market Capitalization, EPS, Gross Profit Margin, Return on Asset, and Return on Equity at statistically significant level of .05 but no significant correlation for Net Profit Margin at the same statistically significant level of .05.

Table 10: Correlation between CG Scores and the Financial Performance of FB Firms Listed in the SET

Variables	n	r	p
CG Score			
Market Capitalization	202	0.28	.000*
Earning per Share (EPS)	202	0.193	.006*
Gross Profit Margin	186	0.171	.020*
Net Profit Margin	202	0.061	0.387
Return on Asset	202	0.194	.006*
Return on Equity	202	0.166	.018*

Note: * = statistically significant level of .05

As to the correlation between CG Scores and the financial performance of NFB firms listed in the SET, the Pearson product moment correlation coefficients (Table 11) calculated indicate positive correlation for Market Capitalization, Gross Profit Margin, Net Profit Margin, Return on Asset, and Return on Equity at statistically significant level of .05 but no significant correlation for Earning per Share (EPS) at the same statistically significant level of .05.

Table 11: Correlation between CG Scores and the Financial Performance of NFB Firms Listed in the SET

Variables	n	r	p
CG Score			
Market Capitalization	211	0.353	.000*
Earning per Share (EPS)	211	0.019	0.784
Gross Profit Margin	180	0.265	.000*
Net Profit Margin	211	0.277	.000*
Return on Asset	211	0.409	.000*
Return on Equity	211	0.289	.000*

Note: * = statistically significant level of .05

4.2 Discussion

Section 1: Corporate Governance of Firms Listed in the SET

1. For the correlation of corporate governance and years in operation, the CG Score is not significantly correlated with the Years of Operation for both the FB group and the NFB group. This could be that upon being listed in the SET both groups have to observe the corporate governance guidelines of the SET regardless of the number of years they have been in operation. In the case of FB firms in ASEAN, it is found that the cultures of the family and the business could not be separated, they are likely to be shared back and forth. The family culture and values are often relies upon in the implementation of good corporate governance or taken as strong point in corporate governance. For Asian families, family business has been a source of pride for the family and good corporate governance would promote the dedication of the family business to operate consistently and sustainably. Corporate governance is achieved through the dedicated actions of the family members, the executive committee, shareholders and executives of the family firms. The owning families in ASEAN mostly express their strong desire to have formal mechanism for corporate governance of the business and the family (BFI@SMU and Deloitte Southeast Asia, 2015). Currently, family business firms pay greater interest in corporate governance during the past 10 years according to the survey of PwC conducted in 2013 pointing out that most business firms have executive committees representing the owners in overseeing and running of the business (PwC, 2015). It is found that 88% of the family business firms confirmed that they have certain corporate governance mechanism in their organizations (European Family Businesses (EFB) and KPMG. 2015). However, due to the specific circumstances of each family firm, the firm thus

has to undertake a comprehensive examination of the corporate governance practices in order to select the appropriate practices to be adopted to meet the facing challenges efficiently (PwC, 2015). This could be extended to those non-family firms as well.

2. With reference to the positive correlation between the CG Score and the Years listed in SET for the FB group while no significant correlation for the NFB group, a possible explanation is that most of the FB firms were originally not run professionally in their corporate governance and become gradually more experience in this regard upon being listed. They also aimed at business growth through being more professional in their internal organization management. The business firms especially those still in the 1st or 2nd generation during which the founders are still active, would take up logical business procedures and processes, focusing more on human resource management and less on strategy and business planning. They have the attitude of doing things on their own, but with the expansion of the business the transformation to professional management was inevitable when growth was the very top priorities of the firms. Therefore, family firms would be readily improving their corporate governance mechanism by providing education to family members and hiring professionals from outside. It is reported that 85% of family business firms confirmed that the existence of corporate governance mechanism and process would be related to the important factors driving the success of family business; they also recognized the importance of corporate governance (European Family Businesses (EFB) and KPMG, 2015).

For family firms, the existence of corporate governance committee and Family Council would foster the balance when the business expands (Moore and Juenemann, 2008). In addition the consultant of the family firm could assist in the decision making on the form of corporate governance appropriate to the current situation and the future requirements of the firm. The consultant could also advise on the appropriate composition of the board of directors and the approaches for making the board meeting highly valuable (KPMG Enterprise, 2015) in order to attain higher CG Score in successive years.

3. Although the finding indicates no statistically significant difference between the CG Score of FB firms with family member CEO and that with non-family member CEO, the actual CG Score of the former tends to be higher than that of the latter. A global study found that the non-family executives could make the business grow faster, foster innovation, expand internationally, and diversify the business more readily. Doing business professionally was also considered of top priority more often than family executive who would focus more on the family, the community and give priority to the establishment of legend in the world. Family firms might achieve low financial performance or lack the ambition to expand if they were run by family members (PwC, 2014) Recently, a study in Germany (PwC Deutschland, 2014) found that firms hiring non-family members in top executive positions would drive the business growth more rapidly. The professional business management is not sufficient for the long-term survival of the business, the important thing to realize is that professional management needs to be in both the business and the family.

However, the improper transfer of business for one generation to the next which is the most important stage of the life cycle of family business could impact negatively on the business. In addition, it could be the cause of family conflicts arising from the complexity of

the succession process and various factors such as relying too much on the owner and the owner-executive not willing to relinquish control, etc., even with some study pointing out that family succession could have negative impact on the business if the successor is not a family member (Credit Suisse, 2012) Because the founder/CEO and company board are aware of the strengths, weaknesses, and success of the appointed family executives, and these executives know the firm, the industry sector and the company culture very well with well known information of the customers and the employees as well as being well associated and trusted by the family, they are more valuable and preferable. However, if the firm could not find competent family members or they are not ready to take the CEO position, the alternative is to select non-family member from outside (PwC, 2015) For certain family firms, the use of non-family member CEO is considered normal practice. The succession plan or the CEO recruitment is the same process for business firms of non-family type. The family may need periodical challenge in deciding whether to hire non-family member CEO, especially when there are family members who are capable of taking the job (PwC, 2015). However, several firms express the opinion that it would be more equitable if the successor is not related to the business (Bennedson, M. et al., 2014; Wang, Y. et al., 2004). This is consistent with the study on the importance of hiring executive and/or consultants of non-family members undertaken by Deloitte Southeast Asia (2013) pointing out that non-family member consultants are valuable to the development and coaching of the new generation of successor in assuming important position in the firm. This is indicative that the family recognizes the benefit of having non-family member executive in leveraging the needs of the business and those of the family and in making necessary changes for the growth of the family business. In addition the study also confirms the linkage between the hiring of non-family member executives with the competitiveness of firms because of the introduction of new dynamic and skills necessary for the success of firms into the organization enable the firms to be managed professionally (European Family Businesses (EFB) and KMPG, 2015).

4. On the positive correlation (statistically significant level of .05) between the CG Score of FB firms and the generation of CEO, indicating that higher generation CEO firms would have higher CG Scores, the finding could be the consequence of careful selection of successors being critical to the survival and sustainability of the firms. Especially for ASEAN family firms at the point of succession of CEO, the training and development of the new generation heir would be very important (Deloitte Southeast Asia, 2013). Regarding succession, family business represents the values of the family as formulated by the founder and would be passed on to the successive generations. These values would become of greater importance over time when the family grows larger and the business expands. The common values of the family would be essential in binding the members of the family. It may be concluded that the maintenance of ownership and control of family business within the family could be the goals of the owners (Deloitte, 2016).

5. Regarding finding of no significant difference of CG Score among the different industrial sectors for the FB group but significance (at statistically significant level of .05) for the NFB group, it could be from the fact that the FB firms are highly aware of the importance of corporate governance in the long-run survival of the business and the safeguard of shareholders' interests as well as those of stakeholders. Thus corporate governance is another major challenge facing family business firms. Good corporate governance would enhance the

operational efficiency and safeguarding the long-term interest of shareholders, and improve the well-being and welfare of family members consequently maintaining family unity as well. It could foster confidence of the investors, trade partners, and customers. It would also lead to the acceptance of employees making them feel committed to the organization in the long-run. The preparation of succession plan and security handling plan clearly, transparently, with open access to information for all parties would build up trust upon the successor to take over the business. The stakeholders would be confident and keep on supporting the business. The family business firms are advantageous with respect to: 1) They have financial liquidity, are efficient in asset management and debt servicing, and are capable of earning profit and growing; 2) They maintain unity within the family, are satisfied and committed to the business, have little conflicts or workplace disputes; and are satisfied with the performance of the business (Issaranukuldej and Suttarat, 2010). Therefore, FB firms with similar backgrounds even in different industries would not have taken much different corporate governance approaches. While the NFB firms run by professional in different industries could be effected by other factors for them to have different levels of corporate governance reflecting in the differences of their CG Scores.

6. On the difference of CG Scores between those of FB group and NFB group with no statistically significance at the level of .05, the likely cause might be that upon both groups being listed in the SET they would have to follow the same rules and regulations regarding corporate governance as they are under strict auditing of the SET. The adherence to the regulations is particularly true for the FB firms whose owners recognize very well that the success of their business is crucial for the security of themselves and the future of their next generation heirs. The non-family executives would also realize that the ability to earn profit and the flexibility of the firms would be essential for the survival of the operation and financial performance (PwC, 2016). The important point is that the family recognizes that the succession within the family would affect the security of the family, the firm and the employees and thus could motivate other family members to follow the steps in working for the firm. It is therefore necessary to lay good foundations and guidelines for the firm to be ready for the succession. The needs of the new generation to take over the business may be affected by several external factors such as the size of the firm and the success of the business, affecting the intention of succession for most of the new generation heirs. The proportion of the family heirs willing to take over the business is highest for the group with high financial performance and the proportion increases with the size of firm (Zellweger, Siege and Englisch, 2015). Therefore, the listed FB firms would attempt to be professional within the framework of good corporate governance no less than the NFB firms in order to maintain their competitiveness in the fiercely competitive market at present. This could be the reason for the finding of no significant difference between the two groups.

Section 2: Correlation between CG Scores and Financial Performance of Listed Firms

The findings of positive correlations between CG Scores and almost all six financial performance ratios except Net Profit Margin for the FB group and also positive correlations between the CG Score and almost all six financial performance ratios except Earning per Share (EPS) for the NFB group could be explained as follows:

Good corporate governance would foster confidence among investors making it more efficient in raising capital, more easy in forming business alliances; and with sufficient capital and business alliances, the competitiveness of the firm would improve nationally and globally. In particular, for the FB firms the formation of an executive committee formally in the family firms would significantly improve the performance of the business; and the efficient assessment of the practices of the executive committee would lead to better performance of the family firms compared to their competitors in general. According to the study by Brenes, Madrigal and Requena (2011), the executive directors of both family members and non-family members are valuable to the firms. The family members could contribute with knowledge, experience, family values and cultures, while the non-family members would contribute in terms of fairness and professional approach to business. In addition, the non-family members also facilitate the transparency and confidence in the operation of the firms especially among the non-family stakeholders. The study also concludes that the establishment of formal governance unit such as a professional executive committee or business council would improve the business performance of family firms and most importantly in many family firms the non-family directors have taken the conciliatory role in resolving conflict between business and family. This is supported by Wali-ul-Maroof Matin (2006) study of corporate governance of FB firms listed in the MAI of the SET finding positive correlation between corporate governance and business performance. Another study by Ibrahim, H. and Samad, F.A. (2011) on the relationship between corporate governance arrangement and business performance of firms listed in the Malaysian Security Exchange found that the ROE of FB firms are higher than those of NFB firms while the Tobin's Q and ROA of NFB firms are higher. In addition, the corporate governance arrangements such as the size of the board, independent directors, of both FB and NFB firms are found to influence significantly on the performance of firms.

This finding is also consistent with the study on the impact of corporate governance on business performance conducted by Todorović (2013), on a sample of firms listed in the Banja Luka Stock Exchange of the Republic of Srpska, examining the financial ratios of Net Profit Margin, Earning per Share, pointing out that corporate governance principles are correlated with the business performance. The firms with higher levels of corporate governance and following good corporate governance principles would have higher profitability and business performance. It is supported by the study of Ahmad, N. et al. (2014) on the impact of family business ownership on financial performance of 4 firms listed in the Karachi Stock Exchange of Pakistan. Two of the firms are in the manufacturing sector while the other two are in the financial sector. The financial performance is measured by ROA and ROE. The ownership of firms by families is positively correlated to good corporate governance by not only improving profit by also operational performance of the firms. In the same direction, the study of Phan, Butler and Lee (2005) on corporate governance and succession planning of family firms efficiently and effectively points out that good corporate governance correlated with operational effectiveness and efficiency of succession plan of family firms as evidenced by the fact that in the succession plan there would be the arrangement of properties or inherited assets and the agreement of shareholders of the family firms clearly. The forms of the corporate governance arrangement would depend on the size and sophistication of the business.

Although the correlations between CG Scores and the financial performance are not significant with respect to Net Profit Margin for the NFB group and Earning per Share (EPS) for the FB group, the general trends are found to be positively related. The finding may be affected by other variables. Corporate governance may not always be associated with good performance because the performance depends more on the management and other financial variables (Wali-ul-maroof Matin, 2006).

5. Recommendations for Further Research

The measurement of corporate governance practices of firms listed in the SET could be undertaken by several methods. The use of CG Score of the SET is just one, several other interesting and important variables include the various aspects of corporate governance, non-financial performance. Qualitative research could be employed in parallel to ensure greater validity and reliability.

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AIRLINE SERVICE PERFORMANCE AND SERVICESCAPE AND THEIR INFLUENCES ON CUSTOMER SATISFACTION

by

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Abstract

Presently, airline industry is one of the fastest growing and highly competitive business sectors. The airline executives search for new ways to improve customer satisfaction in order to maintain their competitive edge. By understanding service performance and servicescape, the airlines can deliver better airline services to their passengers, leading to generate greater customer satisfaction. This study aims to study service performance and servicescape and their impacts on customer satisfaction. Primary data were collected from the airline passengers by using self-administered questionnaires. This study showed that service performance and servicescape had positive influence on customer satisfaction. Discussions and further implications are also given in this study.

Keywords: Service performance, Servicescape, Customer satisfaction, Airline industry

1. Introduction

Global air travel in 2014 in which the annual growth in the international air travel volumes increased 6.1% in 2014 which was higher than the ten years average growth rate of 5.6% (Airlines International, 2015). Moreover, airline passengers benefited from the lower fuel prices with the lower airline fares and more routes were offered, as a result, air transport accounted about 1% of world GDP in 2014 (International Air Transport Association (IATA), 2014).

In addition, the airlines in Asia-Pacific region performed better than the airlines in Europe. By 2016, three of the world's largest domestic markets would be in Asia: China (415 million passengers), India (107.2 million passengers) and Japan (93.2 million passengers) (Hai, 2014). To cater to this significant growth, 12,000 new aircraft was projected to enter Asia's skies by 2030 while 350 new airports are projected to be built in Asia Pacific over the

next 10 years (Hai, 2014). The profit per passenger would increase to 4.3 U.S. dollar in 2015 as the result of lower fuel costs and stronger cargo markets while the airlines in North America had greater financial performance with the net post-tax profits at 13.2 billion U.S. dollar in 2015 (International Air Transport Association (IATA), 2014).

Since there was very intensive competition in airline industry for both domestic and international level, the airlines should find the ways to outperform their competitors by providing the higher level of service performance with superb flying experiece through servicescape for their passengers in order to reach higher satisfaction from airline passengers. Customer satisfaction is well-known as a key factor leading to repeat patronage and sustainable business performance. In fact, customer satisfaction does not only have a strong influence on the customer retention, but it also has a strong influence on business effectiveness (Kwong, Wong, Chan, 2009).

Understanding the service performance of the airline and servicescape from the viewpoints of customers can help the organizations to improve important aspects of airline operations. In addition, the purpose of the study is to test the differences in levels of service performance, servicescape and customer satisfaction. In addition, the current research aims also to study the effect of service performance and servicescape on customer satisfaction.

2. Literature Review

2.1 Service Performance

Zeithaml (1988) defined service performance as a judgment of customer on superiority, esteem, or excellence of the brand in the relative terms. Furthermore, Tih and Ennis (2006) defined service performance as the judgment of customer towards the overall service, offered by a particular service provider. According to Brodie et al. (2006), customers could evaluate the perceived quality of a brand through the understandings of service delivery and performance; therefore, service performance creates direct experiences that allow customers to be familiar with brands awareness and brand meanings, building brand loyalty.

Moreover, Wang and Horsburgh (2007) divided service performance into two streams. The first stream was the experiment to find the linkages among service quality, customer satisfaction, and customer loyalty while the second stream was the search for creating the linkage between specific organizational features (employee attitudes, employee skills and abilities) and service quality. Liao and Chuang (2004) assessed service performance using a seven-item employee service performance; items are such as "Being friendly and helpful to customers," "Being able to help customers when needed," and "Suggesting items customers might like but do not think of." Yeh (2012) found that work engagement and service climate in the airline industry has a positive influence on service performance. In the study of Wu and Chen (2015), a framework that combines empowering leadership, psychological contract fulfillment, knowledge exchange, and service performance was constructed to promote hotel employees' service performance.

2.2 Servicescape

Servicescape dimensions is referred to the "build environment" or "man-made" physical surrounding which is opposed to the natural or social environment (Bitner, 1992). Bitner (1992) categorized servicescape into three primary dimensions which were ambient conditions (temperature, air quality, noise, music, odor, etc.), spatial layout and functionality (layout, equipment, furnishings, etc.), and signs, symbols, and artifacts (signage, personal

artifacts, style of décor, etc.). According to Zeithaml, Bitner, and Gremler (2009), servicescape is referred to physical dimensions which are also known as a tangible cues that associated with service quality where it is include all aspects of the physical facilities exterior (parking), facility interior (décor), and other tangible (website) of the service provider. Other exterior attributes such as building exterior, signage, parking, waiting areas, lobby, admission office and landscape; meanwhile, the interior attributes are such as design, layout, equipment and décor (Zeithamal et al, 2009; Bitner, 1992).

Furthermore, Durna, Dedeoglu, and Balikçioglu (2015) noted that servicescape did not include only a substantive components such as décor and design but servicescape also had the commucative components such as politeness, concern, and culture delivery.

2.3 Customer Satisfaction

Churchill and Suprenant (1982) defined that satisfaction can be explained conceptually and operationally. Satisfaction is the result of purchase and use from the comparison of customers between rewards and costs of purchase for conceptual perspective. Furthermore, satisfaction can be defined as the attitude evaluated based on the sum of satisfactions from various attributes of product or service for operational perspective.

In addition, Cronin, Brady, and Hult (2000) defined satisfaction as the evaluation of emotion which reflected the way customers believed that the posession and use of the service increased their positive feelings. Kotler and Armstrong (2010) defined customer satisfaction as the degree to which customer expectations of a product or service are met or exceeded when compared to the perceived performance. According to Posselt and Gerstner (2005), improvement of customer satisfaction will bring about improved customer retention and customer loyalty; ultimately, resulting in better profit.

2.4 Airline Passengers' Demographic Factors

From the research of (Gilbert and Wong, 2003), there were the differences in demographic factors of airline passengers, purpose of travelling, and ethnic background, leading to the unequal importance ratings of service dimensions.

Clemes, Gan, Kao, and Choong (2008) found that socio-demographic characteristics such as income, age and gender influence airline choice based on the significance of service quality dimensions. In the study of Milioti, Karlaftis, and Akkogiounoglou (2015) on Traveler perceptions and airline choice, socio-demographic characteristics including income, age, nationality, education level, and gender were used as independent variables.

3. Methodology

This study used the questionnaire to conduct the research and the questionnaire was generated based on the information from previous literatures in order to test the relationship among service performance, servicescape and customer satisfaction. Moreover, this research also developed constructed the measurement items for each factor based on the past research. The population of the study was airline passengers, having experiences with airline inflight operations. The sample size was determined by Yamane's formula to 400. Moreover, the self-administered questionnaires were distributed to the airline passengers in the Arrival Hall at the Suvarnabhumi International Airport. Lastly, there were 243 usable questionnaires with no missing values to be used for further data analysis.

4. Results

Table 1: Reliability Test

In order to test the reliability of the factors, the authors applied Cronbach's alpha to test the questions for each factor.

	Cronbach's Alpha	Mean
Service Performance	0.975	5.673
Servicescape	0.959	5.459
Customer Satisfaction	0.969	5.735

Table 1 provided reliability test of service performance, servicescape, and customer satisfaction. All factors had Cronbach's Alpha greater than 0.8, indicating the acceptable reliability.

The followings showed the results of the relationship between airline passengers' demographic factor and three research variables.

Table 2: "T-test" on service performance by gender of airline passengers

Service Performance	t	Sig.
This airline's physical facilities are virtually appealing.	-2.143	0.033
This airline's employees are well dressed and appear neat.	-3.462	0.001
The appearance of physical facilities of this airline is in keeping with the type of services provided.	-2.695	0.008
When this airline promises to do something by a certain time, it does so.	-1.996	0.047
This airline keeps its record accurately.	-2.587	0.011
Employees of this airline are not too busy to respond to customers' requests promptly.	-2.658	0.009
Employees get adequate support from this airline to do their jobs well.	-2.58	0.011

*Significant at the 0.05 level

The result indicated that gender of airline passengers had the statistically significant difference on service performance for seven items. Moreover, the female airline passengers had a higher means for a higher influence on service performance than the male airline passengers in these seven items.

Table 3: "T-test" on servicescape by gender of airline passengers

Servicescape	t	Sig.
The physical facilities are comfortable.	-2.238	0.026

*Significant at the 0.05 level

The result indicated that gender of airline passengers had the statistically significant difference on servicescape for only one item under servicescape measures. Moreover, the female airline passengers had a higher means for a higher influence on servicescape than the male airline passengers in this item.

Table 4: "T-test" on customer satisfaction by gender of airline passengers

Customer Satisfaction	t	Sig.
You think that you did the right thing when you purchased the service from this airline.	-2.557	0.011

*Significant at the 0.05 level.

The result indicated that gender of airline passengers had the statistically significant difference on customer satisfaction for merely one item. Moreover, the female airline passengers had a higher means for a higher influence on customer satisfaction than the male airline passengers in this item.

Table 5: "ANOVA" on service performance by age of airline passengers

Service Performance	F	Sig.
When this airline promises to do something by a certain time, it does so.	2.471	0.045
You receive prompt service from this airline's employees.	3.493	0.009

*Significant at the 0.05 level.

From the analysis of one-way analysis of variance (ANOVA) on service performance by age of airline passengers, the results showed that there were two items with the statistically significant difference on service performance by age of airline passengers.

The further analysis by the post hoc test was conducted and showed that for the item "When this airline promises to do something by a certain time, it does so."; and the item "You receive prompt service from this airline's employees.", the airline passengers in the age group of 30 years old and below had the higher means than those with the age between 41 and 50 years old.

For the item "You receive prompt service from this airline's employees.", the airline passengers in the age group of 30 years old and below had the higher means on service performance than the airline passengers who were in the age group between 41 and 50 years old.

Table 6: "ANOVA" on servicescape by age of airline passengers

Servicescape	F	Sig.
The architecture is attractive.	2.432	0.48
The colors of the physical facilities and the interior are pleasant.	3.658	0.007
The materials used inside are pleasing and of high quality.	3.703	0.006

*Significant at the 0.05 level.

From the analysis of one-way analysis of variance (ANOVA) on servicescape by age of airline passengers, the results showed that there were three items with the statistically significant difference on servicescape by age of airline passengers.

The further analysis by the post hoc test was conducted and showed that for the item "The colors of the physical facilities and the interior are pleasant"; the item "The colors of the physical facilities and the interior are pleasant."; and the item "The materials used inside are pleasing and of high quality.", the airline passengers who had age over 60 years old had the

higher mean for the higher influence on servicescape than the airline passengers who had age between 41 and 50 years old.

Moreover, for the item "The colors of the physical facilities and the interior are pleasant.", the airline passengers who had age 30 years old and below had the higher means than those who were between 41 and 50 years old.

Table 7: "ANOVA" on customer satisfaction by age of airline passengers

Customer Satisfaction	F	Sig.
Your choice to purchase the service from this airline was a wise one.	3.345	0.011
You think that you did the right thing when you purchased the service from this airline.	4.355	0.002
This airline's facility is exactly what is needed for the service of this airline.	3.447	0.009
You have really enjoyed the flying experience with this airline.	3.182	0.014
You are pleased to fly with this airline.	2.822	0.026
Overall, you are satisfied with the flying experience with this airline.	2.681	0.032

*Significant at the 0.05 level.

From the analysis of one-way analysis of variance (ANOVA) on customer satisfaction by age of airline passengers, the results showed that there were six items had the statistically significant difference on customer satisfaction by age of airline passengers.

The further analysis by the post hoc test was conducted and showed that for the item "Your choice to purchase the service from this airline was a wise one."; the item "You think that you did the right thing when you purchased the service from this airline."; the item "This airline's facility is exactly what is needed for the service of this airline."; the item "You have really enjoyed the flying experience with this airline."; the item "You are pleased to fly with this airline."; and the item "Overall, you are satisfied with the flying experience with this airline.", the airline passengers who had age above 60 years old had the higher means for the higher influence on customer satisfaction than the airline passengers who had age between 41 and 50 years old.

In addition, for the item "You think that you did the right thing when you purchased the service from this airline.", the airline passengers who had age 30 years old and below had the higher means for the higher influence on customer satisfaction than the airline passengers who had age between 41 and 50 years old.

Table 8: The result of regression analysis among service performance, servicescape, and customer satisfaction

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.817[a]	0.668	0.665	0.62421	2.083

The coefficient of determination was 0.668; therefore, about 66.80% of the variation in customer satisfaction could be explained by service performance and servicescape. In addition, the Durbin-Watson statistic had the value of 2.083 meaning that there was no autocorrelation.

Table 9: Regression Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
Coefficients							
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	0.503	0.242		2.076	0.039		
Service Performance	0.62	0.068	0.57	9.109	0	0.353	2.835
Servicescape	0.314	0.069	0.285	4.548	0	0.353	2.835

The result showed that service performance and servicescape had the significant impact on customer satisfaction. It can be specified that service performance has the highest influence on customer satisfaction, followed by servicescape. Moreover, the tolerance was greater than 0.2 and VIF was less than 5 which meant that service performance and servicescape had the low relationship to each other.

5. Discussion

The regression result provided the positive influence of service performance, servicescape and customer satisfaction. For the positive relationship between service performance and customer satisfaction, Kim, Jeong, Park, Park, Kim, and Kim (2007) found that there was the relationship between service performance and customer satisfaction in the context of high-speed internet service in Korea. Additionally, Kim, Jeong, Park, Park, Kim, and Kim (2007) revealed that the speed-related network performance measures (including download speed and upload speed) had significant and large impacts on customer satisfaction. In the study of Wu and Chen (2015), service performance, included the quality of employee performance, can be implied to improve the satisfaction of customers.

In addition, for the positive relationship between servicescape and customer satisfaction, Wakefield and Blodgett (1994) found that the satisfaction levels and repatronage intentions of the customers were largely impacted by the perceptions of servicescape in the leisure services especially when the customers spent more time the service facility. Furthermore, the study of Durna, Dedeoglu, and Balikçioglu (2015) suggested also that servicescape has broad dimensions and directly affected the customer satisfaction.

Finally, this study found that the gender of airline passengers had the statistically significant difference in service performance, servicescape, and customer satisfaction. Furthermore, the age of airline passengers was also revealed to have the statistically significant difference in service performance, servicescape, and customer satisfaction. Aksoy, Atilgan, and Akinci (2003) supported the findings that the gender and age of airline passengers influenced on foreign and domestic airline selection, travel purpose, and travel frequency.

6. Conclusions and Recommendations

The researchers achieved the purpose of this study in which the findings revealed that the demographic factors of airline passengers had the significant differences on service performance, servicescape, and customer satisfaction. The airlines should focus more in their service offerings to reach each airline passenger's demographic group. Moreover, this study also revealed the positive relationships among service performance, servicescape, and customer satisfaction in which the better understanding of these factors from airlines would

be beneficial for both airline companies and airline passengers in that the airlines could improve their service performance and physical environment during airline passengers are on board which could lead to more satisfaction from airline passengers.

For the management implication, the airline executives can emphasize its service performance, including the services by employees by providing more training to the employees and keeping with the new trends of customer expectation in order to always adjust the performance to fit well with the needs of the customers. In addition, servicescape has a significant influence on customer satisfaction and therefore, the airlines should pay close attention to the design and environment (such as choice of color and quality of materials), both inside and outside the aircraft, because passengers identified that those design and environment can have the impact of their satisfaction levels. Even though the study achieved its purposes, a limitation was worth mentioning in that, the data were only collected from one of the biggest international airports in Thailand, Suvarnabhumi International Airport, while there are several airports in the country.

Regarding directions for further research, there are several dimensions in the context of hospitality research to be investigated, such as restaurants and hotels. Additionally, the comparative research among different hospitality sectors can improve the degree of generalization of the findings.

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THE ANALYSIS OF THAI STUDENTS DETERMINANT TO STUDY IN THE UNITED STATES OF AMERICA AND THE UNITED KINGDOM

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Abstract

The famous UK and US Postgraduate program is very popular among Thai students who finished Bachelor Degree in Thai Universities. The impact of the forces of globalization on postgraduate education has been powerful. The establishment of the Thai societies and economies requires pool of skilled people. Labour markets in the country or international and job opportunities are very competitive for applicants with the requisite skills, and many opportunities are seeking people at postgraduate and doctoral level. Hence Higher Education is bound up with human capital. They contribute considerably to scientific and technological development in their country and are a part of labour force worldwide offers valuable skills to any country in which they work in.

The analysis in this research paper investigate the determining factors influencing Thai students to study in the Master Degree level in the United Kingdom and the United States of America. This analysis helps the stakeholders in academia, educational development sectors and businesses to understand from the students' perspectives. They are to learn the factors affecting decisions from the demand side and also to improve the ability to provide education from the supply side. This could be important part of the mangement planning and strategy for international student recruitment to the US and UK institutions point of view. Also programmes in Thai institutions can be devised to suit the demand in this changing of trend.

The students had shown that they have various views toward their selection of higher education. Most of the students who study abroad use the service from education agents. Many stakeholders believe that Thailand has high opportunities for higher education and for student recruitment to study overseas, also collaboations with local institutions for further programme developments. However, the quality and the cost are the main concerns that need to be taken into account. The English language skills of Thai students I another main barrier for the international education in the country, especially when using English as a medium of teaching. The level of English is not at satisfying standard. The research finding defines the obstable preventing Thai students from going to study abroad, specifically in the United Kingdom and the United States of America. It also describes many possibilities for Thai institutions to internationalize and for Education providers to seek opportunities and develop strategies.

Keywords: Study in the United Kingdom, Study in the United States of America, Higher Education Institution, Study abraod, Thai students, Education in Thailand

1. Introduction

Education is essential to show and teach people about other cultures, other languages, exposing them to others economically, politically, and culturally. International education is the mean in which students are bridged by culture, experience, language and knowledge globally.

From the past to present, there are many study abroad businesses and also educators who distribute and provide education. Education for individul, as a person, it is usually seen as the basis of career and opportunity for employment, status and recognition, and many more that enhancing one's ability and credibility. Education can be achieved vaiuous location around the world. International education is a popular option for students to gain life experience while studying. Higher education in Thailand increasingly plays an important role in giving higher education institutions more opportunity to grow. Thailand is attractive to foreign investment in education. Many Thai students would like to study abroad. The world is getting smaller and students know well that opportunities are out there and they are able to continue their study abroad easier than before. In order to have a good job opportunities, students nowadays are competitive. Despite higher cost of education in other counties and many issue concerning safty, staying away from home and family, around 25,000 Thai students had chosen to study abroad according to Nuffic Neso Thailand, (2010).

Studying abroad obviously is student's choice that come with several advantages. In our case we will consider United Kingdom and the United States of America for study destinatons. These two countries are the two most popular countries for students to study overseas. Firstly, British and American education systems have long been acknowledged as the best globally recognized system. This recognition is like a path to great opportunities ahead and to achieve higher social status. Secondly, English language proficiency is very important. Studying abroad helps student to learn and practise English effectly. It is considered and asset to be able to use English language fluently, especially in Asian countries where English is a second language. Living abarod is broadening. Students are expected to learn to live their lives in Western culture which is a life experience. In general, students who have been in Western culture are normally absorb cultural values. For example, the punctuality, self-esteem, confidence and self organized. There are not only good side of studying abroad. The other side of this experience are, for example, homesickness, culture shock, language and inability to adapt to new countries.Of course there are bad sides of the story in living in a foreign culture. Overall studying and living abroad gives students life challenges and to improve their abilities to learn and mature out the experience.

2. Background

2.1 Trends in international student recruitment in the United Kingdom.

Following the decline of the international students number in the United Kingdom from the year 2011-2013, UK higher education faced problems in recuiting interntaionl students due to the change of UK Border Agency rules and regulation on student visa. The number of Indian students had fallen almost 50% in following two year. The number of international entrants with Master degrgee courses being particularly affected. According to Universities UK (2014), the UK's competitors in the student recruitment market – Australia, the US and Canada – have all seen significant increases in recent years, at a time when numbers coming to the UK have been in decline. Following the drop in demand since 2011, from the latest UK survey suggested a more positive policy for international recruitment should be starting to emerge in 2014.

2.2 The effect of the UK student visa cut on Thai students.

Australia (AU), Canada (CAN), New Zealand (NZ) and Thailand (TH) are considered both the sources for the students and destinations. For Thailand, only the international programs are considered in this study. Information concerning international student enrolment in 2009 available on websites are organized by the author as illustrated in Table 1.

The information gathered from various sources and re-assembled information into a source-destination table as illustrated in Table 2. The information in Table 2 represent the situation of the student enrolment in HEIs in the target source and destination countries before the UK new student visa policy began to take effect. Zero enrolment is in fact not strictly zero but it indicates that the numerical values are so small and may be considered negligible.

Table 1: Student enrolment in Higher Education Institution in the target countries

	Higher Education Enrolment, 2009			
	International Student	Local Students	Total Student	International to Total Student Ratio, %
AU	226,011 [6]	904,044	1,130,055	20.0 [5]
CA	120,000	1,080,000	1,200,000 [5]	10.0 [5]
NZ	43,500 [8]	425,500	469,000 [8]	9.28
UK	325,000 [7]	1,475,000	1,800,000 [5]	18.0
US	671,616 [3]	19,756,384	20,428,000 [2]	3.3
TH *	5,881 [1]	68,381	74,262 [1]	7.8

Note: * Only international programs are considered.
Source: Commission of Higher Education. 2010

Table 2: Student enrolment sources and destinations in HEIs in the target countries

	Destination						
Source	AU	CA	NZ	UK	US	TH	Demands
AU	904,044	0	0	0	0	0	904,044
CA	0	1,080,000	441	5,350	29,697	0	1,115,488
NZ	0	0	425,500	0	0	0	425,500
UK	0	0	833	1,475,000	8,701	0	1,484,534
US	0	11,275	2,296	14,345	19,756,384	0	19,784,300
TH	26,380	0	3,098	4,675	8,736	68,381	111,270
OT	199,631	32,225	36,832	300,630	624,482.00	5,811	1,199,611
Supplies	1,130,055	1,123,500	469,000	1,800,000	20,428,000	74,192	25,024,747

Source: [1] Commission of Higher Education. 2010.

2.3 Trends in international student recruitment in the United States.

According to World Education Service (2012), trends indicate that enrollment has been growing in the U.S., because of the supply of students from the traditional countries whose students like to study in the United States such as, India or China. There are also students from emerging markets to the US such as Brazil and Saudi Arabia. The economy of the United States starts to get better, this shall effect the perspective of employment in a good way and also among international students, this is the good news. Effects of the immigration policies in the UK, it is likely that pool of international who wanted to go to the UK will be

diverted to other destinations, United States, Australia and Canada. The United States of America as the world's leading country of destination among international students. It is seen as the main recruiter and the number of international students population is still growing.

3. Methodology

This research is quantitative design using questionaire to collect data from samples. The research sample are with the population of student or alumni who decided to study in the UK or the US. The result from the questionnaire interview helped to identify barriers, driver and deterrents for students to continue their Postgraduate education in the UK and the US, and to gain some insight into the strategies that the Universities could consider to cope.

3.1 Populations and Sample Size.

The population of this research is limited by the time and resource constraints. Numbers of the Thai students who had studied in the United Kingdom or the United States of American are planned for the interviewed. There are 400 persons as illustrated in Table 3. The major objectives of the interview are to confirm the trends expected from statistical analysis of secondary data, and to find more subtle information which may not be available elsewhere. It is planned that most of the interviews will be carried out from student database of UK and US Postgraduate prospective students. We will then use the result to seek thoughts from the UK Higher Education Institutions' international office representatives during an education fairs organized by the British Council Thailand and The Office of the Civil Service Commission.

Table 3: The planned number of interviewed persons

Interviewee	Number
Thai students who decided to study their Postgraduate level in the UK	200
Thai students who decided to study their Postgraduate level in the US	200
Total	**400**

3.2 Data Collection and Analysis.

This questionnaire interview participated by 400 students decided to study in the UK and the US were conducted via the Universities alumni associations, Universities' regional offices in Thailand and Malaysia, and pre-departure sessions for Thai students. The data was analysed using the Analysis of Variance (Anova) which shows the results from cross analysis and correlation analysis for this research. The content analysis also provided in order to study the importance of information collected and look for themes, commonalities, and patterns to make sense of the information.

4. Finding and Analysis

4.1 Decision of Thai students to study in the United Kingdom and the United States of America.

The 400 respondents responded to the statements below. It is summarized in Table 4

Table 4: Mean and standard deviation of the response to each research statement

No	Statement	UK			Meaning	US			Meaning
		Mean	SD	Median		Mean	SD	Median	
	Student experience								
1	It is a fantastic opportunity to travel and see the world.	3.00	1.18	3.00	Neutral	3.99	0.72	4.00	Agree
8	Getting a part-time job while studying is very important for Thai students.	4.30	0.70	3.00	Strongly Agree	2.23	0.84	2.00	Disagree
10	I agree that the number of international students should be reduced. There are too many international students.	3.08	1.31	3.00	Neutral	2.98	1.26	3.00	Neutral
	Language improvement								
2	Being fluent in a English language is the main aim of studying abroad, benefiting in both in career and personal life.	3.01	1.32	3.00	Neutral	3.17	1.26	3.00	Neutral
16	The main barrier to higher quality of higher education in Thailand is the English language skills of Thai students.	3.21	1.38	3.00	Neutral	2.87	1.09	3.00	Neutral
	HEI strategies								
3	If Thai University offer a Dual Degree with University abroad, ie. One semester abroad. I would not go to study abroad.	3.23	1.37	3.00	Neutral	3.14	1.14	3.00	Neutral
5	If international higher education in Thailand is better in quality, less Thai students will study abroad.	3.10	1.38	3.00	Neutral	3.07	1.37	3.00	Neutral
6	If international education in Thailand is less expensive, Thai students will study in the country.	3.79	0.76	4.00	Agree	2.35	0.82	2.00	Disagree
13	The quality of international higher education in Thailand is acceptable for prospective students.	3.06	1.36	3.00	Neutral	3.22	1.18	3.00	Neutral
14	International higher education fees in Thailand is acceptable, compared to your choice of studying abroad (exclude living expense, etc.)	3.10	1.29	3.00	Neutral	3.02	1.28	3.00	Neutral
15	Thai University calendar (change in 2014, Semester starts in August) benefit Thai student to study abroad without time gap.	3.06	1.48	3.00	Neutral	3.09	1.17	3.00	Neutral
	Length of the study program								
7	The length of Degree program abroad is shorter.	3.63	1.07	4.00	Agree	2.50	0.89	3.00	Neutral
	Career prospects								
9	Studying abroad gives Thai students more opportunity to get a better paid job in Thailand.	3.34	1.33	3.00	Neutral	3.02	1.27	3.00	Neutral

#	Statement	Mean	SD	Median	Level	Mean	SD	Median	Level
4	Studying abroad is something unique and noteworthy on CV that will help me to stand out.	2.86	1.18	3.00	Neutral	3.23	1.48	3.00	Neutral
11	I want to work abroad. This is the start to my international career.	3.12	1.38	3.00	Neutral	3.02	1.34	3.00	Neutral
12	I believe in free-movement of students and workers between countries	3.07	1.31	3.00	Neutral	3.23	1.26	3.00	Neutral
17	Re-entering higher education is worth quitting a job.	3.01	1.22	3.00	Neutral	2.96	1.39	3.00	Neutral
20	Lacking of years in working experience while study abroad worries me.	3.12	1.26	3.00	Neutral	2.99	1.25	3.00	Neutral
	Expense								
18	Exchange rate affect my decision making to study abroad.	3.51	0.90	4.00	Agree	2.89	1.13	3.00	Neutral
22	Scholarship and lower tuition fees are key to choose a University.	3.68	1.00	4.00	Agree	2.68	0.91	3.00	Neutral
	Visa policy								
19	Visa & Immigration rules are key factor affecting my decision.	3.43	0.95	4.00	Neutral	2.55	0.92	3.00	Neutral
	University's branding and ranking								
23	University ranking is my main concern.	3.16	1.27	3.00	Neutral	2.97	1.30	3.00	Neutral
	Family influence								
21	Personal recommendation is important in choosing a University.	3.21	1.36	3.00	Neutral	2.92	1.20	3.00	Neutral
24	My parent influences my decision a lot.	3.14	1.34	3.00	Neutral	3.17	1.29	3.00	Neutral

4.2 Data Analysis

Anova is used in analysis of this questionnaire. The 400 respondents were interviewed with the designed questionnaire survey. The result from Anova is as followed.

4.2.1 Regression equation:

Full Model: $Yx = x + \beta_0 \beta_1 \beta_1 \beta_2 \beta_2$ ... $_{nn}$

Country
$$= -0.688 - 0.0580\ Q1 - 0.01059\ Q2 + 0.00641\ Q3 - 0.03450\ Q4$$
$$+ 0.01315\ Q5 + 0.1320\ Q6 + 0.0442\ Q7 + 0.1857\ Q8 + 0.00532\ Q9$$
$$+ 0.00264\ Q10 + 0.00021\ Q11 - 0.01548\ Q12 - 0.00845\ Q13$$
$$- 0.00232\ Q14 - 0.01098\ Q15 + 0.00346\ Q16 + 0.00202\ Q17$$
$$+ 0.0263\ Q18 + 0.0503\ Q19 + 0.00221\ Q20 + 0.00077\ Q21$$
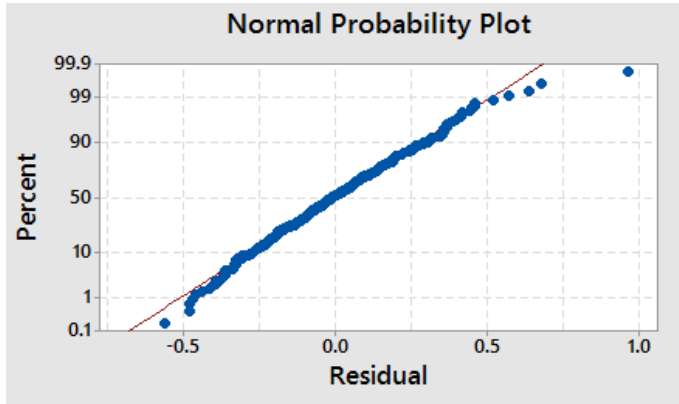$$+ 0.0401\ Q22 + 0.01531\ Q23 - 0.00700\ Q24$$

S	R-sq	R-sq(adj)	R-sq(pred)
0.226575	80.75%	79.52%	78.05%

4.2.2 Analysis of Variance:

Source	DF	SS	MS	F	P
Regression	24	80.749	3.3645	65.540	0.000
Residual Error	375	19.251	0.0513		
Total	399	100.000			

The regression equation is used to explain the behaviour of variables. The changes of the independent variables effect the decision making of the Thai students (Y).

From figure 1, the normal probability plot represents the 24 statements from the questionnaire. The distribution of residuals is normal, the plot resembles a straight line. From this regression equation.

$$
\begin{aligned}
\text{Country} = {}& -0.688 - 0.0580\ Q1 - 0.01059\ Q2 + 0.00641\ Q3 - 0.03450\ Q4 \\
& + 0.01315\ Q5 + 0.1320\ Q6 + 0.0442\ Q7 + 0.1857\ Q8 + 0.00532\ Q9 \\
& + 0.00264\ Q10 + 0.00021\ Q11 - 0.01548\ Q12 - 0.00845\ Q13 \\
& - 0.00232\ Q14 - 0.01098\ Q15 + 0.00346\ Q16 + 0.00202\ Q17 \\
& + 0.0263\ Q18 + 0.0503\ Q19 + 0.00221\ Q20 + 0.00077\ Q21 \\
& + 0.0401\ Q22 + 0.01531\ Q23 - 0.00700\ Q24
\end{aligned}
$$

Figure 2: Versus order

The versus order shows the relationship of variables and the residuals in a normal distribution and random pattern. Both plot of residuals versus observation orders do not show any pattern form. Thus, both constant variance and independence assumptions are satisfied. There are 24 variables in relation to the 400 sample size.

Figure 3: Histogram
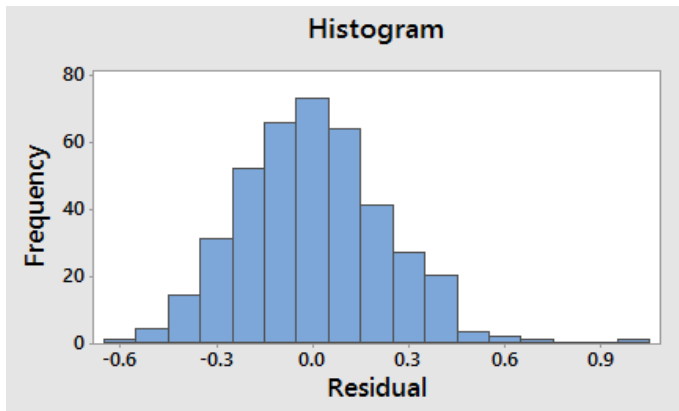
This histogram is a graphical representation of the distribution of consistant data with narrow spread. It is a skewed right, bell shape normal distribution. The most significant variables are identified by Stepwise regression.

4.2.3 Reduced Model:

Full Model: $Yx = \frac{1}{2} + \beta_0 + \beta_1 + \beta_2$ ... $_{nn}$

Country	= -0.7072 - 0.0573 Q1 - 0.03400 Q4 + 0.1343 Q6 + 0.0462 Q7
	+ 0.1843 Q8 - 0.01754 Q12 + 0.0251 Q18 + 0.0517 Q19 + 0.0422 Q22
	+ 0.01402 Q23

S	R-sq	R-sq(adj)	R-sq(pred)
0.224649	80.37%	79.86%	79.22%

4.2.4 Analysis of Variance (Stepwise):

Source	DF	SS	MS	F	P
Regression	10	80.368	8.0368	159.25	0.000
Residual Error	389	19.632	0.0505		
Total	399	100.000			

Figure 4: The normal probability plots stepwise pattern
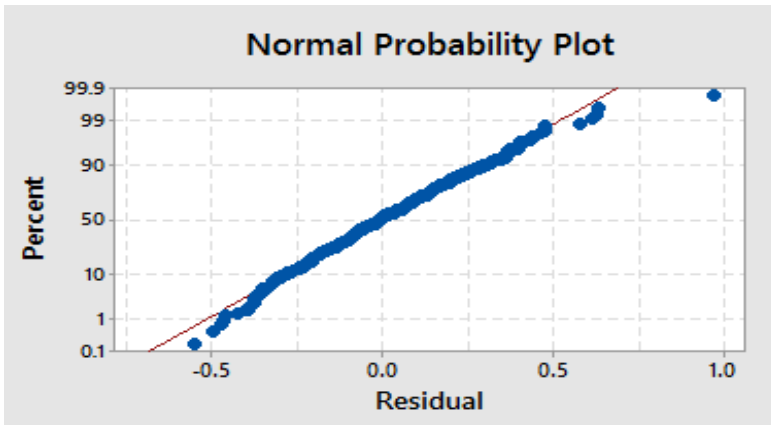
Figure 5: Versus order of the reduced model
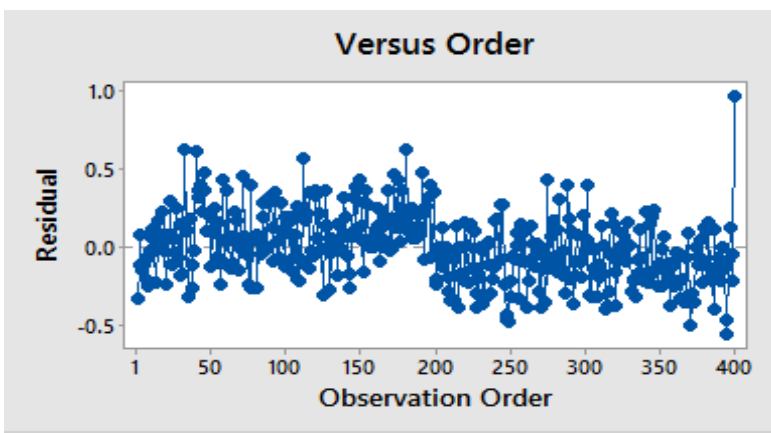
Figure 6: Histogram of the reduced model
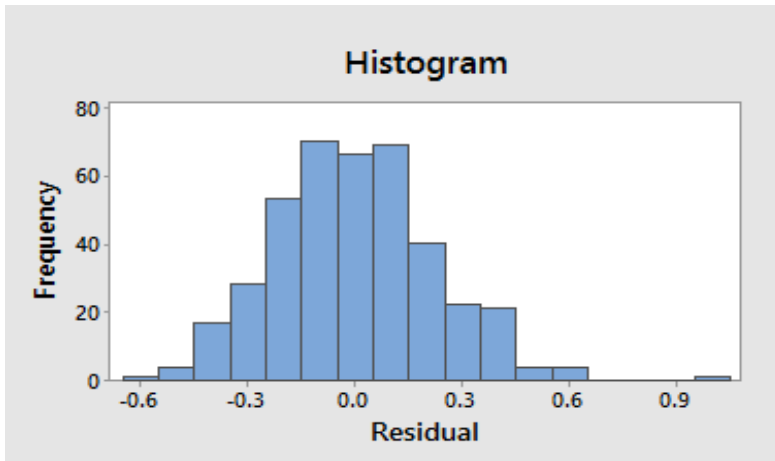
Comparison of each variable affecting the decision making of the students to study in the UK and the US presented in regression analysis with Q1 – Q24. This table shows the P-Value of each question statement which indicate its significant value statistically. It is assumed that each research statement is an independent value.

Table 5: P-Value of the response to each research statement

No.	Statement	P-Value
	Student experience	
1	It is a fantastic opportunity to travel and see the world.	0.000
8	Getting a part-time job while studying is very important for Thai students.	0.000
10	I agree that the number of international students should be reduced. There are too many international students.	0.432
	Language improvement	
2	Being fluent in a English language is the main aim of studying abroad, benefiting in both in career and personal life.	0.202
16	The main barrier to higher quality of higher education in Thailand is the English language skills of Thai students.	0.007
	HEI strategies	
3	If Thai University offer a Dual Degree with University abroad, ie. One semester abroad. I would not go to study abroad.	0.406
5	If international higher education in Thailand is better in quality, less Thai students will study abroad.	0.827
6	If international education in Thailand is less expensive, Thai students will study in the country.	0.000
13	The quality of international higher education in Thailand is acceptable for prospective students.	0.196
14	International higher education fees in Thailand is acceptable, compared to your choice of studying abroad (exclude living expense, etc.)	0.587
15	Thai University calendar (change in 2014, Semester starts in August) benefit Thai student to study abroad without time gap.	0.881
	Length of the study program	
7	The length of Degree program abroad is shorter.	0.000

	Career prospects	
9	Studying abroad gives Thai students more opportunity to get a better paid job in Thailand.	0.010
4	Studying abroad is something unique and noteworthy on CV that will help me to stand out.	0.005
11	I want to work abroad. This is the start to my international career.	0.532
12	I believe in free-movement of students and workers between countries	0.201
17	Re-entering higher education is worth quitting a job.	0.759
20	Lacking of years in working experience while study abroad worries me.	0.283
	Expense	
18	Exchange rate affect my decision making to study abroad.	0.000
22	Scholarship and lower tuition fees are key to choose a University.	0.000
	Visa policy	
19	Visa & Immigration rules are key factor affecting my decision.	0.000
	University's branding and ranking	
23	University ranking is my main concern.	0.120
	Family influence	
21	Personal recommendation is important in choosing a University.	0.018
24	My parent influences my decision a lot.	0.819

Each of the question statement is analysed by using the regression analysis, its interpretation is presented from question 1 to question 24 in this research. The significant level (α) is set at 0.05.

4.3 Discussion of the Research Results

For this research paper, the statistical analysis is used to determine the probability that a given hypothesis is true. Hypothesis testing is as followed;

H_a: There is significant relationship between the factors influencing on decision making to study in the UK and US.

$H0: \beta0...\beta24=0$
$H1: \beta0...\beta24=0$
F-Critical $= 1.546446$
F-Stat $= 65.54$
$\text{F-Critical}_{Questionaire} < \text{F-Stat}_{Questionaire}$

F-critical can be found from the F table statistic or use the excel formula command;

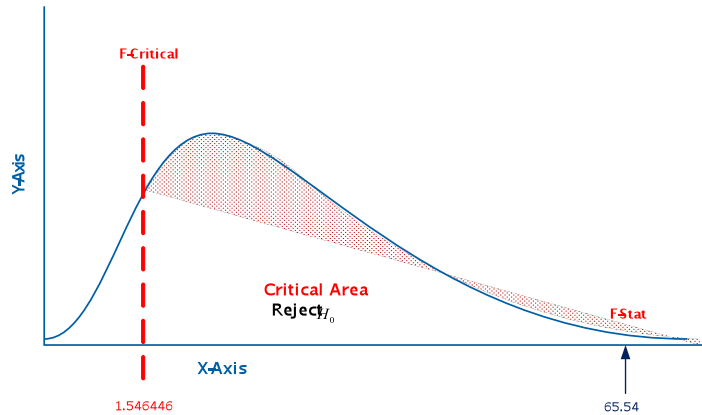FINV(Probability, Degree of freedom$_1$, Degree of freedom$_2$)

Probability $= 0.05$

Degree of freedom$_1$ (Degree of freedom's Regression) $=24$

Degree of freedom$_2$ (Degree of freedom's Residual) $=375$

F-critical < F-Statistic

Figure 7: Critical area of hypothesis A: There is significant relationship between the factors influencing on decision making to study in the UK and US.

Analysis: This data is significant with 95% confident interval.

From the F-Critical and F-Statistic, the value shows that the null hypothesis is rejected. There is significant relationship between the factors influencing on decision making to study in the UK and US.

From the result of ANOVA test table, R square is 99.2%, 0.8% is error. The data collected is accurate.

H_b : There is significant relationship between respondent's data

H0:β0,βGender,βAge,βIncome,βWork,βNationality=0
H1:β0,βGender,βAge,βIncome,βWork,βNationality≠0

From   F-Critical   = 2.236895
         F-Stat   = 66.27
 $\text{F-Critical}_{Family\_pprofile} < \text{F-Stat}_{Family\_profile}$

Find the F-critical by open the F table statistic or use the excel formula command
$\text{FINV(Probability, Degree of freedom}_1\text{, Degree of freedom}_2\text{)}$
Probability = 0.05
Degree of freedom$_1$ (Degree of freedom's Regression) =5
Degree of freedom$_2$ (Degree of freedom's Residual) =394

Figure 8: Critical area of hypothesis B: There is significant relationship between the respondent's data.
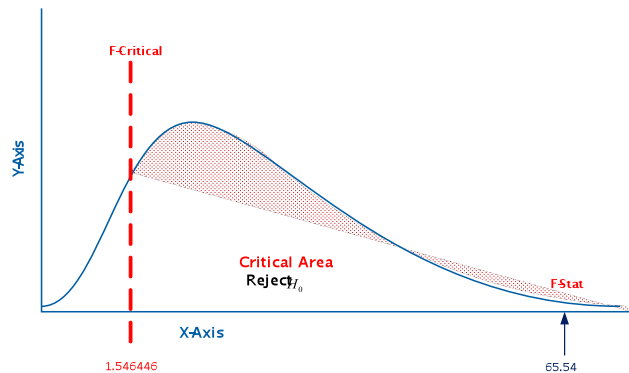
Analysis: This data is significant with 95% confident interval.

From the F-Critical and F-Statistic, the value shows that the null hypothesis is rejected. The data then rejecting H0, there is significant relationship between the respondant's data.

From the result of ANOVA test table, R square is 99.2%, 0.8% is error. The data collected is accurate.

Figure 9: Hypothesis testing diagram
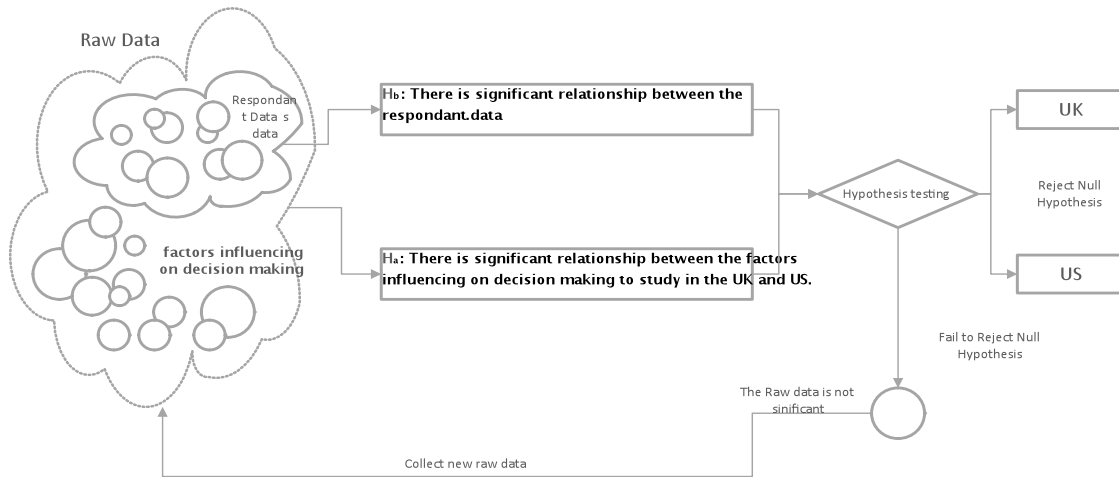
4.4 Contribution to Theories and Concept

From this research, the decision making model of Thai student to study abroad is proposed. The attributes presented in the decision making model proposed are the center of the evaluation of alternatives stage. The attributes are factors that influence the purchase intention of international students. The influencing factors proposed were expense, length of time study program, HEI strategies, safety, personal reasons and family influence, visa policy, institution ranking, and country image.

After the data has been analysed and the reduced model is developed from Stepwise analysis, we concluded the factors influencing the decision making. The new decision making model of Thai student to study abroad is devised as shown in figure 10, figure 11 and figure 12.

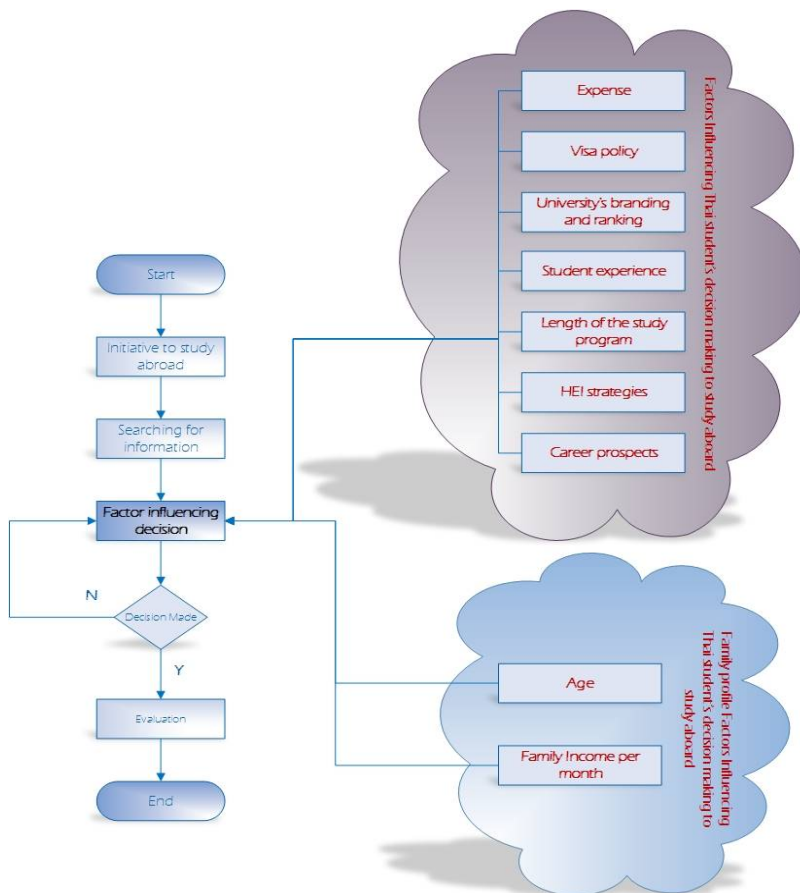**Figure 10:** Decision making model of Thai student to study abroad

Figure 11: Factors influencing Thai students' decision making to study abroad according to the statements from the questionnaire
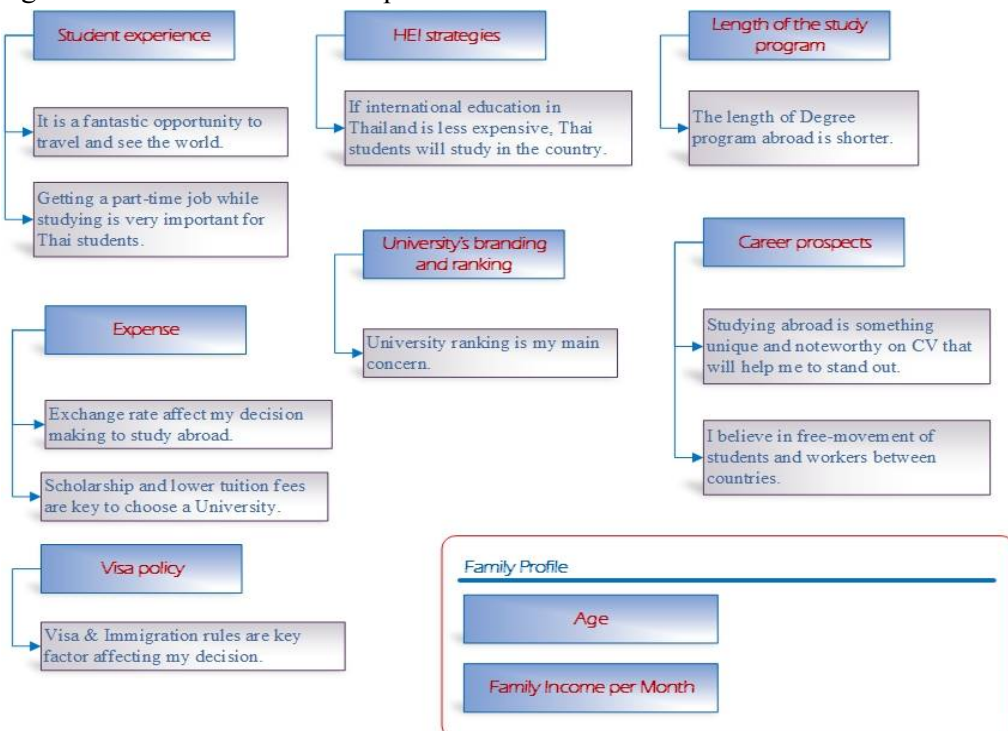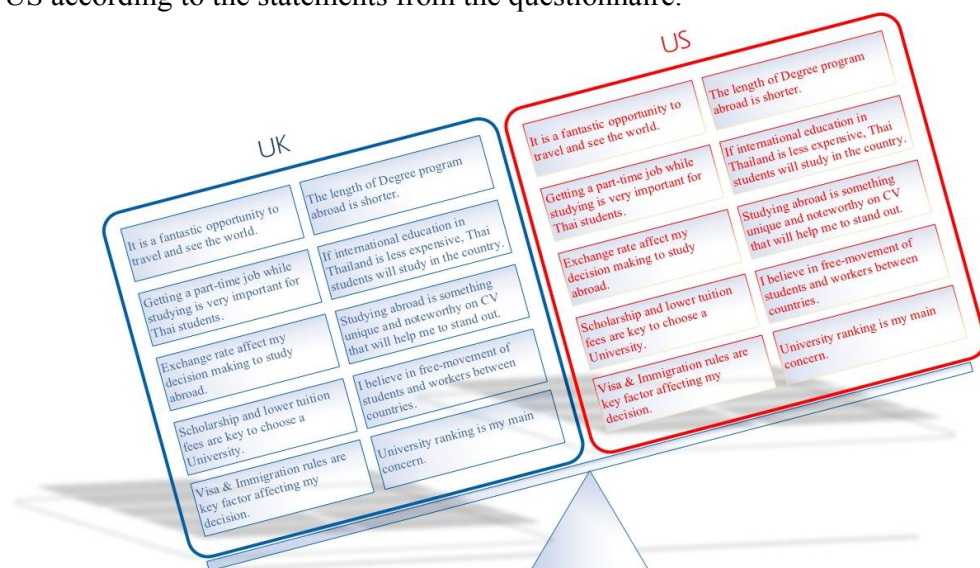
Figure 12: Factors influencing Thai students' decision making to study in the UK and the US according to the statements from the questionnaire.

This study contributes to the students' decision making discussion by in- creasing our understanding from the supply side of international education from Thai students perspective. It is clear, based on the findings of this research, that both controllable and uncontrollable influencing factors play major role in the student's choice. It is very useful for education providers to understand and develop approprate strategies for international recruitment. There are rooms for improvement for Thai education providers to adapt and change for the better.

Basically the development of all decision making, decision making models and theories in this research have been based on the recent studies and perspective of Thai students. This research needs to be updated constantly according to the changing business environment and trends in international education.

5. Conclusion

There are few points to discuss from this analysis, one is the main perceptions of Thai students toward studying in the UK and the US and another one is the future of international education in Thailand. As result from the questionaire, both Thai students went to study in the UK and the US aim to improve their language skills, upgrade their CVs to find a better paid jobs and gain life experience. It shows the Thai students from the US side are not sensitive to high tuition fees, visa rules, length of degree program, and lack of years in working experience. They seems determined with their choices.

For Thailand, International education is growing and the future international education in Thailand was managed by the various education sectors. Offering a dual degree program and the international degree in Thailand is another option that is now booming in the country. This is because there are strong demand in international education in this country. It is very popular among the Thai students but from the questionaire result shows that the alumni tends not to choose the option instead of going abroad.

In promoting international education in Thailand, quality appears to have a big role. Thai students tend to have lower capability in using English language, make it harder for internatonal education to thrive in the country. The language proficiency of Thai students need improvement.

What is likely to happen for the near future? Thai students will continue to flow to English speaking countries for international education. International education in Thailand will also continue to grow with hope for quality and rooms for improvements.

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THE IMPACT OF HUMAN RESOURCE ACCOUNTING INFORMATION SYSTEM (HRAIS) ON HUMAN RESOURCE MANAGEMENT PRACTICES OF THE BANKING SECTOR IN BANGLADESH

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Abstract

Human Resource Department relies on innumerable information to make policies and decisions for smooth practices of human resource management, such information include accounting information, financial information, economic information, or market information etc. The another newly evolved information system is Human Resource Accounting Information System (HRAIS) which is normally used for human resource accounting information processing, and is rarely used in Bangladesh. But now-a-days some of the firms in Bangladesh use this approach partially to provide benefits for the human resource accounting information to different departments of the firm. This study wanted to explore, whether the human resource accounting information system is familiar in HRM practices in the banking sector of Bangladesh and to analyze the impact of HRAIS on the performance of HRM practices. A questionnaire survey was conducted to collect data for this study. The sampling area was mainly the HR executives of different leading banks in Bangladesh. Consequently this study collected data from 120 HR executives of 20 different banks. The results indicated that the human resource accounting information system was familiar to almost all of the HRD of the banks and the HRAIS had a significance impact on the performance of HRM. The major contributing area of Human Resource Accounting Information System (HRAIS) was on job design & analysis, human resource planning, recruitment & selection, and training & development and performance appraisal etc. The study concluded that proper implementation and execution of HARIS can give competitive advantages to the organization.

Keywords: Human Resource Department (HRD), HR executives, Human Resource Planning, Human Resources Accounting (HRA), Human Resources Accounting Information System (HRAIS).

1. Introduction

The word human has been given so many linked words based on its importance like assets resource capital etc. Human is a living being spends whole life in combination of both organizational and family life. To make human as human resource incurs cost. Cost should be always effective. Human resource accounting is simply the calculation of cost associated with human to become human resources in any organization. Flamholtz (1971) defined HRA as "the measurement and reporting of the cost and value of people in organizational resources". It is simply the activity of knowing the cost invested for employees towards their recruitment, training them, payment of salaries & other benefits paid and in return knowing their contribution to organization towards its profitability. Stephen Knauf (1983) 'HRA is the measurement and quantification of human organiza¬tional inputs such as recruiting, training, experience and commitment'. Cost effectiveness always depends on availability of proper amount of information. Proper and smooth functioning of human resource department solely depends on proper information system and based on these continuous demands human resource information system emerged. HRIS provides the capability to more effectively plan, control and manage HR costs; achieve improved efficiency and quality in HR decision making; and improve employee and managerial productivity and effectiveness. HRAIS is mainly an extensive use of both human resource accounting and information system. It is ongoing interaction between human resource valuation and human resource information.

1.1 Concept of Human Resource Accounting (HRA)

Bullen and Eyler (2010) stated that Human Resource Accounting involves accounting for expenditure related to human resources as assets as opposed to traditional accounting which treats these costs as expenditures that reduce profit. Woodruff (1973) defined Human Resource Accounting as the identification, accumulation and dissemination of information about Human Resources in dollar or Naira term. He further explained that Human Resource Accounting is the systematic accumulation of information about changes in investments made in human resources and reporting back that information to operating managers in order to assist them to make better decisions than they would have been able to make without such additional information. Raghav (2011) stated that Human Resource Accounting is a method of measuring the effectiveness of personnel management activities and the use of people in an organization. Parameswaran and Jothi (2005) referred to the American Accounting Association's definition of human resource accounting as the measuring of data of human resources and communicating the information to the interested parties. Going by the various definitions above, human resource accounting in simple term is accounting for the value of people in organization to enhance information for decision making by the users of financial information. Parameswaran and Jothi (2005) identified and categorized the objectives of human resource accounting into three considering the needs of the various users of financial information as Internal, Internal and External, and External. The internal objectives relate to the improvement of the internal management of human resources in an organization, while the Internal and External objectives of human resource accounting are designed to meet specific information requirements of both the internal and external users of financial statements. The external objectives on the other hand are specific objectives that are designed to meet financial information requirements that are peculiar to the external users of financial statements. According to the American Accounting Association's Committee (1973), Human Resource Accounting is the process of identifying and measuring data about human resources and communicating this information to interested parties. Thus, HRA involves measurement of all the costs related with the employees such as expenses incurred for recruitment,

placement, training, development etc. Moreover, it includes the quantification of the economic value of the employees.

1.2 The concept of Human Resource Information System (HRIS)

HRIS can be briefly defined as integrated systems used to gather, store and analyze information regarding an organization's human resources (Hedrickson, 2003). HRIS is used to acquire, store, manipulate, analyze, retrieve and distribute information about an organization's human resources." (Tannenbaum 1990).Human Resources (HR) and information technology are the two elements that many firms are learning to use as strategic weapons to compete (Jenkins and Lloyd, 1985). To capitalize on the synergy between these two assets, human resource information systems (HRIS) is an emerging area that may lead human resource management into a new era. In a 1991 report on HRIS, Richards-Carpenter (1991) noted that "If the personnel function is to take the next big step in its development, it will have to integrate with information technology". HR executive of Federal Express, James Perkins believes that now and in the future, excellence in HR will be defined through the strategic use of information (O'Connell, 1994). HRIS are designed to support the planning, administration, decision-making, and control activities of human resources management (De Sanctis, 1986). They have enormous potential to make HR more competitive and thus enable human resource departments to become strategic partners in business organizations (Broderick and Boudreau, 1992; Kossek, 1994).

1.3 The Concept of Human Resource Accounting Information System

One of the newly emerging concepts in today's management practices is Human Resource Accounting Information System. The study defines the concept as the process of calculating all the cost associated with human resource electronically through the use of software. HRAIS assists organization providing necessary information for valuing human resources. HRAIS makes the bridge between human resource accounting and human resource information system.

1.4 Significance of the study

Today's world is an Organizational world. Human are surrounded by organizations and participate in them as members, employees, customers, and clients. Organizations on the other hand depend on people, and without people, they would disappear. In most of the cases it is people who give always competitive advantages. People can make big difference, keeping in mind organizations have taken many ways to calculate cost and value of their employees. In Bangladesh, banking is a rising sector of employment for abundant amount of qualified people. Banking sectors has already established an ample opportunity of employment for huge amount of people. Most of the banks are very much aware of giving better customer services through effective utilization of their employees. In this today's competitive banking sectors acquisition of human resource is not only everything retaining human resource is most important. The retention of people requires proper and effective human resources practices. HRAIS shows a true picture about human resource and aids management to make better plan and its execution. The study had taken an attempt to represent the usage of human resource accounting information system for proper valuation of human resource in banking sector.

2. Literature Review

Theeke and Mitchell (2008) discussed how reporting under a human resource liability paradigm fits into the traditional accounting framework of contingent liabilities; examine the financial effects of such reporting on market valuation and internal planning; and explore measurement of human resource liabilities. From reviews of financial effects of human resource liability reporting the research logically extends those results to support the proposed paradigm. The paper provides support for the feasibility and need to adopt a human resource liability paradigm for valuing, reporting and managing human resources. Flamholtz et al. (2003) utilized the HRA measure of expected realizable value, and found that employees' participation in a management development program increased the value of the individuals to the firm. In addition the authors noted that the HRA measures provide upper level management with an alternative accounting system to measure the cost and value of people to an organization. Thus HRA represents both a paradigm and way of viewing human resource decisions, and the set of measures for quantifying the effects of human resource management strategies upon the cost and value of people as organizational resources. Dawson (1994) indicated relationship between two prescriptive models of HRA – the replacement cost model (RCM) and the stochastic rewards valuation model (SRVM). He investigated not only the operationalization of the two models, but also the reasoning used by managers in determining or arriving at the data. He discussed the general benefits and limitations of simulation methodologies and showed how they relate to prescriptive and descriptive approaches to the study of management. Ogan (1988) reported the results of a field experiment designed to assess the impact of HRA information on layoff decisions made by managers. The findings of this study indicate that HRA information does make a difference in personnel layoff decisions and enables managers to increase their level of confidence regarding decisions of this sort. Tomassini (1977) provided to a sample comprising of accounting students, traditional financial information and information containing human resources accounting. HRA information led to remarkable differences in decision-making. Schwan (1976) considered the effects of human resource cost measures on banker decision-making. He found that the inclusion of HRA data in published financial statements resulted in, one, significantly different ratings of management's preparedness to meet future challenges and opportunities and, two, statistically different predictions of a firm's net income. Acland (1976) selected a sample comprising of 500 financial analysts and provided financial reports for some of them and reports containing behavioral indexes to some other analysis so that they can make decisions about investments in one or two companies. Insertion of behavioral indexes caused that some analysts would make decision differently from those who had only financial information. This difference was visible in the analysts who had received HRA information with behavioral indexes. Research was performed about relative impact of disclosure of HRA monetary information versus non-monetary information. Flamholtz (1976) asked official accountants to select between two persons for occupying a position. He gave three kinds of information to the accountants, traditional information about function, non-monetary information about HRA and monetary information about it. This information was given about three cases A, B and C respectively to the accountants. In contrary to Flamholtz's expectation, non-monetary information had impact on decisions. Elias (1972) provided two groups of financial reports (one, traditional report and another, reports containing HRA information) in his research to the sample including accounting students, financial analysts and accountants. Research results showed that HRA information had meaningful impact on decisions statistically.

3. Objectives of the Study

The objectives of the study are:
• To identify the degree of familiarities of human resource accounting information system in HRM practices in the banking sector of Bangladesh; and
• To show whether Human Resource Accounting Information System (HRAIS) has any impact on the performance of HRM.

3.1 Theoretical framework and hypothesis

This study defined performance of the HRM as dependent variable and HRAIS as independent variable. The core functions that HRM performs are: Job Design & Analysis, Human Resource Planning, Recruitment and Selection Decision, Performance Appraisal, Training and Development. The impact of HRAIS on the performance of HRM is mainly focuses on the core functions that HRD performs. So the impact of independent variable covers as the following table:

Table 1

Independent variables	Ideninty
The impact of (HRAIS) on Job Design and Analysis (JDA)	V1
The impact of HRAIS on Human Resource Planning (HRP)	V2
The impact of HRAIS on Recruitment and Selection Decisions (RSD)	V3
The impact of HRAIS on Performance Appraisal (PA)	V4
The impact of HRAIS on Training and Development (T&D)	V5
The impact of HRAIS on Job Evaluation (JE)	V6
Dependent variable	
Performance of Human Resource Management (HRM)	DV

This study also aimed at construct the regression model using multiple regression analysis. The model is as follows:

$$Y = a + b_1 x_1 + b_2 x_2 + b_3 x_3 + \ldots + b_n x_n$$

Where,
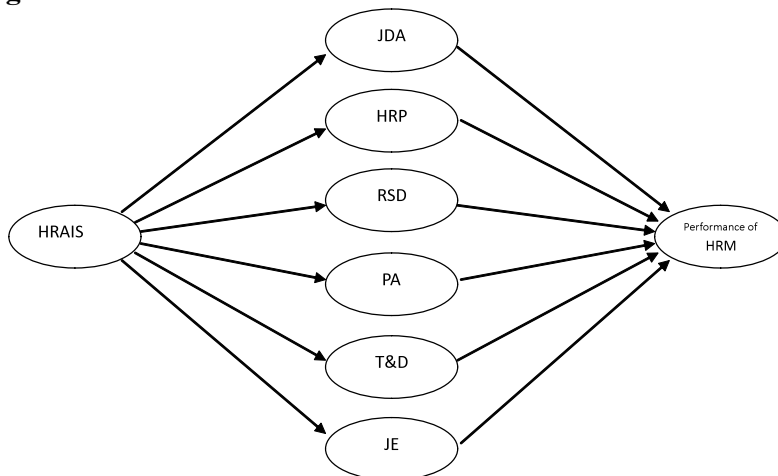Y = Performance of HRM
x_1, x_2, x_3, and x_n = The impacts of HRAIS on the core factions of HRM
a = constant
b_1, b_2, b_3, and b_n = The coefficient

Therefore, the outline of the model of the study is:

Figure 1: The Research Model

Hypothesis: this study drew the hypothesis that the performance of HRD depends on the HRAIS.

4. Material and Methods

4.1 Research design

It is the guideline for conducting the study that helps to achieve intend research objectives. It helps to plan and implement the study in a way that will help the researcher to obtain intended results, thus increasing the chances of obtaining information that could be associated with the real situation (Burns & Grove 2001). A conclusive descriptive research approach was adapted to carry on the study. The study conducted a field survey to have available information and meet the research objectives.

4.2 Population of the study

Polit and Hungler (1999) refer to the population as an aggregate or totality of all the objects, subjects or members that conform to a set of specifications. The study considers all the managerial level employees work in different banks in Dhaka city as the population.

4.3 Sampling and Sample

The process of selecting a portion of the population to represent the entire population is known as sampling (LoBiondo-Wood & Haber 1998). The study selects simple random sample technique to choose respondents from the banks. A sample is a subset of a population selected to participate in the study, it is a fraction of the whole, selected to participate in the research project (Brink 1996). To reach a valid conclusion and make sample more representative, the study purposive selects only the managerial level employees as the respondents. The researchers selected 120managerial level employees of the human resource departments of 20 different banks to conduct the questionnaire survey.

4.4 Sample area and sample distribution

The study was confined within the Dhaka city, Bangladesh. This study targeted to conduct the survey in the banking sector of Bangladesh because this is one of the uprising sectors in Bangladesh. Moreover now a days the both the govt. and private banks in Bangladesh offer the updated online services through their structured and well-furnished MIS departments. The following table [Table 2] shows the nature of the organizations.

Table 2

	Respondents from	Frequency	Percent
	Nationalized banks	50	41.67
	Private banks	50	41.67
Valid	Multinational banks	20	16.66
	Total	120	100

Since, Human Resource Accounting (HRA) is a newly evolved term in Bangladesh, so a few companies are found to follow this approach. Most of the respondents are found to have the theoretical knowledge about Human Resource Accounting (HRA) and Human Resource Accounting Information System (HRAIS).

4.5 Sources of data

Both the primary and secondary data were used in the study. Secondary data and information were collected from the existing literature in the said field and the primary data and were collected through the questionnaire survey.

4.6 Questionnaire design

A structured questionnaire with both closed and open ended questions was developed for collecting primary data. Before developing the questionnaire researchers interviewed some higher level of human resource executive working in banks. This assists a lot to make an appropriate questionnaire. The questionnaire included both demographic and job related questions. For the closed ended questions the study used five point Likert scale, where 1 = strongly agree, 2 = agree, 3 = neutral (neither agree nor disagree), 4 = disagree, and 5 = strongly disagree.

4.7 Reliability of data

Reliability is the degree of consistency with which the instrument measures an attribute (Polit & Hungler1999). The initial reliability of the items was verified by computing the Cronbach's alpha. The Cronbach's alpha suggests that a minimum alpha of .60 is sufficed for early stage of research. The Cronbach's alpha estimated for all of the variables was .815 therefore deemed to have adequate reliability.

4.8 Data Analysis

After getting raw data from the field by questionnaire survey, with utmost care the researchers gave input into the SPSS software. Simple descriptive and regression analysis was used to analyze the data.

4.9 Time frame

Each and every study should allow considerable time to be ethically responsible in results. The present study mainly consumed time for research design, questionnaire development, field survey, data collection, data analysis and report writing. The study was carried on from July, 2015 to December, 2015.

5. Results and Discussion

With regard to the questions mentioned in the questionnaires and based on the results of the information analysis, the research findings can be summarized as follows:

5.1 Perceptions of the HR executives regarding Human Resource Accounting Information System:

Table 3: The descriptive statistics of respondents' perceptions

Particulars	N	Mean	Std. Deviation
The concept of Human Resource Accounting Information System is familiar in Bangladesh	120	2.0006	1.55616
Human Resource Accounting Information System is widely used in banks of Bangladesh	120	3.07	1.22016
Regulatory authority of the banks demand the initialization of Human Resource Accounting Information System in their banks	120	2.01	1.2105

Particulars	N	Mean	Std. Deviation
Human Resource Accounting Information System will help the human resource management of the banks much	120	1.62	0.88252
Valid N (listwise)	120		

(Scale 1 = strongly agree, 2 = agree, 3 = neutral, 4 = disagree, 5 = strongly disagree)

The above table [Table 4] shows the perceptions of the respondents regarding the familiarity and the application of HRAIS in different banks in Bangladesh. The mean value about the familiarity of the concept of Human Resource Accounting Information System in Bangladesh is 2. It means that the concept is familiar in Bangladesh. Another statement whether Human Resource Accounting Information System is widely used in the banks of Bangladesh or not shows the mean value 3.07. That means it is not widely used in Bangladesh. Another statement whether the regulatory authority of the banks demand the initialization of Human Resource Accounting Information System in their banks? The mean value of which is 2.01. It means that the regulatory authority of the banks demand the initialization of Human Resource Accounting Information System in their banks. The mean value of the respondents' perceptions about the helpfulness of Human Resource Accounting Information System to human resource management is 1.62. It says that Human Resource Accounting Information System will help the human resource management of the banks much.

5.2 Contributing fields of Human Resource Accounting Information System:

Table 4: The descriptive statistics of contributing fields of Human Resource Accounting Information System

Contributing fields	N	Mean	Std. Deviation
The impact of (HRAIS) on Job Design and Analysis (JDA)	120	1.8667	0.88814
The impact of HRAIS on Human Resource Planning (HRP)	120	2.2	0.73336
The impact of HRAIS on Recruitment and Selection Decisions (RSD)	120	1.9	0.83415
The impact of HRAIS on Performance Appraisal (PA)	120	2	0.68599
The impact of HRAIS on Training and Development (T&D)	120	2.1	0.83415
The impact of HRAIS on Job Evaluation (JE)	120	2.0667	0.77496
Performance of Human Resource Management (HRM)	120	1.5	0.56509
Valid N (list wise)	120		

(Scale 1 = strongly agree, 2 = agree, 3 = neutral, 4 = disagree, 5 = strongly disagree)

The above table (table 4) shows the major dimensions through which HRAIS supports to HR functions and decisions. The table shows the mean and standard deviation of the dimensions of HRAIS support. Considering the means the most important dimension of HRAIS support is the support on Job designing and analysis, the second important dimension of HRAIS support is the support on Recruitment and selection, rest of the variables are given in the above table.

5.3 Regression Analysis

Table 5: Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.547[a]	0.299	0.262	0.48559

a. Predictors: (Constant), V6, V1, V3, V5, V4, V2
b. Dependent Variable: Performance of HRM (DV)

From the above table (table 5) it is found that the value of R is .547, it indicates that the relations between the dependent variable and the independent variables are strong enough to represent the model. It is also seen that the value of Adjusted R2 is .262, i.e. the dependent variable is 26% explained by the independent variable that are included in the model.

5.4 Test of hypothesis

Table 6: ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.355	6	1.893	8.026	.000[a]
	Residual	26.645	113	0.236		
	Total	38	119			

a. Predictors: (Constant), V6, V1, V3, V5, V4, V2
b. Dependent Variable: Performance of HRD (DV)

The above table (table 6) shows that the value of F is 8.026 at 0.05 level of significance, which is higher than the critical value of F from the F distribution (3.40) and it indicates that the study can accept the hypothesis. That means that the performance of HRD depends on the HRAIS.

Table 7: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.263	0.157		8.021	0
	V1	-0.028	0.058	-0.044	-0.479	0.633
	V2	-0.204	0.104	-0.265	-1.958	0.053
	V3	-0.005	0.078	-0.007	-0.062	0.95
	V4	0.691	0.111	0.839	6.242	0
	V5	-0.07	0.077	-0.103	-0.912	0.364
	V6	-0.256	0.094	-0.35	-2.729	0.007

a. Dependent Variable: Performance of HRD

The above table (table 7) shows the value of the coefficients to construct the model. Since the beta value of standardized coefficients is 0 we will use the unstandardized coefficients. Hence the value of the constant is 1.263 and the co-efficient are -.028, -.204, -.005, .691, -.070, and -.256 respectively.

5.5 Assessment of Normality

Figure 2: Normal p-p plot of regression standardized residuals

Dependent Variable: Performance of HRD
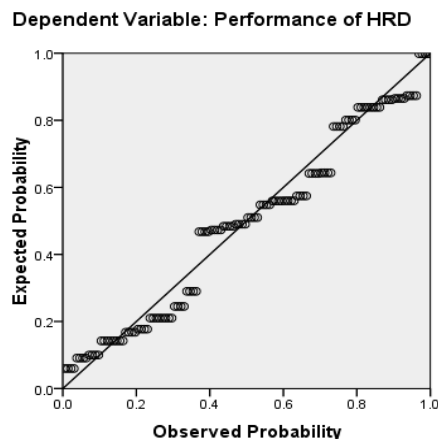
Normality was assessed by 'Normal Probability Plot of Regression Standardized Residuals' which is illustrated by figure 2 below. Here it can be observed that points were positioned in a reasonably straight diagonal line from bottom to top t indicating no major deviation from normality.

6. Conclusion and Recommendation

HRAIS is truly a new concept in Bangladesh as well as in the field of business. To cope with dynamic and ever changing business environment and response with the newness; the world organizations stay always alert. Organization has developed new strategies timely for these reasons, HAIRS is one of them. Among the resources HR is most precious and valuable resource because the functioning of other resources completely depends on human resources. Cost effectiveness is one of the precautions of successful resource deployment. HRAIS ensures proper functioning of human resource department activities with proper information and accountability and provides better profitability by reducing costs. The study result indicates that most of respondents are known about the concept, and HAIRS is somewhere partially and somewhere widely implemented in their respective organizations. Using HRAIS assists human resource department in better human resource planning, smooth recruitment and selection decisions, effective training need assessment, appropriate performance appraisal. Theoretically it is assumed that HRAIS generates some benefit for the organization and the study results practically validate the assumption. To make a bridge between the proper information and human resource department the implementation of HRAIS is crying needs for any kinds of organizations. The study finally wants to recommend that organization in need of superior performance should adopt HRAIS.

6.1 Future research implications

Probably no research so far has been done on the said field in Bangladesh so it will definitely open new opportunity for the upcoming researches. The study findings may help to construct new research model and view the issue in different angles. Since HRAIS is a new concept in Bangladesh, the rate of adaption of it by the organization is low. So the critical factors of adaption of HARIS, the challenges of HARIS adaption are burning issue to explore in this initial stage. This study will help those researches who want to explore critical factors or challenges and other related issues with HARIS adaption in Bangladesh.

6.2 Management implications

HRM became strategic partner of any organization. Organization makes all sort of plan based on their human resource availability and capabilities. To run current and future operation of any organization depends on effective utilization of human resource. HRAIS can assist organization for this purpose. HRAIS as a managerial tool can be used for effective management of human resources. In the field of managerial decision-making, the human resource data as part of management information system helps in making meaningful choices between various types of human investments and investments in other assets. The study result shows that HRAIS can bring best result if management properly implement and execute HRAIS in organization in the following areas: Human Resource Planning, Performance Appraisal, Training needs Identification, Usefulness of cost reduction programs in view of their possible impact on human relations. Studying the impact of budgetary control on motivation and morale of employees, Facilitating allocation, conservation and reward of human resources.

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INVESTIGATION OF IMPORTANT ENABLERS OF LEAN IMPLEMENTATION IN FINANCIAL SERVICES

by

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Abstract

Purpose - This research aims primarily at investigating the relationships among lean enablers, lean practices and organizational performance. This research is carried out in Thai leading financial institutions that experienced adopting lean concept for enhancing their organizational performance.

Design/ methodology/ approach - The questionnaire survey was developed and employed as the primary data collection method. The questionnaire was distributed to three leading financial institutions adopted the Lean concept for enhancing organizational performance. Confirmatory factor analysis (CFA) was conducted to ensure the reliability and validity of the measurement model. The structural equation modelling (SEM) was employed for investigating relationships and testing the hypotheses proposed concerning the research conceptual model.

Findings - The results provided substantial evidence that financial institutions require to implement both lean enablers and lean practices in order to achieve the better organizational performance resulted from lean implementation. The findings also supports the socio-technical system theory that organizations planned to adopt management approach should consider implementing both supportive and technical practices for attaining better results.

Research limitations/ implications - The research conceptual model was tested utilizing data gathered from financial institutions implemented lean as improvement initiatives. The limited population and difficulties in gaining access effect on the response rate. Further study should therefore considered collecting empirical data from other service businesses; and testing the model for achieving the generalization objective.

Practical implications - Financial institutions that plan to adopt lean concept should consider implementing both lean enablers and lean practices for pursuing better organizational performance outcomes.

Originality/ value - This study extends the prior research of lean implementation in financial services by empirically investigating relationships of Lean practices and organizational performance. Considering the theory of socio-technical system, lean enablers were incorporated in the conceptual model for investigating the importance of lean enablers towards lean implementation for enhancing the organizational performance. The statistical findings indicates the importance for financial services in implementing both lean enablers and lean practices for pursuing better organizational performance.

Paper type: Research paper

Keywords: Lean, Organizational Performance, Quality Management, Financial Services, Socio-technical system

1. Introduction

Concerning the highly competitive market, it becomes more imperative that organization requires improving their business continuously for achieving the sustainability of the organization. Organizations are currently facing many challenges in sustaining the competitive advantages. There are growing external pressures in reducing costs, increasing flexibility, improving quality and cutting down the lead times. This increasing competition forces organizations to reconsider their operations and strategies (Karmarkar, 2004). Particularly in the services sector in Thailand, financial services has played an important role in the Thai economy. As of 2015, the total assets of the Thai financial institutions amounted to Baht 17,191 billion (Bank of Thailand, 2015). Particularly in term of sales and service, the financial institutions have increased the importance of a customer-focused approach for delivering customers with the highest value services, responding to their demands and increasing expectations. With this regards, many improvement programs are initiated and adopted with the aim of delivering the superior product and service to customers. "Lean" is therefore one of the most powerful improvement methods which is widely adopted with the aim of enhancing the organizational performances in the financial institutions.

Particularly in the scholarly literature in operations management, lean concept is of vital important in attaining the goal of sustaining the organization. Recently, Lean has become became one of the most important improvement initiatives that was disseminated to both manufacturing and service industries. Nevertheless, it has sometimes been questioned, regarding the limited applicability and suitability of Lean adoption in the service sector (Hines et al., 2004). Financial and healthcare services are two important service sector areas that have adopted lean as a strategic initiative (Hammer and Goding, 2001; Hoerl, 2004). The academic research related to the adoption and implementation of Lean in the service sector is, however, still at a fairly early stage, the available literature being dominated by manufacturing-related work. This calls for empirical research to understand the way in which a Lean concept could be adopted successfully for enhancing organizational performance. Despite the increasing level of interest in adopting lean in service organizations (Hadid and Mansouri, 2014, Kosuge et al. 2010), it seems lack of empirical research using survey method to explore different aspect of lean service. Most of the extant researches related to lean adoption in services were conducted using case studies method (Malmbrandt and Ahlstrom, 2013). There is lack of theoretical framework to establish the concept of lean service and investigated impact on organizational performance (Statts et al., 2011). This lack of understanding about the relationships between lean service adoption and performance may hinder the development and spread of lean service across industries (Hadid and Mansouri, 2014). This calls for the importance in understanding these relationships for further contributing to the practitioners who plan to adopt and implement lean concept efficiently and effectively in the services sector.

Therefore the primary aim of this research is not only to understand the outcomes of the lean practice to organizational performance, but also to explore the importance of lean enablers towards the lean adoption in service environment, particularly in the financial services. Hence, this research aims at contributing to the knowledge on understanding the relationship among lean enablers, lean adoption practices, and organizational performance. Four research questions are as follows;

RQ1. What are important enablers of lean implementation success in financial institutions?

RQ2. To which enablers of Lean implementation are important for implementing lean practice successfully for enhancing the organizational performance of financial services.

RQ3. What are the relationships between lean practices, lean enablers for enhancing the organizational performances?

2. Literature Review

Considering research questions and objectives, relevant literature was reviewed as follows

2.1 Lean adoption in services

Many business process improvement and quality management methodologies have long tended to expand far beyond the manufacturing arena into the service sector. To date, the majority of academic papers related to lean implementation are based on the manufacturing sector. Lean implementation in service is still considered under research area. In service sector, lean is, however, considered one of the improvement methodologies that has been growing strongly in adopting for improvement strategy for enhancing service excellence. Bowen and Youngdahl (1998) discuss the transferring of Lean to service operations, revisiting the production-line approach of Levitt (1972). Bowen and Youngdahl (1998) argued for the applicability of lean adoption in services. In the early stage, the literature related to lean services is dominant by conceptual and case studies papers. The first stream of conceptual paper focused on the applicability of lean practices transferred from manufacturing to services operations and potential outcomes (Bowen and Youngdahl, 1998). Whereas, the case study papers emphasize on understanding how lean concept can be adopted for improving some performance indicators of services organization (i.e., Statts et al.,2011; Allway and Corbett, 2002 and Swank, 2003). the studies of Allway and Corbett (2002) and Swank (2003) illustrated the success of Lean implementations, through case studies in financial services, showing that a company can benefit both in terms of cost reduction and better service quality for the customer. However, Hadid and Mansouri (2014) point out that it appears to be a lack of compressive list of lean practices for being used to empirically test relationships with organizational performance.

Despite the rising level of interest in lean service in both academician and practitioners, there seems to be a lack of suitable theoretical framework in establishing the concept of lean service and impact on organizational performance (Hadid and Mansouri, 2014; and Suarez-Barraza et al.,2012). This lack of understanding in the relationships between lean service and organizational performance may hinder the development and expansion of lean across service industries (Staats et al.,2011; Hadid and Mansouri, 2014). This calls for the importance in conceptualizing the research framework of lean implementation for enhancing the organizational performance. The proposed model will be mainly used for empirically investigating the relationships between lean implementation and organizational performance in a specific context of service organizations.

Considering the appropriate approach for investigating the relationships between lean adoption and organizational performance, Hadid and Mansouri (2014) conceptualized the model based on the socio-technical system with the aim of understanding the role of lean practices for enhancing the performance of the organization. Regarding the conceptualized model, lean practices can be viewed as lean technical practices (LTPs) and Lean supportive practices (LSPs). This model is developed considering three main theories of the contingency theory (CT), Universal theoty (UT), and socio-technical theory (STS). Similarly, Mambrandt

and Ahlstrom (2012) developed and empirically validated and instrument for assessing lean service adoption. The instrument is refined and validated through an iterative process considering both theoretical and practical insights. The instrument consists of 34 items for assessing enablers of lean adoption, lean practices, and operational performances (Mambrandt and Ahlstrom, 2012). This will allow researcher to measure the level of lean service adoption for develop the body of knowledge related to the adoption of lean service. This instrument also provides practitioners with a tool for tracking the progress during lean adoption, thereby identifying and acting considering deviation from planned progress.

Based on the extant literature, it seems lack of survey methodology to explore the interrelationships between lean adoption and organizational performance particularly in service sector (Hadid and Mansouri, 2014). This unproven association between lean service and performance may affect how service organization adopt lean successfully. By considering the importance in adopting lean successfully, this research therefore take view of socio-technical system theory for developing an appropriate model for investigating lean adoption in financial services. Emery (1990) and Cua et al., (2001) point out that both social and technical systems should be jointly optimized to achieve the best possible performance. According to the socio-technical systems theory, it is imperative that organizations consider both socially and technically-oriented practices for optimizing the performance resulted from implanting management practice (Cua et al.2001). Hence, lean practices will be reviewed concerning two aspects of lean enablers (lean supportive practices) and lean technical practices in the following sessions of 2.2 and 2.3 consecutively.

2.2 Enablers of lean adoption

Comprehensive literature review on factors enabling lean practices for enhancing organizational performance was conducted, four main enablers are reviewed as follows;

2.2.1 Leadership and Management

An excellent leadership and management is one of the crucial factors that enable lean to be implemented successfully (Anchanga et al., 2006). Managers and their actions can result the difference between successful and unsuccessful lean adoption effort (Suarez-Barraza et al.,2012; Mambrandt and Ahlstrom, 2012). Without the continuous support and commitment from top management, the true importance of the initiative will be in doubt and the energy behind it will be weakened (Pande et.al., 2000). In the early stage of quality management implementation, it is vital that management communicate the goal and clear strategic direction for implementing quality initiation effectively (Dale, 1999). Naslund (2013) also points out that management should communicate the change and provide employees with understanding regarding the benefits of improvement methodology adoption (Naslund, 2013). This can help inspire and motivate employees in participating in lean implementation (Naslund, 2013). Leadership and management effectiveness allows employee involvement in continual improvement activities of the organization (Habidin and Yusof, 2013).

Not only offering the support to the lean adoption, Chakravorty (2010) highlighted the importance of management in directly participating in the adoption of improvement methodology. Kaynak (2003) asserts that organizations with high levels of top management commitment and involvement tend to produce higher quality product and to deliver higher service quality to their customers. In term of management support, Kaynak (2003) suggests the importance that management provides required resources related to quality management implementation and ensure that necessary resources for quality-related training are available.

In the study of critical success factors of Lean Six Sigma for Malaysian automotive industry, Habidin and Yusof (2013) highlight importance of leadership from aspects of commitment, involvement and active support that affect how organizational implement continuous improvement program successfully. The survey results indicate that leadership is considered the highest score by respondents concerning the important factor for enhancing the success of lean Six Sigma implementation. Leadership and management are therefore considered the essential enabler in successfully implemented the desired improvement initiatives (Antony and Banuelas, 2001; Coronado and Antony, 2002; Henderson and Evans, 2000). Overall, leadership and management construct addresses imperative aspects of leadership commitment, communication, involvement and support.

2.2.2 Organizational Culture

Organizational culture is considered another important aspect that enable organization in implementing quality management practices successfully. A number of studies have argued that organizational culture is a key significant driver to quality management implementation success (Hackman and Wageman, 1995, Powell, 1995; Kujala and Lillrank, 2004). Hackman and Wageman (1995) pointed out that QM initiatives require further than implementing technical practice, but need a fundamental change of underlying culture and attitude of people in the organization. Wu et. al. (2011) stated that quality management implementation is more likely to be success if the organizational culture is compatible with the value and basic assumptions proposed by QM practices. Organizational culture values are considered important as they drive attitudes and behaviors of employee thereby unconsciously impact how practices are implemented and institutionalized in the organization (Detert et al.,2000).It is therefore important that QM practices needs to be embedded in supportive culture for generating positive impact on organizational performance (Wu, 2015).

The impact of organizational culture on operational management practices has been studied in the existing literature (Kaynak, 2003; Naor et al. 2008; Sabella et al. 2014). The study of Wu (2015) indicates the importance of quality culture as an antecedent of quality core practice for generating positive impact on organizational performance. When implementing operations management practices, Naor et al. (2008) indicated that organizational culture has a stronger influence on quality management practices based on gathered data from manufacturing plants. Whereas several studies have long been argued the importance of cultural factor in enhancing the success of quality management success, service seems to be under research area. Detert et al. (2000) suggest that the relationship between culture and implementation of quality management practice has not been adequately studied. It is therefore of interest in investigating relationships between organizational culture, lean practices and organizational performance.

2.2.3 Employee relations

Considering the high degree of customer contact in services, employees play important roles in delivering valued service to customers. The highly skilled labors of the organization are important to ensure company growth and success (Jeyaraman and Teo, 2010). Taking the view of organizational development (OD) techniques to facilitate changes in the organization, employee relations is considered imperative in enabling the success of quality management implementation (Kaynak, 2003). Malmbrandt and Ahlstrom (2013) point out that employee play a critical role in lean adoption. Adequate employee training, commitment and understanding of lean adoption effort are considered important enablers in driving lean to become success (Malmbrandt and Ahlstrom, 2013; Balle and Regnier, 2007; Bowen and Youngdahl, 1998). In a study of critical factors of quality management, Badri et

al. (1995) empirically examine critical factors synthesized from previous research using data gathered from 424 firms implemented quality management practices. The results confirm that employee relations are one of the critical factors that directly related to success of quality management implementation.

Besides the necessary aspects of employee commitment and involvement, it is important that employee receive formal training related to concepts and tools of quality management practices for being implemented successfully Malmbrandt and Ahlstrom (2013). The employee training has been emphasized as the key important factor driving the success of quality management implementation (Snell and Dean, 1992). Hence, it is necessary that service Company pays more attention on providing employee training in order to achieve the goal of lean implementation.

Considering the importance of employee relations towards lean implementation, Cua et al. (2001) argued that human-oriented practices serve as supportive mechanism in implementing quality management practices in the organization. With this regards, the studies of Flynn et al. (1995) and Noar et al. (2008) show empirical evidence to support that supporting practices have positive effect on core practices adopted for improving organizational performance. As such, four aspects of employee relations addressed are employee commitment, employee empowerment, employee involvement and employee training.

2.2.4 Customer focus

Customer focus of lean concerns with supporting practices that enable the implementation of lean by taking customers into consideration. The increasing importance of mass customization and personalized services drives organization to focus on customer for surviving in the highly competitive situation. Having a good understanding of customer allows organization to differentiate its products and services from competitors, sustain customer loyalty, and deliver the highest value to customers (Margretta, 1998). Focusing on customer need and satisfaction are important practices in implementing quality improvement initiatives successfully (Habidin and Yusof, 2013; Antony et al., 2005). The study of Habidin (2013) highlight the importance that organization pay attention on customer focus practices in order to implement Lean Six Sigma more successfully, which is in line with studies of Antony et al. 2005; Kumar et al., 2009.

There are some empirical studies revealed that customer focus of quality improvement initiative has a significant relationships with organizational performance (Ittner and Larcker, 1997; Dow et al.,1999). The survey study of quality improvement approach and firm performance of Adam et al. (1997) indicates that customer focus is the most imperative approach in successfully implement quality improvement initiatives in all regions. This is in line with the study of Samson and Terziovski (1999) that proves the significant relationship between customer focus and operational performance resulted from TQM implementation. Hence, becoming a customer oriented organization has a major challenges of organization in tailoring and implementing strategies with the aim of improving customer satisfaction at the heart of the organization (Sabella et al., 2014). In order to achieve this goal, organization mush pay attention on customer focus practices that addresses how the organization determines the existing and emerging requirements and expectations of customers, how customer requirement involved in product and service design, and how the organization effectively take customers requirement for improving operational process effectively.

Based on the literature review above, four main important enablers of lean implementation are leadership and management, organizational culture, employee relations, and customer focus. All these four important enablers are considered imperative for implementing lean for enhancing the organizational performance more successfully and effectively, rather than implementing lean practices separately. With this regards, the author hypothesize that:

H1: Lean enablers are positively related to lean practices
H2: Lean enablers are positively related to organizational performance

2.3 Lean practices in service organization

Lean practices focus on the way of working that is seen as consistent with lean principles (Malmbrandt and Ahlstrom, 2013). A wide range of lean practices has been identified related to lean implemented in manufacturing sector, considering the basic set of lean principles (Shah and Ward, 2007; Malmbrandt and Ahlstrom, 2013). Hadid and Mansouri (2014) argued that extant literature related to lean adoption in service does not provide a comprehensive list of lean practices related to specific context of service. Hence, it is imperative that researchers review the literature and adapt a specific measures concerning the context being studied.

Reviewing practices adopted in healthcare services, Bernstein (2008) studied lean practices in hospital, which included on patient flow, value-stream mapping and kaizen events. Min et al. (2012) investigated the extent of lean implementation in US hospitals in four dimensions involving patient focus, standardized work, seamless and coordinated work flow, and continuous improvement culture. It is important to note that these four dimensions are similar to four bundles in manufacturing sector. Punnakitikashem (2012) proposed 21 lean practices in healthcare setting as follows: Lot size reduction, JIT/Continuous flow/ Seamless and coordinated work flow. This clearly show the approach that service organizations proposed the lean practice considering the basic principle of lean concept.

Considering as the under research area of empirical study of lean implementation in financial services, lean practices will be therefore proposed considering core principles of lean by adapting from the extant literature related to lean adoption and implementation. In this research lean adoption practices will be developed considering 7 lean service principles extracted from extant literature consisting of; specify customer value, identify value stream (value stream mapping), create value flow, standardize work, attain zero defects, visualize process, pursue continuous improvement, and ensure pulling system.

2.4 Lean practices and organizational performance

In order to measure the results of lean implementation, it is imperative that organization identify appropriate measures for investigating the relationships between lean practices and organizational performance. Most of research studies related to lean adoption were used the case study and qualitative research approach rather than gathering empirical data. Little empirical research in the extant literature examined the relationships between lean adoption and organizational performance (Chavez et al., 2013; Vinodh and Dino, 2012). To deepen the knowledge related to lean implementation in services, there is a need in understanding the relationships between quality practices and performance using empirical data in particularly of the service sectors. This would help practitioners in understanding how organizational performance can be improved resulted from the improvement practices for further improving organization continuously (Elg et. al., 2014; Sabella and Kashou, 2014).

Traditionally, the financial measures are used for evaluating the success of process improvement initiatives such as lean services. However, Schonberger (2008) and Swank (2003) argued that to use the financial measure may not be appropriate and well-equipped in assessing the outcomes of improvement initiatives. As lean concept is primarily adopted in manufacturing sector, the measures of lean adoption in service is still in the early stage. Most of the academic research that aims at developing the measurement tools were based on manufacturing sector. There still lack of empirical research in developing the measures of lean adopted in service organization specifically. Hence, it is imperative that organization adopted lean needs to develop an appropriate measure for enhancing the success of lean implementation.

With this regards, some researchers have been trying to develop the measures of lean implementation success considering the improvement of organizational performance. Shah and Ward (2003) point out that lean practices are generally shown to be associated with performance in number of previous studies. The extant literature indicates that lean practices is frequently associated with the improvement in operational performance measures such as productivity, quality, reduction of lead time, cycle time, manufacturing costs (Shah and Ward, 2003). Hadid and Mansouri (2014) review further the extant literature for proposing a theoretical model for investing lean-performance relationship, drawing from the universal theory, socio-technical systems theory, and contingency theory (CT). In their research, lean constructs are identified and operationalized to establish their relationship and impact on organizational performance. The paper highlights the potential impact of lean service on operational and financial performance (Hadid and Mansouri, 2014). In order to develop the organizational performance measures, Mambrandt and Ahlstrom (2012) suggest that organization need to define their own definition of their operational measures to be well suit for assessing the performance of their specific process. Considering literature reviewed above, organizational performance measures will be developed considering extant literature and suggestions from practitioners who experienced in lean adoption in a specific context of financial services. We hypothesize that:

H3: Implementation of lean practices in financial services will have a positive impact on organizational performance.

Based on literature review in previous sections, the research model is conceptualized to explore the relationships between lean enablers, lean practices and organizational performance. This model is developed mainly concerning the works of Malmbrandt and Ahlstrom (2013) and Hadid and Mansouri (2014). Considering the perspectives of socio-technical system theory, the conceptual model is developed for understanding how financial institutions implement lean practices for enhancing organizational performance.

Figure 1: Research conceptual model
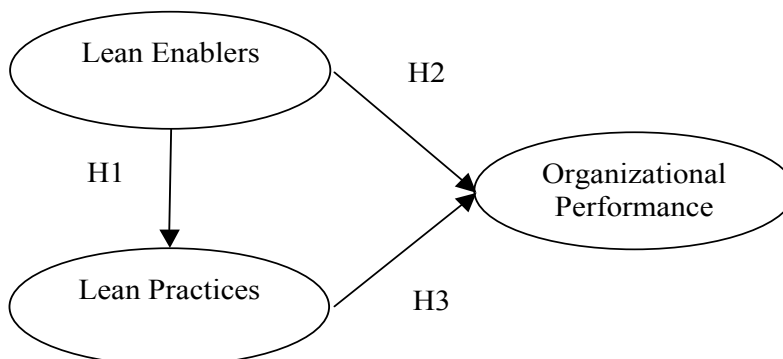
3. Research Methodology

To answer the research questions on investigating the relationships among lean enablers, lean practices and organizational performance based on the research conceptual model, the research methodology is described in this section as follows;

3.1 Research instrument

Based on the research conceptual model proposed in the previous section, the questionnaire survey was developed considering the previous literature. The measurement of each part in the questionnaire instrument were justified and adapted from previous studies related to lean implementation. With this regards, the questionnaire consisted of four sections in order to cover objectives of this research including: demographic, lean enablers, lean practices, and organizational performance. One academic and two practitioners helped in refining the survey instrument for this study. Modification of the questions was done upon the experts' advice. A five-point Likert scale was used to ask respondents for scoring (items) ranging from 1 = strongly disagree to 5 = strongly agree. The questionnaire used in this study is provided in Appendix 1. The pilot test was conducted with 30 respondents who experienced involving in lean implementation in financial institutions to ensure that the survey instruments are easy to understand by the respondents.

To enhance the internal consistency of the research instrument, reliability test was conducted. DeVellis (1994) suggests that construct reliability is the proportion of variance attributable to the true score of the latent variable. In order to justify the scale's reliability of the research instrument, Cronbach's alpha coefficient will be estimated. With this regards, Cronbach's Alpha is calculated based on SPSS program. Zinkmund et al. (2013) suggest that the scales with coefficient α value between 0.80-0.95 are considered having very good reliability, whereas the scales that have coefficient α value lower than 0.6 are considered poor reliability. In order to test the reliability of the research instrument, thirty questionnaires were distributed and gathered. The Cronbach's alpha coefficient of individual constructs is therefore analysed to ensure the quality of the measurement scales. The Cronbach's Alpha coefficients resulted from the pre-test are provided as the following table 1.

Table 1: Cronbach's Alpha coefficients from Pre-test

No	Variables	Amount of items	Cronbach's Alpha Value
1	Specify Customer Value	4	0.868
2	Identify Value Stream	4	0.708
3	Create Value Flow	4	0.715
4	Standardize Work	3	0.795
5	Ensure the High Level of Quality	4	0.825
6	Visualize Processes and Performance	3	0.869
7	Pursue Continuous Improvement	4	0.883
8	Ensure that all activities are pulled	3	0.847
9	Top Management and Leadership	5	0.858
10	Organization Culture	9	0.827
11	Employees Relations	9	0.917
12	Custom Focus	4	0.787
13	Organizational Performance	10	0.907

Based on the Cronbach's Alpha coefficients of each variable calculated, all the values of Cronbach's Alpha coefficients are higher than 0.60. Nunnally (1978) suggests that the

reliability of each variable should be assessed using Cronbach's Alpha with a minimum value of 0.6. Hence, the reliability of all variables in the research instrument are considered having good reliability (Nunnally, 1978; Zinkmund et al., 2013). The data collection process will be therefore elaborated in details as the following section.

3.2 Data collection

Considering the objective in investigating relationships among lean enablers, lean practices, and organizational performance resulted from lean implementation in financial services, it is important that researcher collected the empirical data from the financial institutions implemented lean. With this regards, not all financial institutions in Thailand adopted lean as the strategic improvement initiatives. There are only some financial institutions adopted lean as strategic improvement initiatives. Researcher therefore formally requested for the permission in collecting the questionnaire survey. Only three leading financial institutions in Thailand allowed in gaining access as the target site. In total, 400 questionnaires were distributed.

During the data collection process, the objectives and instructions were explained clearly to the respondents. In total, 185 completed questionnaire survey were received, considering as 46.25 percentage response rate. The underlying reasons of low response rate resulted from the limited samples as the key participants are required to be the employees involved in lean implementation in the financial institutions. Gathered questionnaire will be utilized in analysis process in which is going to describe in details in the next section

3.3 Data analysis

In this study, descriptive statistics analysis was conducted to explain demographic information of respondents. Agreement level of all constructs in the study was also examined. Correlation analysis and Confirmatory factor analysis (CFA) were employed to access construct reliability, convergent validity, and discriminant validity of the respective constructs of the conceptual framework. Adopting two-step modelling approach suggested by James et.al. (1982), structural equation model (SEM) were employed after CFA for testing the goodness of fit of the model; and investigating relationships among constructs proposed in the research conceptual model. All the hypotheses were tested utilizing results from SEM analysis.

4. Data analysis results

In this research, descriptive statistics was analysed to explain the demographic data of respondents. Confirmatory factor analysis (CFA) and structural equation model (SEM) were employed to test model fit and relationships between independent and dependent variables of the proposed model. Hypotheses were tested based on SEM analysis. Detailed analysis results are as follows.

4.1 Demographic of respondents

The total number of respondents were 185 with 55.1% of female and 44.9% of male. The percentage of respondents' age range between 21 and 30 was 21.1, 31.9% between the ages of 31 and 40, 28.1% between the ages of 41 and 50; and 18.9% between the ages of 51 and 60. In terms of educational background, 51.9% hold bachelor degree, 46.5 % hold a master degree, and doctoral degree graduated was 1.6%. The respondents' were from different positions; 15.1% of respondents were vice president, 8.1% of assistant vice

president, 27.6% of senior manager, 15.7% of team leader, and 33.5% of operations staffs. In term of working experience, 22.7% of respondents had experiences less than 3 years; 15.1% between 4 and 6 years; 16.8% between 7 and 10 years, and 45.4% of respondents had working experiences more than ten years. Lastly, respondents were asked to identify experiences of being part of lean implementation; 14.6% had experiences in lean implementation less than 6 months, 13% between 6 and 12 months, 27.6% between 1 and 3 years, 29.2% between 4 and 5 years, 11.9% between 6 and 10 years, and 3.8% had experiences in lean implementation more than 11 years. The respondent's profile is summarized as the following Table 2 below.

Table 2: Respondents' profiles

Description	N	Percentage
Gender of respondents:		
Male	83	44.9
Female	102	55.1
Ages of respondents:		
21-30	39	21.1
31-40	59	31.9
41-50	52	28.1
51-60	35	18.9
Educational background:		
Bachelor degree	96	51.9
Master degree	86	46.5
Doctoral degree	3	1.6
Job position:		
Vice president	28	15.1
Assistant vice president	15	8.1
Senior manager	51	27.6
Team leader	29	15.7
Operations staffs	62	33.5
Working experiences:		
0-3 years	42	22.7
4-6 years	28	15.1
7-10 years	31	16.8
More than 10 years	84	45.4
Experiences in lean implementation:		
0-6 months	27	14.6
7-12 months	24	13.0
1-3 years	51	27.6
4-5 years	54	29.2
6-10 years	22	11.9
11 years or above	7	3.8

4.2 Correlation analysis

Correlations analysis of was conducted to examine relationships among all variables in the research conceptual model. The analysis showed that all variables are significantly correlated with each other. The correlation coefficients were generally between 0.35-0.70 indicating the significant relationships among constructs. The results also highlight the high correlations between lean enablers (LM, OC, ER, CF) and lean practices (SC, IV, CV, SW,

EH, VI, PU, EN) towards organizational performance (OP). This indicated that financial institutions, which are advanced in their lean enablers and lean practices, tend to be more advanced on their organizational performance. Correlation matrix of all the constructs was summarized in the Table 3.

Table 3: Correlations analysis

	LM	OC	ER	CF	SC	IV	CV	SW	EH	VI	PU	EN	OP	Cronbach α
LM	1	.675**	.678**	.626**	.472**	.444**	.375**	.408**	.517**	.394**	.555**	.538**	.606**	0.87
OC	.675**	1	.783**	.647**	.547**	.540**	.468**	.476**	.532**	.437**	.570**	.553**	.636**	0.77
ER	.678**	.783**	1	.706**	.607**	.534**	.544**	.534**	.548**	.474**	.635**	.546**	.657**	0.84
CF	.626**	.647**	.706**	1	.583**	.436**	.350**	.426**	.532**	.281**	.544**	.418**	.623**	0.79
SC	.472**	.547**	.607**	.583**	1	.624**	.541**	.583**	.529**	.400**	.632**	.570**	.580**	0.80
IV	.444**	.540**	.534**	.436**	.624**	1	.515**	.578**	.560**	.482**	.608**	.582**	.521**	0.68
CV	.375**	.468**	.544**	.350**	.541**	.515**	1	.570**	.491**	.415**	.537**	.551**	.554**	0.66
SW	.408**	.476**	.534**	.426**	.583**	.578**	.570**	1	.632**	.434**	.584**	.543**	.533**	0.59
EH	.517**	.532**	.548**	.532**	.529**	.560**	.491**	.632**	1	.519**	.636**	.584**	.574**	0.75
VI	.394**	.437**	.474**	.281**	.400**	.482**	.415**	.434**	.519**	1	.546**	.583**	.479**	0.75
PU	.555**	.570**	.635**	.544**	.632**	.608**	.537**	.584**	.636**	.546**	1	.707**	.647**	0.79
EN	.538**	.553**	.546**	.418**	.570**	.582**	.551**	.543**	.584**	.583**	.707**	1	.587**	0.75
OP	.606**	.636**	.657**	.623**	.580**	.521**	.554**	.533**	.574**	.479**	.647**	.587**	1	0.89

Remark 1: **. Correlation is significant at the 0.01 level (2-tailed).
Remark 2: LM = Leadership and management; OC = Organizational culture; ER = Employee relation; CF = Customer focus; SC = Specify customer value; IV = Identify value stream; CV = Create value flow; SW = Standardize work; EH = Ensure the high level of quality; VI = Visualize processes; PU = Pursue continuous improvement; EN = Ensure that all activities are pulled

4.3 Reliability and validity analysis

In order to reduce and summarize the data for establishing the unidimensionality of each variable, the exploratory factory analysis (EFA) was conducted using principle components method with Direct Oblimin rotation. Kaiser-Meyer-Olkin (KMO) test for sampling adequacy was adopted at a scale and individual item level with a minimum value of 50 percent (Hair et al., 2010). With this regards, items those have cross-loading issue significantly were statistically and theoretically eliminated. In total, 4 factors of lean enablers, 7 factors of lean practices, 8 factors of organizational performance were extracted and considered appropriate in measuring each latent variable. The reliability of each factor was assessed considering the Cronbach's α with a minimum value of 0.6 (Nunnally, 1978). The α coefficients of all constructs are shown in Table 3 above.

Confirmatory factor analysis (CFA) was conducted in order to evaluate the measurement model (Gerbing and Anderson, 1988). The analysis process follows the two-step modelling approach suggested by James et.al. (1982) for assuring the goodness of fit of measurement model before examining the full structural model in further stage. CFA therefore provides the assessment of convergent and discriminant validity of the measurement model. The maximum likelihood (ML) approach of AMOS22 was adopted for testing the measurement model. Considering suggestions by Hair et al. (2010), the measurement model fit was evaluated concerning a number of fit indices including: the Chi-square (X2) and the ratio of X2 to degrees of freedom; root mean square of error of approximation (RMSEA); goodness of fit index; Adjusted Goodness-of-Fit Index (AGFI); comparative fit index (CFI); and Tucker Lewis Index (TLI).

The goodness of fit indices resulted from CFA using AMOS programs are as follows; The p-value of the Chi-square (Degrees of freedom= 142) is 0.445, indicating the exact fit of tht model at 0.001 significant level. The Goodness-of-Fit Index (GFI), Adjusted Goodness-of-Fit Index (AGFI), and the Comparative Fit index (CFI) stand at .926, .901, and .999, which show that the specified model fits well. The root mean square of approximation (RMSEA) is .008, which provides evidence of close fit of the model in relation to the degrees of freedom because RMSEA is less than .05. The Tucker Lewis Index (TLI) is .999, while CFI is .999. Both belong to incremental fit indices and their values are well above the recommended threshold level of .90, which further supported the close fit of the model. The norm Chi-square (X2/df) has a value of 1.012. This fells within the recommended range of 3 to 1which indicated conditional support for model fit (Carmines and McIver, 1981).

In summary, the various indices of overall goodness-of-fit for the model provided sufficient support for the results to be accredited as an acceptable representation of the hypothesized constructs and the model as a whole. (See also the Table 4.XX below)

Table 4: Model fit indices for confirmatory factor analysis (CFA)

FIT Index	Acceptable threshold levels	Value
X^2	x² relative to df with p-value (>.05)	Chi-square = 143.66 CMIN = 1.012
GFI	**GFI** is less than or equal to 1. A value of 1 indicates a perfect fit.	0.926
AGFI	AGFI Values is less than or equal to 1. A value of 1 indicates a perfect fit.	.901
CFI	**CFI** is truncated to fall in the range from 0 to 1. **CFI** values close to 1 indicate a very good fit.	.999
RMSEA	Values < 0.05	.008
TLI	range for **TLI** lies between zero and one	.999

Source: (Hair et. al., 2010)

As a results from CFA analysis, the standardized factor loadings of each variable, the critical ratio (C.R.) in which is the parameter estimated by the ratio between factor loadings value and standard errors are provided as the following table below. With this regards, Byrne (2001) suggested that t-value (C.R.) which is greater or smaller than 1.96 will indicate the statistical significance. The higher the factor loadings or coefficients compared to their standard errors, the stronger the evidence of relationship between the observed indicators to their respective latent factors (Koufteros, 1999). Table 5 shows the factor loadings of all items in the measurement model. The values which exceed the critical ratio are considered significantly related to their specific constructs, indicating the relationships between with latent variables. Details are presented as the following table 5.

Table 5: Parameter estimates, standard errors, critical ratios

Construct indicators	Standardized factor loading	S.E.	C.R.
Lean enablers			
CF	0.784		
ER	0.896	0.092	13.709
OC	0.860	0.083	13.035
LM	0.779	0.104	11.488
Lean practices			
PU	0.813		

EH	0.776	0.07	11.676
SW	0.752	0.08	11.353
CV	0.692	0.081	10.185
IV	0.751	0.092	11.323
SC	0.788	0.078	11.953
EN	0.751	0.07	13.437
Organizational performance			
OP1	0.668		
OP3	0.705	0.123	8.53
OP4	0.771	0.146	9.204
OP5	0.717	0.125	8.696
OP6	0.682	0.129	8.286
OP7	0.662	0.116	8.068
OP8	0.709	0.124	8.584
OP9	0.711	0.141	8.606

Concerning the two-step model suggested by James et.al. (1982), the next section will present the analysis of full structural model and hypothesis testing results.

4.4 Model adjustment and Hypothesis testing

After conducting confirmatory factor analysis in the prior stage, some variables were removed concerning the underlying theory and goodness of fit of each construct. This section, therefore, describes the adjustment of the model fit resulted from SEM analysis. AMOS program was utilized for analyzing and testing the research conceptual model. The final model is shown as the following figure 2.

Figure 2: The final research model
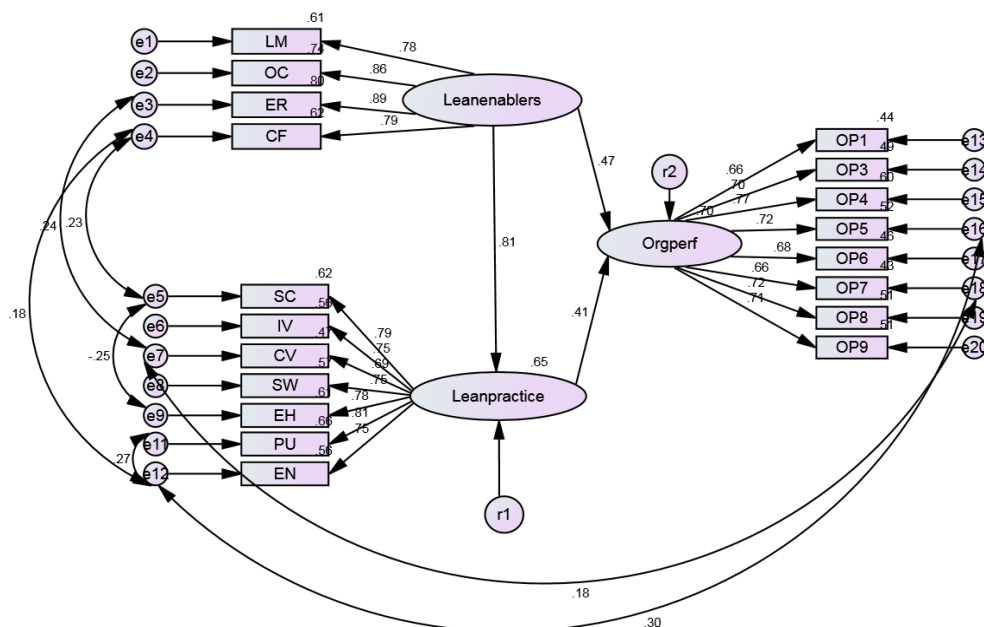
The final model was gradually adjusted for achieving the goodness of fit of the model. The analysis results provide absolute goodness-of-fit measures as follows: The p-value of the Chi-square (Degrees of freedom= 142) is at .405 meaning that the model is statistically significant. The Goodness-of-Fit Index (GFI), Adjusted Goodness-of-Fit Index (AGFI), and the Comparative Fit index (CFI) stand at .924, .899, and .998, which show that the specified model fits well after gradually adjusted. The root mean square of approximation (RMSEA) is .011, which provides evidence of close fit of the model in relation to the degrees of freedom because RMSEA is less than .05. The Tucker Lewis Index (TLI) is .998, while CFI is .998. Both belong to incremental fit indices and their values are well above the recommended threshold level of .90, which further supported the close fit of the model. The norm Chi-square $(X2/df)$ has a value of 1.024. This fell within the recommended range of 3 to 1 which indicated conditional support for model fit (Carmines and McIver, 1981).

In summary, the various indices of overall goodness-of-fit for the model provided sufficient support for the results to be accredited as an acceptable representation of the hypothesized constructs and the model as a whole. The model fit indices are shown in table 6.

Table 6: Model fit indices for SEM analysis

FIT Index	Acceptable threshold levels	value
X^2	x² relative to df with p-value (>.05)	Chi-square = 145.417 p-value= .405
GFI	**GFI** is less than or equal to 1. A value of 1 indicates a perfect fit.	0.924
AGFI	AGFI Values is less than or equal to 1. A value of 1 indicates a perfect fit.	0.899
CFI	**CFI** is truncated to fall in the range from 0 to 1. **CFI** values close to 1 indicate a very good fit.	0.998
RMSEA	Values < 0.05	0.011
TLI	range for **TLI** lies between zero and one	0.998

Source: (Hair et. al., 2010)

Based on the research conceptual model, three main hypotheses were tested utilizing the results from SEM analysis using AMOS program. The results of hypothesis testing were provided as Table 7 below:

Table 7: Standardized regression weights

Standardized Regression Weight			B	S.E.	C.R.	P
Lean practices	<---	Lean enablers	.805	.088	9.871	***
Organizational performance	<---	Lean enablers	.468	.112	4.203	***
Organizational performance	<---	Lean practices	.341	.101	3.771	***

Note: *** is significant at the 0.01 level (2-tailed)
S.E = Standard Error; C.R =β / S.E.; P = Significance level

Based on the hypotheses testing results shown in Table 7 above, there appears to be significant positive relationships among all constructs proposed in the research conceptual model. With this regards, the results indicated that lean enablers are significantly correlated with lean practices (H1), which is in turn enhancing the organizational performance of the financial institutions implemented lean. The results also showed that lean enablers are significantly correlated with organizational performance directly (H2). Lastly, the statistical analysis of the model indicate the positive effect of lean practices towards organizational performance resulted from lean implementation in financial institution (H3).

5. Discussion and Conclusions

Considering the importance in sustaining businesses, it is imperative that organizations seek the way for improving their organizational performance. Lean became one of the most successful initiative that has been widely adopted in manufacturing arena, however, it appears to be in the early stage in services sector. The academic research related to the adoption and implementation of Lean in the service sector is still at an early stage as the available literature is dominated by manufacturing-related work. Practically, lean has been rapidly disseminated to services sector in particularly of financial and healthcare services. However, it seems lack of empirical research to understand the lean adoption in financial services. The extant literature of lean implementation in financial services do not provide a clear foundation of the relationships between lean implementation and organizational performance. This lack of understanding about the relationships between lean service adoption and performance may hinder the development and spread of lean service across industries (Hadid and Mansouri, 2014). It is therefore very imperative in broadening and extending the existing body of knowledge. Hence, this research aimed to fill this gap by investigating the relationships among lean enablers, lean practices and organizational performance.

In order to investigate the relationships between constructs in the research conceptual model, two-step approach suggested by James et.al. (1982) was employed. Empirical data was gathered from employees involved   CFA was conducted to ensure the reliability and validity of the measurement model by assessing the goodness of fit indices as shown in previous table 4. In order to test all hypotheses, SEM was conducted for investigating all relationships in the proposed model. The SEM model was gradually adjusted until reaching the goodness of fit criteria. As a result, findings suggest that positive relationships exist among all constructs of lean enablers, lean practices, and organizational performance. This overall results supports the empirical findings of previous literature that investigated the relationship between quality management practices and organizational performance (Hadid et al., 2016; Hadid and Mansouri, 2014; Chavez et al., 2013; Vinodh and Dino, 2012). Examining the level of lean enablers implementation, employee relations has the highest standardized weight indicating the significance that organization pay attention on providing adequate training and enhancing employee commitment which are important enablers in driving lean to become success (Ahlstrom, 2013; Malmbrandt and Ahlstrom, 2013; Balle and Regnier, 2007; Bowen and Youngdahl, 1998). Focusing in employee relation enabler is therefore significant in supporting the implementation of lean practices as suggestion by Cua et al. (2001). To deepen further, the statistical findings indicated a strong relationship between lean enablers and lean practices, with standardized regression weight of 0.805. This strengthens the importance in implementing all lean enablers (LE) of leadership and management, organizational culture, employee relations, and customer focus to support lean practices (LP) implementation for improving the organizational performance.

This research contributes to the existing body of knowledge of lean implementation in financial services by empirically investigating the importance of lean enablers in implementing lean practices for enhancing the organizational performance. The findings highlight and confirm the significance that organizations implement both lean enablers and lean practices for attaining the better organizational performance. This finding supported the underlying theory of socio-technical system (STS) suggested by Trist and Bamford (1951) that indicates the importance that organizations considered both supporting and technical practices for achieving better outcome of practice implementation. This research further extended the work of Malmbrandt and Ahlstrom (2014) that systematically developed the

measures of lean service practices by adapting and refining measures for a particular context of lean implementation in financial services. Additionally, this study attempted to adapt the conceptual model suggested by Hadid and Mansouri (2014) for empirically investigating the relationship between lean and performance in a particular context of financial services. The statistical findings indicated the significant relationships among lean enablers, lean practices and organizational performance. These findings provide the managerial implications by shedding some light for financial services intended to adopt lean concept in implementing both lean enablers and lean practice for synergizing the performance outcomes resulted from lean implementation. In order to implement lean successfully in financial institutions, four important enablers of leadership and management (LM), organizational culture (OC), employee relations (ER), and customer focus (CF) are required. Concerning the limitation in gaining access and limited number of financial institutions adopted lean as improvement initiative, this affect the response rate of questionnaire data gathered. The author therefore suggests in adopting this model and measures developed for empirically investigating relationships among all constructs in other services context such as healthcare and insurance companies. Lastly, the study of moderator effect of lean enablers would be of interest for broadening the existing body of knowledge of lean implementation for enhancing organizational performance in financial services.

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Questionnaire survey instrument

1. Lean practices

No.	Items	References
	Specify customer value	
1.	Your company put effort in understanding customer value	Malmbrandt and
2.	You Start searching for ways to understand customer value using informal approach	Ahlstrom (2013) Leyer and
3.	You can see and describe what activities are value adding for the customers	Moormann (2014)
4.	You can define what part of your work add value to customer or not	
	Identify value stream	
5.	Your working processes have been mapped	Malmbrandt and
6.	In the process mapping, non-value added activities are identified based on customer perspective	Ahlstrom (2013) Hadid and
7.	Process maps are visualized, reviewed and updated more often than once a year	Mansouri (2014) Leyer and
8.	There are key performance indicator of for my activities which reflect the satisfaction of the customers	Moormann (2014)
	Create value flow	
9.	You start searching for a way to organize the workplace, discussions around location of information and resources availability	Malmbrandt and Ahlstrom (2013) Shah and Ward
10.	Information and resources have been sorted and organized for easy retrieval when and where they are needed in the process in order to facilitate flow	(2007)
11.	There is a continuous coordination with every relevant employee with regard to products or service you are involved	
12.	Most areas of the organization working together to connect cross functional processes	
	Standardize work level	
13.	You start using standardized tasks in some areas, may not be written down or in forms of simple checklists	Malmbrandt and Ahlstrom (2013)
14.	Work procedure standards are well written and appearing in most areas of the organizations	Hadid and Mansouri (2014)
15.	The standard time is set up for balancing the workloads along the service processes (i.e., standard time and SLA)	
	Ensure the high level of quality	
16.	Supervisor re-checks your work again before deliver to other departments	Malmbrandt and Ahlstrom (2013)
17.	Organization starts searching for instruments and methods to assure quality is built-in, but informal approach in few areas	Hadid and Mansouri (2014)
18.	Most areas are actively working to assure built-in quality. Use poke-yoke solutions and employees control quality themselves before finishing a job	
19.	Company encourages all staff to achieve zero errors along the service operations process	

No.	Items	References
	Visualize processes and performance results	
20.	Visual signals used to facilitate work in some areas, signaling not only location of resources but also process progress and starting to visualize some deviations.	Malmbrandt and Ahlstrom (2013) Hadid and Mansouri (2014)
21.	Systematic visualization in all areas of the organization of information needed in the right place	
22.	In most areas, improvements are visualized in central locations. Information is updated and there is experimentation with regards to what to visualize	
	Pursue continuous improvement	
23.	Employees participate actively in determining improvement area for lean implementation, regarding the processes that they are part of it	Malmbrandt and Ahlstrom (2013) Dimitrios et al. (2015)
24.	Root cause analysis and other problem solving tools are being used regularly. Employees are proficient in problem solving techniques	
25.	All areas have a way of assuring that agreed upon improvements are sustained over time such as setting up monitoring and feedback systems	
26.	Developing organizational structure supporting the continuous improvement	
	Ensure that all activities are pulled by customers	
27.	Organization starts to use pull system and create efficient handovers between different parts in the chain, but with varying degree of effectiveness.	Malmbrandt and Ahlstrom (2013) Hadid and Mansouri (2014) Shah and Ward (2007)
28.	Use of pull in all areas and processes. Each step in the chain is aware of the status of the previous and next step and has a signal for when to start working.	
29.	Experimentation with signals for when each step should start working to avoid overproduction and other types of wastes. Most areas are involved and the notion of internal customers is becoming more and more known	

2. Lean enablers

No.	Items	References
	Leadership and Management	
1.	Extent to which the organizational top management has clear goal, direction and objectives for lean implementation	Cua et al. (2001) Kaynak (2003)
2.	Extent to which the organizational top management communicate goal and objectives of lean implementation within organization	Habidin et al. (2013)
3.	Degree to which the organizational top management considers lean implementation as a way to increase profits	Malmbrandt and Ahlstrom (2013)
4.	Degree of participation by major department heads in lean implementation process.	Hadid and Mansouri (2014)
5.	Top management expresses supports for lean implementation and approves time and resources for implementation team	Sarah et al. (1989)

	Organizational Culture	
6.	There can be little improvement action taken care until a supervisor approves a decision	Wu (2015)
7.	Any decisions concerning process improvement I make has to have my boss's approval	Naor et al. (2008) Kaynak (2003) Gambi et al.(2015)
8.	Company emphasizes efficiency and control to reach predictable improvement performance results	
9.	Employees are encouraged to work as a team, exchange opinions, experiences and ideas	
10.	Employee are encouraged to openly discuss their opinions and improvement ideas with someone higher up	
11.	Our reward system encourages reaching organization's goals of lean implementation	
12.	The incentive system at this plant is fair at rewarding people who accomplish plant objectives	
13.	We emphasize prospecting for opportunities and creating new challenges	
14.	We make an effort to anticipate the potential of new service practices and technologies	
	Employee Relations	
15.	Our organization forms cross functional teams to implement lean throughout the organization	Cua et al.(2001)
16.	Employees are encouraged to try solving problems as much as possible	Sarah et al. (1989) Malmbrandt and
17.	Extent to which quality circles or employee involvement-type programs are implemented in the organization	Ahlstrom (2013) Kaynak (2003)
18.	Extent to which quality awareness building among employees is ongoing	
19.	Degree of participation in quality decisions by hourly/ non-supervisory employees	
20.	You attended training in improvement techniques and the underlying ideas of lea	
21.	You are continuously train in different aspects of work improvement and are considered highly competent in improving work	
22.	Actively participates in improvement work, come up with improvement suggestions, see problems through long-term solutions and is a driving force for lean implementation	
23.	Sees improvement work as an important part of everyday job. Equal focus on new solutions and sustaining previous ones.	
	Customer Focus	
24.	Extent to which feedback is given from customer on quality performance	Habidin et al. (2013)
25.	Extent to which customers are actively involved in future service design concerning customer requirement adn expectation	Shah and Ward (2007)
26.	We strive to be highly responsive to our customers' needs and requirements	
27.	Extent to which the importance of relationship with customers is periodically evaluated	

3. Organizational performance

No.	Items	References
1.	The cycle time of each service transaction is reduced	Kaynak (2003)
2.	We can deliver service on time as promised	Cua et al.(2001)
3.	Less customer waiting time (queue time) after lean implementation	Malmbrandt and
4.	The operating cost of each service transaction is reducing	Ahlstrom (2013)
5.	The quality of service is improving continuously	Gambi et al. (2015)
6.	Customers satisfaction are increasing after lean implementation	Hadid and
7.	You are satisfied with your improved working process and environment after lean implementation	Mansouri (2014) Naor et al. (2008)
8.	Our productivity and efficiency are rising steadily	Shah and
9.	Number of reworks and errors are reduced after lean implementation	Ward(2003) Kafetzopoulos *et al*
10.	Number of customer complaints are reduced after lean implementation	(2015)

A STUDY ON THE ORGANIZATIONAL ENGAGEMENT OF DIRECT SALESPEOPLE: A CASE STUDY ON THAI DIRECT SALES INDUSTRY

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Abstract

This research is about the organizational engagement of direct salespeople of Thai direct sales industry which are Amway, Thailand, Zhulian (Thailand) Ltd., Giffarine Skyline Unity Co., Ltd., and Smart International Network Co., Ltd. in Bangkok and its boundary. The research aims to study factors related to the organizational engagement of direct salespeople in Thai direct sales industry, to study levels of the organizational engagement towards direct sales organization in Thai direct sales industry, and to give the findings to the executives of the companies for making their human resources management more efficient or for finding ways of persuasion to make the subordinates satisfy in their work and engage in their organization. There are 400 samples and questionnaire is the tool in collecting data. Statistics used in data analysis are percentage, mean, standard deviation, Pearson Correlation Coefficient, t-test analysis, and one way ANOVA.

In this research there are 4 hypotheses involving with the 4 factors; personal characteristics, job characteristics, work experiences, and the awareness of direct sales business. The first hypothesis is that the different personal characteristics of direct salespeople affect the different organizational engagement. The rest all three factors; job characteristics, work experiences of direct salespeople and the awareness of direct sales business of direct salespeople, relate to organizational engagement.

The result was found that personal characteristics factor; gender, age, marital status, occupation, income from full time employees, experience in direct sales, and salary and average remuneration per month from direct sales work, relate to organizational engagement. The level of education doesn't relate to organizational engagement. Job characteristics factor and the factor of work experience relate to the organizational engagement in a positive way at a medium level. The awareness of direct sales business factor relates to the organizational engagement in a positive way at a high level. The level of direct salespeople's organizational engagement in general is in "Agree" level. The recommendation of this research in terms of job characteristics, it is suggested to build activities which support work progress for direct salespeople. In terms of work experience, it is suggested to give direct salespeople the opportunity to share their ideas or to have parts in management. In terms of the awareness of

direct sales business, it is suggested to show the importance of product development and maintain the product quality at a maximum level. In terms of organizational engagement, it is suggested to support the direct salespeople to take part in and continuously inform them the company's turnover for their progress and for the benefit of the company.

Keywords: Organizational Engagement, Direct Salespeople, Direct Sales Business

1. Introduction

According to Thai economy, consumers are more careful to spend money and financial institutions consider more carefully to allow credits to customers. Thai economy in year 2014 has grown only 0.7% from year 2013 (Bank of Thailand, 2014: paragraph 1-2). This makes Thai consumers adjust themselves by being part time employees after full time work in order to cover their expenses. Being direct salespeople is one of their interests due to gaining high income with no risk and no high investment (Arbita Boriphan, 2009).

However, running a business always changes by external factors. Companies have to adapt themselves to catch up with the changes. The quality of human resources is the significant variable to build competitive advantages. It is that the human resources have to engage in their organization. Many consulting companies in human resources found that the level of human resources' organizational engagement significantly relates to levels of competence, of growth, of stability of that company in this kind of business. From the researcher's experience, the researcher found that a group of entrepreneurs face the problem of human resources management when their direct salespeople have been persuaded to work with other companies.

According to the previous problem, a study of human resources' organizational engagement interests executives and academicians. Personally, the researcher as a direct saleswoman, she is interesting in studying this problem. The objectives are to study factors relating to direct salespeople's organizational engagement in Thai direct sales industry, to study the level of direct salespeople's organizational engagement in Thai direct sales industry, and to give the findings to the executives for their more effective human resources management. Then, they can find ways to create job satisfaction and organizational engagement for higher level.

2. Literature Review

2.1 Organizational engagement

Mowday et al. (1979) has defined organizational engagement that it is the way to express something more than usual loyalty. The engagement is firm relationship and it can push people to contribute themselves willingly for the growth of their organization. Also this good feeling makes them perform well and then benefit to their organization. People who have organizational engagement will always have behavior that matches the objective of their organization.

Hazzan (2014) has studied the organizational engagement at a secondary school. In terms of organizational participation, he found that leaders have to plan, design policies, set goals, then assign jobs to concerning people. Also, leaders must persuade subordinate to agree with them and to follow them. They have to give chance to everyone in the organization to share their ideas, and join activities in order to build unity and inspiration. Moreover, they have to let subordinates take their parts in every project all the way from the beginning to the end. Hazzan has suggested the theory of Organizational Engagement Model (OEM) to superiors for treating their subordinates. He has recommended them to build incentive to teamwork and then the teamwork will be proud of their success. There are 2 parts of the need theory: the inside need and the outside need. The inside one includes pride and the value of oneself. The outside one includes admiration from colleagues. He also emphasizes that communication is important to every organization. It can create good interaction, friendship, and connection in organizations.

The concept of employees' organizational engagement is psychology concept. It was interested after the Gallup Organization has been named as a research institute and a consultative organization started to study this concept in 1985. Later, Kahn (1990), the psychologist, has suggested the theory of engagement in a workplace and defined the employees' engagement as the expression of emotion, feeling, and body. From the study, it has been summarized that the theory of Kahn is the basic thought which was given to many consulting organizations, for example, The Gallup Organization, Hewitt Associate, ISR, Dr. ED Gubman, and Development Dimensions International Inc. The researcher can summarize that the employees' engagement is both the physical and mental contribution to assigned jobs. This will make the jobs done creatively and make the jobs valuable more than expectation.

2.2 Organizational engagement factors

Steers (1977) has said that there are 3 factors affecting organizational engagement. They are personal characteristics, job characteristics, and work experience. In terms of personal characteristics, he means gender, age, level of education, marital status, number of years working in that organization, and the level of job position. In terms of job characteristics, he means autonomy, variety, job identification, opportunity for optional interaction, and feedback which are under each employee's responsibility. In terms of work experience, he means working environment that employees get, for example, being important to an organization, group attitude, organization dependability, and expectation to get response from an organization.

Mowday, Porter, and Steers (1982) have presented that there have been 4 factors affected organizational engagement; personal characteristics, job or role-related, work experiences, and structural characteristics. Personal characteristics include gender, age, year of working, education, and marital status. In terms of job or role-related, the importance of job under the employee's responsibility, challenging job, participation in job administration, chances to progress, freedom when working, and ambiguous in work roles. Organizational trust, being important to an organization, the system of work performance consideration are included in work experiences. Decentralization system, participation in owning the business, and in making a decision are included in structural characteristics.

Edward L. Gubman (1998) has said that there are 7 factors that can create organizational engagement. The first one is shared values or sense of purpose. It is the way to adapt employees' value to match the value of the organization. This will help employees to show all their ability in working, and to work right to the goals. The second one is the quality of work life. It is the satisfaction in working environment, for example, tools, office supplies, and facilities. Participation in projects and activities of the company are included. The third one is job tasks. It is area of work which is challenging and interesting. The fourth one is relationship. It is the satisfaction in interpersonal; superiors, colleagues, and customers. The fifth one is total compensation. It is the satisfaction in wages, fringe benefit, and other rewards. The sixth one is opportunities for growth. It is chance to learn the growth and the success in job. The last one is leadership. It is the trust and the respect in the superiors.

Burke Institute Research (2003), the consulting company in human resources development, has mentioned about Employee Engagement Index (EEI). It is an important component in creating engagement components. The EEI is consisted of company, work group, career or profession, customer, job, and manager.

Kaewkan Jamjarus (1999) has said that the factor related to direct business is to create reliability in direct salespeople's mind. Then, they will be confident to be members of the company. This mentioned reliability means the reliability in the company, in the quality of products, in its marketing strategies, and in themselves. Notchanok Ounrearn (2002) has said that the related factors suppose to be based on factors inside organization and factors outside organization. The companies have to be ready in order to survive and step forward in terms of marketing. The management team of every type of business realizes and tries to find different marketing strategies or integrated one in order to maintain their market share and to grab consumers in the market.

According to the organizational engagement factors which the researcher previously mentions, the researcher has divided factors into 5 ones to study: personal characteristics, job characteristics, work experiences, the awareness of direct sales business, and organizational engagement.

2.3 Direct sales businesses

The meaning of direct sales by World Federation of Direct Selling Association: WFDSA is the way to present consumer products directly to customers at their houses or their workplaces or other places which are far from retail shops. The direct salespeople will explain the details of products or demonstrate how to use the products. That is the major strategy to present selling. (Jirawan Duangbai, 1999)

The type of network business has been continuously developed from the past until now. According to that, many systems of marketing strategy have been designed to match each company's need. These companies try to create good motivation to attract direct salespeople. Now it has been founded that many companies choose integrated marketing

strategies more (Kititsak Boonrasee, 2008). Marketing system plans or network business plans in paying dividend have been summarized into 8 plans; Stair Step, breakaway, Matrix, Uni-Level, Binary, Trinary, Matching, and Party Plan

3. Conceptual Framework and Research Hypothesis

For this case study, the researcher's conceptual framework is independent variable and dependent variable. In terms of independent variable, the researcher picks 4 factors; personal characteristics, job characteristics, work experiences, and the awareness of direct sales businesses. In terms of dependent variable, the researcher picks 1 factor; organizational engagement.

Figure 1: The 4 hypotheses used in the study.
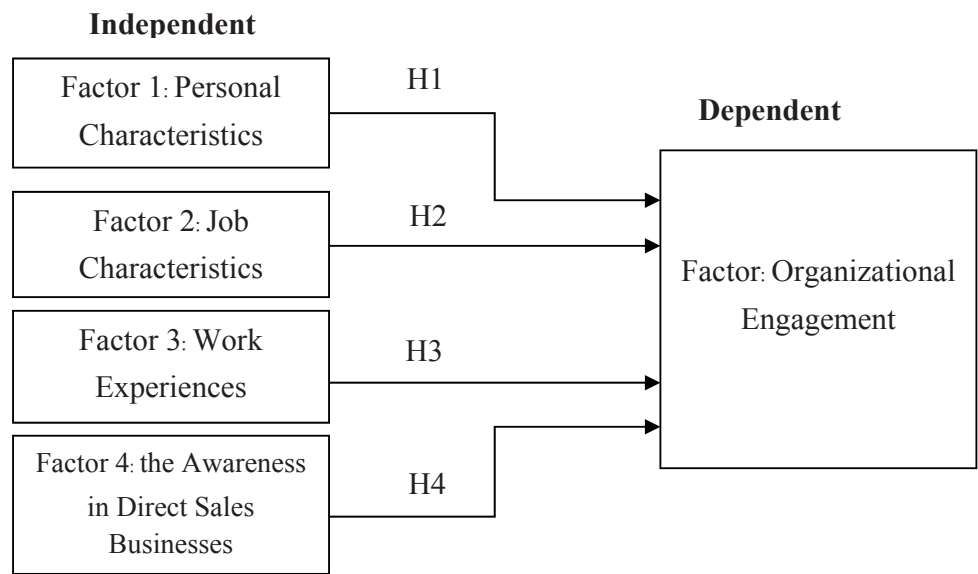
Hypothesis 1: Different direct salespeople's personal characteristics relate to different organizational engagement.

Hypothesis 2: Direct salespeople's job characteristics relate to organizational engagement.

Hypothesis 3: Direct salespeople's work experiences relate to organizational engagement.

Hypothesis 4: Direct salespeople's the awareness of direct sales businesses relates to organizational engagement.

4. Research Methodology

This research is the type of analytical research. The population, which the researcher has picked, are from 4 companies; Amway Thailand, Zhulian (Thailand) Ltd., Giffarine Skyline Unity Co., Ltd., and Smart International Network Co., Ltd which is the researcher's business. The researcher is not sure about the number of the population because the number has changed all the time.

The sample size has been set by using the calculation method of Roscoe (Kanlaya Vanichbuncha, 2002). The confidence level is 5% and the permissible error is 5%, then the sample size is 385 samples. To be precise as much as possible, another 15 samples have been added. So, the total population, which was selected by quota sampling, is 400. They are from 4 companies; 100 samples from each company. This method is used when we don't know either the population number or the details of each population type (Supannee Mangkalee, 2009).

Close-ended questionnaire is used as a tool. It consists of 5 parts: 8 questions for personal characteristics part, 15 questions for job characteristics part, 10 questions for work experiences part, 10 questions for the awareness of direct sales businesses part, and another 10 questions for organizational engagement part.

Statistic used in this research is frequencies, percentage, mean, and standard deviation. While Pearson Correlation Coefficient, t-test analysis, and one way ANOVA are used for hypothesis test. The researcher has compared the difference of every pair of mean by using the method called Least Significant Difference.

5. Results

In terms of personal characteristics, the researcher found that most population who are 210 population or 52.5% are male. Most, who are 156 population or 39%, are less than 30 years old. Most who are 191 population or 47.75% have got bachelor degrees. Most, who are 199 population or 49.75%, are single. Most who are 165 population or 41.25% are employees at private companies. Most, who are 141 population or 35.25%, have income less than or as much as 10,000 baht from full time job. Most, who are 159 population or 39.75%, have experiences in direct sales for 1 – 5 years. Most, who are 153 population or 38.25 %, have wages and remuneration in average per month less than or as much as 10,000 baht.

In terms of job characteristics, it was found that most opinion towards the job characteristics of direct salespeople in Thai direct sales business is in "Agree" level which its Mean equals to 3.65.

In terms of work experiences, it was found that most opinion towards the work experience of direct salespeople in Thai direct sales business is in "Agree" level which its Mean equals to 3.44.

In terms of the awareness of direct sales business, it was found that most opinion towards the awareness of direct sales of direct salespeople in Thai direct sales business is in "Agree" level which its Mean is 4.01.

In terms of organizational engagement, it was found that most opinion towards the organizational engagement of direct salespeople in Thai direct sales business is in "Agree" level which its Mean is 4.00.

Table 1: Summary of hypotheses testing results

Hypotheses	Statistic Test		Results
	Mean ($\bar{x}$)	Simple Correlation (r)	
Hypothesis 1: Different direct salespeople's personal characteristics relate to different organizational engagement.			
Gender	4.07	-	Rejected H_0
Age	4.34	-	Rejected H_0
Level of education	4.12	-	Failed to Rejected H_0
Marital status	4.05	-	Rejected H_0
Occupation	4.24	-	Rejected H_0
Income from full time job	4.58	-	Rejected H_0
Experience from direct sales job	4.64	-	Rejected H_0
Wages and remuneration	4.6	-	Rejected H_0
Hypothesis 2: Direct salespeople's job characteristics relate to organizational engagement.	-	0.574	Rejected H_0
Hypothesis 3: Direct salespeople's work experiences relate to organizational engagement.	-	0.511	Rejected H_0
Hypothesis 4: Direct salespeople's the awareness of direct sales business relate to organizational engagement.	-	0.796	Rejected H_0

6. **Summary of Hypothesis Test**

Table 2: The difference of organizational engagement level which is divided by personal characteristics.

Personal characteristics factor	Gender	Age	Education level	Marital status	Occupation	Income from full time jobs	Experience in direct sales jobs	Salary and average remuneration per month from direct sales jobs
Organizational engagement	t	f	f	t	f	f	f	f
The policy and the purpose of organizations	3.545*	25.901*	1.870*	-1.430*	5.299*	20.477*	35.354*	29.776*
Participation for the progress and benefit of organizations	2.299*	39.209*	1.290*	-2.775*	10.568*	32.042*	58.985*	51.499*

The need to be members of organizations	2.366*	28.415*	0.188*	-1.430*	8.918*	25.190*	43.722*	37.247*
Total	3.184*	42.333*	0.961*	-2.125*	10.640*	35.477*	65.525*	57.041*

The statistical significant level is at 0.05

According to Table 2 and Hypothesis 1: different direct salespeople's personal characteristics are related to different organizational engagement, the researcher found that personal characteristics, for example, gender, age, marital status, occupation, income from full time job, experience from direct sales job, and wages and remuneration in average per month from direct sales job, relate to organizational engagement at the statistical significance level of 0.05. Then this hypothesis is accepted. However, the level of education doesn't relate to organizational engagement. Then, the researcher rejects this hypothesis. Personal characteristics depend on each person so they show different behaviors and different opinions. On the other hand, the level of education doesn't affect to direct sales business. Every direct salesperson has the same chance to be successful in the business.

Table 3: Pearson's Correlation Coefficient value between the job characteristics of direct salespeople and organizational engagement.

Job characteristics factor	Organizational engagement		Findings
	r	p	
Being independent in working	0.418*	0	medium
The importance of job characteristics	0.453*	0	medium
The variety of jobs	0.470*	0	medium
The challenge of jobs	0.383*	0	medium
The progress of occupation	0.491*	0	medium
The feedback of jobs done	0.171*	0.001	low
Chance to interact with others	0.436*	0	medium
Total	0.574*	0	medium

The statistical significance level is at 0.05.

According to Table 3 and Hypothesis 2: direct salespeople's job characteristics relate to organizational engagement, the researcher found that direct salespeople's job characteristics relate to organizational engagement at the statistical significance level of 0.05. It is a medium positive relationship and r value is at 0.574. Then, the hypothesis is accepted. This means more opinion levels on job characteristics of direct salespeople create more organizational engagement. This is because they work independently and are responsible for variety of challenging work at their knowledge and ability. Besides, they have been told about their performance and have chance to communicate with others. These make the direct salespeople have more organizational engagement.

Table 4: Pearson's Correlation Coefficient value between direct salespeople's work experience and organizational engagement.

Work experience factor	Organizational engagement		Findings
	r	p	

The importance to organization	0.395*	0	medium
The stability and reliability of organization	-0.140*	0.005	low
The response from organization	0.500*	0	medium
The dependability of organization	0.479*	0	medium
The attitude towards colleagues and organization	0.538*	0	medium
Total	0.511*	0	medium

The statistical significance level is at 0.05.

According to Table 4 and Hypothesis 3: direct salespeople's work experiences relate to organizational engagement, the researcher found that direct salespeople's work experiences relate to organizational engagement at the statistical significance level of 0.05. It is a medium positive relationship and r value is at 0.511. Then, the hypothesis is accepted. This means more opinion levels on work experiences of direct salespeople create more organizational engagement. This is because the direct salespeople do a job which is valuable and beneficial to the organization. They are also parts in making important decision. Moreover, they realize that they can rely on their superiors. Their superiors support them for their success and give them chances to brush up their knowledge related to their work. These make the direct salespeople have good attitude towards their colleagues and organization. These make the direct salespeople have more organizational engagement.

Table 5: Pearson's Correlation Coefficient value between the direct sales people's awareness in direct sales businesses and organizational engagement.

The direct salespeople' s awareness factor in direct sales businesses	Organizational engagement		Findings
	r	p	
The confidence in organization	0.710*	0	high
The reliability in the products of organization	0.743*	0	high
The reliability in the marketing strategy of organization	0.588*	0	medium
The reliability management team of organization	0.684*	0	medium
The confidence in organization	0.710*	0	high
Total	0.796*	0	high

The statistical significance level is at 0.05.

According to Table 5 and Hypothesis 4: direct salespeople's awareness of direct sales business relates to organizational engagement, the researcher found that direct salespeople's the awareness of direct sales business relates to organizational engagement at the statistical significance level of 0.05. It is a high positive relationship and r value is at 0.796. Then, the hypothesis is accepted. This means more opinion levels on the awareness of direct sales businesses create more organizational engagement. This correlates to the hypothesis. This is because the direct salespeople have a strong believe in the image, stability, products, marketing plan, and a management team of the organization. They also believe in the sustainable growth. These make the direct salespeople have more organizational engagement.

7. Conclusion and Recommendations

According to the 3 objectives as mentioned at the beginning of the study, the first and the second objective are for the conclusion and the third objective is for the recommendation as follows:

7.1 Conclusion

First objective: It is to study factors related to the organizational engagement of direct salespeople in Thai direct sales industry. The researcher has concluded that personal characteristics, which are gender, age, marital status, occupation, income from full time job, work experience from direct sales job, and wages and remuneration in average per month from direct sales job, relate to organizational engagement of direct sales people. Moreover, job characteristics, work experience, and the awareness of direct sales business relate to organizational engagement. It is right to the theory of Steers (1977). He said that there were 3 factors which effect to organizational engagement: personal characteristics, job characteristics, and work experiences. Moreover, it relates to the research of Kaewkan Jamjarus (1999) in the direct salespeople's awareness in direct sales businesses.

Second objective: It is to study levels of the organizational engagement towards direct sales organization in Thai direct sales industry. The researcher has concluded that the overall organizational engagement of direct salespeople in Thai direct sales industry is in "Agree" level. When considering each point, the researcher found that the organizational engagement has the highest mean in terms of participation for progress and benefit. It is also right to the theory of Mowday, Porter, and Steers (1982). They have said that the participation of organization members in administrative, in business owner, and in making decision effect to organizational engagement. It is also related to the theory of Edward L. Gubman (1998). He has said that participation in activities of the organization for progress and success effects to organizational engagement.

7.2 Recommendation

Third objective: to give the findings to the executives of the companies for making their human resources management more efficient or for finding ways of persuasion to make the subordinates satisfy in their work and make them engage in their organization to build sustainable growth. So all the following are suggested to the executives. In terms of job characteristics, the researcher suggests creating concrete activities to reinforce the direct salespeople's work progress. In terms of work experience, the researcher suggests opening communication channels for direct salespeople. So they can share their ideas or have chance to be parts in management. In terms of the awareness of direct sales business, the researcher suggests developing products and maintaining the product quality to the maximum level. This will continuously satisfy the direct salespeople and the consumers. In terms of organizational engagement, the researcher suggests enhancing the direct salespeople to have parts in the organizational management and continuous perceiving the profit of organization. This will be beneficial to the organization and make the organization go forward.

The following are suggestions for the business owners. They can use these as their administrative strategies in their direct sales businesses.

1. Policies and administration

Organizations should always inform employees about administrative policy and the purpose of organizations. This makes direct salespeople understand and perceive the value of the organizational purpose. In order to let the employees understand clearly that every job relate to successful results, organizations have to create the status of leadership behavior. This will always reflect the value of organizations. Besides, the organizations should specify the policy inside the units of direct sales people by giving more right and more chance to direct salespeople and by creating policy to be more concrete.

2. The stability in working

Organizations should hold meetings for anyone who are interested in doing direct sales business. In the meetings they should explain these beginners on its strong points and on how to run this kind of business. The beginners should work in a team with professional leaders. They can learn some techniques or keys which are beneficial to their business. The growth of organizations should be informed the direct salespeople in order to build motivation in working.

3. Welfare

Organizations should create interpersonal connection in order to show sincerity and attention to their livelihoods.

4. Job characteristics to follow

Organizations should always have clear plans and the training on important marketing strategy for team leaders. This will make direct salespeople more successful and will create more organizational engagement.

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DETERMINING THE EFFICIENCY OF INVESTMENT ALLOCATION IN INDIAN MANUFACTURING SECTOR

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Abstract

Investment plays a prime role in driving economic growth and development; it augments the productive capacity, productivity and efficiency in the economy and enables to produce more output. Private fixed investment; a component of aggregate investment is one of the major determinants of an economy's long-term growth; its increase in relative to GDP contributes higher growth and redirect available resources for expanding future production. It's an ideal indicator in explaining the business cycle oscillations. Over time interest in private investment grew because of its sensitivity to policy environment relative to public investment. It became even more policy relevant in the recent years after initiation of Structural Adjustment Programme (SAP) in several developing countries. The study investigates, whether financial liberalization improved the efficiency with which investment funds are allocated across different industries by using a measure of efficiency index developed by Galindo, A, Fabio Schiantarelli and Andrew Weiss (2005) for Indian manufacturing industries for the period 1990-2007. It measured whether investment funds are going to industries with a higher marginal return to capital in pre liberalisation and post liberalisation periods. By comparing the mean values of efficiency index in the pre- and post-liberalisation period the study finds that the efficiency index has improved for many (although not for all) industries in the sample, following the introduction of economic reforms.

1. Introduction

Investment plays a prime role in driving economic growth and development. In the process by introducing new technology it augments the productive capacity, productivity and efficiency in the economy and enables to produce more output. Private fixed investment; a

component of aggregate investment is one of the major determinants of an economy's long-term growth; its increase in relative to GDP contributes higher growth and redirect available resources for expanding future production. It's an ideal indicator in explaining the business cycle oscillations and hence it takes a central place in theoretical macroeconomics and in the analysis of economic growth. Even though business fixed investment typically represents a much smaller component of aggregate demand than does consumption, it determines the rate at which physical capital is accumulated. Recent studies have shown that private investment is more efficient and productive than public investment (Serven and Solimano, 1990; and Kahn and Reinhart, 1990). Over time interest in private investment also grew because of its sensitivity to policy environment relative to public investment. It became even more policy relevant in the recent years after initiation of structural adjustment programme (SAP) in several developing countries. The SAP therefore aimed at giving greater role for the private sector in the economy through liberalization and privatization measures. The success of a SAP in bringing about a sustainable recovery in economic activity in a given economy depends crucially on the behaviour of investment in the aftermath of the reform process. Since the expansion of public investment is usually constrained as part of fiscal austerity measures embodied in SAP, the required recovery of investment has to come largely from the private sector.

India, undergone significant changes both in its structure and pattern owing to the policy changes. Since the early 1950s up until the early 1980s the evolution of manufacturing sector was guided by protected industrial and trade policies, which restricted the growth of the economy in general and manufacturing sector, in particular. Under old industrial and trade policy regime, manufacturing sector was characterized by extensive public sector intervention, regulation of the private sector firms, restrictions on foreign investment, high tariff and non-tariff restrictions on imports, which held up the growth of the manufacturing sector. This has been replaced by a more liberal industrial and trade policy regime, through the inception of new economic policy under SAP in 1991. The major focus of these policies is to dismantle the complex web of controls that severely constrained the emergence and operation of the private entrepreneurs. It is observed that new policies had tremendous effect on the industrial sector, in terms of creating conducive business environment for investment and for future growth process of industries. As adequate capital investment in industries is critical for accelerated industrial growth, forecasts of investment and its efficiency of the private sector assumes considerable significance in determining the performance of industrial sector, and it provides the necessary backdrop to gauge the impact of reform policies on private investment. The behaviour of private investment has therefore been a major focus of attention in assessing the reform outcome. In regard to this one crucial question that needs to be addressed is whether the financial reforms part of the SAP that have been implemented have led to an improvement in the allocation of resources. To what extent has financial sector liberalisation, through the removal of credit constraints, contributed to efficient allocation of private investment as compared to other core determinants? In this paper, we attempt to address the above interesting questions in light of the Indian experience, over the period 1990-2007.

In order to examine the salient features of Indian private corporate manufacturing sector across the industries, the study make use of gross value added and fixed investment patterns, of the industries. For classification of industries we have followed the Annual Survey of Industries, National Industry Classification (NIC) code 2004, which is regarded as benchmark for industry classification, prepared according to their economic activity. According to NIC, the manufacturing sector starts from NIC 15 and ends at NIC 36. In whole the manufacturing sector contains 22, two digit industries and out of it the study selected 15,

two digit major industries for time series analysis for the period starting from 1990 to 2007. Since the nature of these industries varies according to their production process one can expect a substantial variation in gross value added, and investment patterns. The changes in gross value added of private corporate industries are shown in fig.1. The top five manufacturing industries are Manufacture of Basic Metals, Manufacture of Chemicals and Chemical Products, Manufacture of Other non-metallic mineral products, Manufacture of Food Products and Beverages and Manufacture of Motor Vehicles trailers and Semi-trailers add up to of about 72.89%, rest of ten industries contribute of about 24.60% of total value added in 1990, although these five industries remained in top in 2007 also, where there share increased marginally to a 74.12%. Manufacture of Other non-metallic mineral products and Manufacture of Motor Vehicles trailers and Semi-trailers increased their share from less than 8% to 11% and Manufacture of Chemicals and Chemical Products witnessed biggest decline in its share from 24.24% in 1990 to 15.68% in 2007. However, in mid 1990s almost all the top five industries experienced an increase in their share. The share of remaining ten industries declined from 24 % to 21% from 1990 to 2007. The five industries such as Manufacture of Fabricated Metal Products, Manufacture of Transport Equipment (MTE), Manufacture of Rubber and Plastic Products, Manufacture of Fabricated Metal Products and

Figure 1: Changes in the Composition of Gross Value Added of Manufacturing Corporate Sector
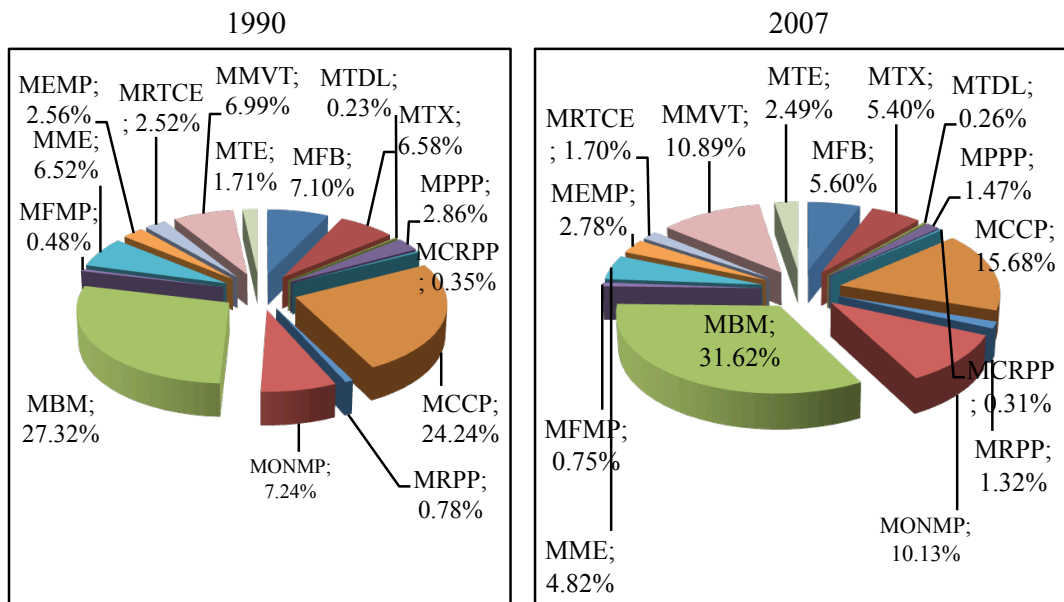
Source: CMIE Prowess Database and Author's Computations
For Industries Abbreviations See Table 1 in Appendix

Manufacture of Tanning and Dressing of Leather experienced higher share contribution where as other five remaining industries declined in their share of total value added during the study period. The variation in the composition of fixed investment patterns across different industries in Indian Private Manufacturing Corporate Sector is presented in figure 2. It is manifested that the composition of investment patterns has changed tremendously across the industries owing to changes in industry characteristics. Examining the composition of fixed investment patterns, it is found that the top five industries which have higher share in gross value added also have highest investment patterns. These industries accounted of about

82.73% of total investment in manufacturing sector in 1990. However, their share declined substantially to 72.12% in 2007, owing to steep fall in share of Manufacture of Basic Metals and Manufacture of Other non-metallic mineral products. On the other hand, Manufacture of Radio, television and communication Equipment, Manufacture of Rubber and Plastic Products, Manufacture of Fabricated Metal Products and Manufacture of Tanning and Dressing of Leather experienced a higher share of investment growth in total manufacturing investment during the period 1990-2007.

Figure 2: Fixed Investment Patterns of Industries in Private Manufacturing Corporate Sector
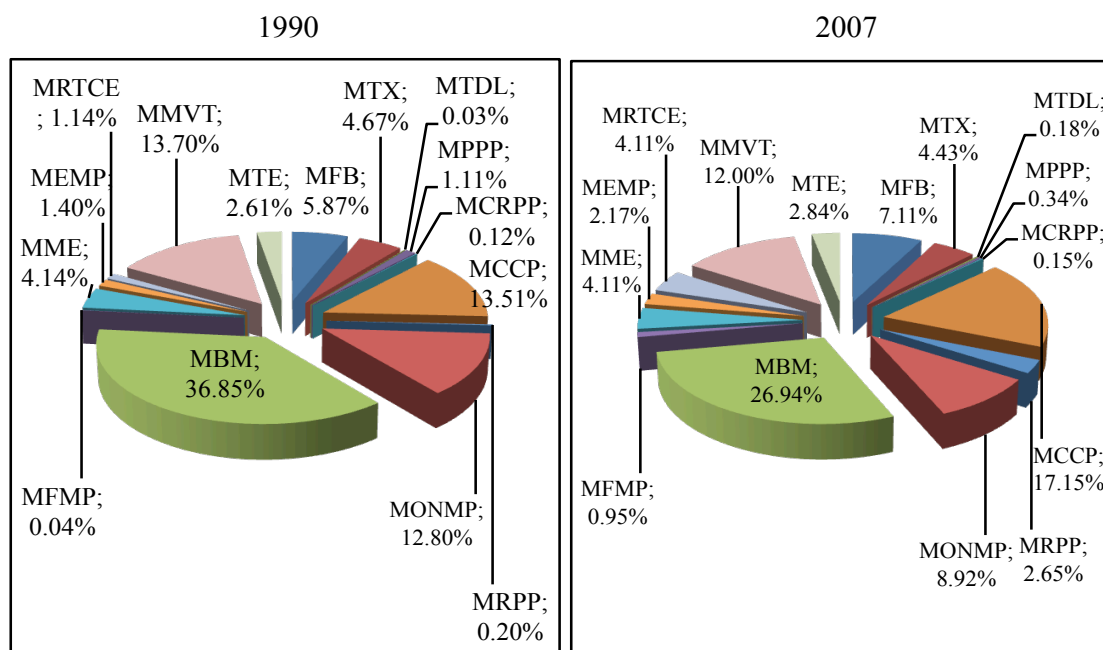
Source: CMIE Prowess Database and Author's Computations
For Industries Abbreviations See Table 1 in Appendix

2. Empirical Background

There exists vast literature, both theoretical and empirical, on the determinants and efficiency of investment behaviour. The gains in investment efficiency after financial liberalization have been documented in number of individual and cross country studies using firm level data. In the case of Ecuador, Jaramillo.F, Schiantarelli, and Andrew Weiss (1992) find that after financial liberalization, there was an increase in the flow of credit to technologically more efficient firms, and the flow of credit moved from smaller to larger firms after liberalization. The small scale firms are subsidized during the pre-reform period and the shift in credit towards large firms is therefore a case in which credit shifted to the area (technologically efficient large firms) that has been discriminated under the system of repression. Harris.J, F. Schiantarelli and M. Siregar (1994), analyzed the consequences of financial sector liberalization for a large panel of Indonesian manufacturing establishments. They found that economic reforms had a favorable effect on the performance of smaller establishments, where the more technologically efficient firm received the greater proportion of new credit. Credit increased for both small and large firms, whereas it decreased for

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medium-size firms. Overall there results shows that shifting from administrative toward market-based allocation of credit has increased borrowing costs, particularly for smaller firms, but at the same time, it has benefited firms by giving them widened access to finance. A similar study by Galindo.A, Fabio Schiantarelli and Andrew Weiss (2005) using firm level panel data from twelve developing countries (Argentina, Brazil, Chile, India, Korea, Malaysia, Mexico, Pakistan, Philippines, Taiwan and Thailand) explored the impact of financial liberalization on the allocation of investment funds. They constructed a summary index of the efficiency of capital allocation that measures whether investment funds are going to firms with a higher marginal return to capital is developed. By examining the relationship between the efficiency index and the various measures of financial liberalization they find that liberalization increases the efficiency of investment allocation. Maurel, Mathilde (2001) simultaneously estimated the determinants and efficiency of investment for Hungarian domestic and foreign firms for the 1992-1998 period. The study highlights two measures of efficiency firstly, computed as Total Factor Productivity (TFP) form a Cobb-Douglas technology and secondly gross and net of property structure. Gross efficiency is the fixed effect in the production function specification, which does not include property variables, while net efficiency is net of the effect of corporate governance on the ratio of production to factors contribution. The results shows that overall investment in all entities depends upon internal funds, sales and wages where as real investment is higher in foreign firms and efficiency improvements due to investment are significantly higher in Hungarian domestic firms. Dollar. D and Shang-Jin Wei (2007) examine the presence of systematic distortions in capital allocation that result in uneven marginal returns to capital across firm ownership, regions, and sectors. The study provided a systematic comparison of investment efficiency among wholly and partially state-owned, wholly and partially foreign owned, and domestic privately owned firms, conditioning on their sector, location, and size characteristics. They finds that even after a quarter-of-century of reforms, state-owned firms still have significantly lower returns to capital, on average, than domestic private or foreign-owned firms. Similarly, certain regions and sectors have consistently lower returns to capital than other regions and sectors. They provided evidence that the degree of inefficiency is economically and statistically significant. However, a very few empirical studies in the Indian context both at the firm and the industry level emerged in investigating the efficiency of investment allocation during the post reform period. Khasnobis.G. Basudeb and Saumitra N. Bhadure (2000) analyzed the efficiency of investment allocation across industrial sectors and changes in the allocation of capital among firms within the industry by using a simple measure of efficiency, developed by Schiantarelli, Weiss, Jaramillo and Siregar (1994). They hypothesis that financial reforms leads to enhance economic growth mainly by directing investment towards growing industries and firms. The results shows that the financial reforms has failed to allocate capital efficiently in Indian industries. The authors attribute this lack of improvement in allocation efficiency to changes in the source and use of funds by Indian firms after liberalisation. Although equity capital increased sharply as a source of fund, there was no corresponding rise in investment in productive assets in the sample. Thus, the deterioration in the efficiency index may have caused by the flawed investments by the firms, which did not lead to higher value added by the firms. Dimitriu.M. Caracota and Savu. B. Mathew (2010) by using NSS aggregate data for the entire manufacturing sector in India for 1994-2001 periods analyzed the productivity and efficiency of organized and unorganized sectors. Using stochastic frontier approach, and the maximum likelihood models, the efficiency in the two sectors is compared and verified against factors affecting the levels of efficiency obtained for each major industry category. By comparing all the econometric results of technical efficiency across the organized and unorganized sectors, the authors notices the expected gap in terms of better average efficiency in the organized sector as well

as a clear improvement in average efficiency over time across most industries. Further in a major empirical work Bhandari.A.K and Maiti.P (2007) using the translog stochastic frontier production function estimates the technical efficiency for textile firms for five years. They find that technical efficiency varies across the years and the individual technical efficiency vary with firm specific characteristics such as size and age. Further they conclude that public sector firms are relatively less efficient that private sector firms. Emphasizing on the implications of the recent structural adjustment policy reforms of 1990s, on investment behavior Athukorala and Sen (1998) examined the determinants of private corporate investment in India. The results of their econometric analysis suggest that the net impact of the reforms on corporate investment has been salutary. The decline in real public sector investment brought about by the fiscal squeeze carried out as part of the reforms seems to have had a significant adverse impact on corporate investment. However, this adverse impact was outweighed by the salutary effects of the reform process on investment operating through the decline in real rental cost of capital and favorable changes in investor perception in the aftermaths of the reforms. Finally, they indicated the strong complimentary relationship of public investment with private corporate investment in India. In Indian context large number of empirical works exists on production and technical efficiency aspects of Indian manufacturing sector, where as studies relating to the efficiency of investment allocation, are very meager in Indian scenario.

3. Estimation Methodology for Measuring Efficiency of Capital Allocation

The study investigates, whether financial liberalization improved the efficiency with which investment funds are allocated across different industries. The changes in the allocation of capital across industrial sectors are examined by using a measure of efficiency index developed by Galindo, A, Fabio Schiantarelli and Andrew Weiss (2005). In order to measure the efficiency of allocation of investment, firstly the marginal product of investment is to be estimated. In general one cannot obtain a direct measure of the marginal product of investment without knowing the parameters of the production function. Hence the standard assumption is made that the marginal product of capital is proportional to a particular measures of the average product of capital. The study used two principal proxies to measure the average product of capital they are sales to capital ratio and the ratio of operating profits to capital. The former is appropriate if the production function is Cobb-Douglas in capital, labour and materials. In this case the marginal return to capital is proportional to the sales to capital ratio, while the latter is an appropriate proxy for the marginal return to capital under a constant return to scale production function and perfect competition in the output market. To measure the efficiency of the allocation of investment in a year, each of the estimates of the total return on investment is compared to a benchmark index. The benchmark index used is an estimate of total returns if investment funds had been allocated to industries in proportion to their share of capital in the sector as a whole, independently from the returns to investment. Similarly the investment generated in this way is multiplied with actual returns for each industry and added across industries in order to obtain total returns for the bench mark allocation. Then our measure of total return actually achieved is divided by this benchmark index to obtain a measure of the efficiency with which investment funds were allocated in each year. This index is invariant to macroeconomic changes that raise the value of the marginal product of capital uniformly for all industries.

This approach generates two different measures of the efficiency of the allocation of investment funds; one where sales per unit of capital is used as a measure of the marginal

product of investment, the other where operating profits per unit of capital is used as the appropriate measure. The two versions of indices for year t are:

$$EIt s = i Si,t+1 Ki,t+1 Ii,t i Si,t+1 Ki,t+1 \cdot Ki,t Kt TItT$$

or

$$EIt\pi = i\pi i,t+1 Ki,t+1 Ii,t i\pi i,t+1 Ki,t+1 \cdot Ki,t Kt TItT$$

where S_{it} denotes industry i sales at time t, π_{it} operating profits, I_{it} fixed investment, and K_{it} beginning of period capital. I_t^T and K_t^T represent, aggregate investment and aggregate capital at time t, respectively. It is assumed that each unit of investment in year t increases capital stock, and hence generates a return in year t+1.

In order to estimate the efficiency of investment allocation the study employed sales based measure as a benchmark index. In previous empirical works (Galindo.A, Fabio Schiantarelli and Andrew Weiss 2005), sales based index is preferred over the profit based index, by providing a set of explanations they are firstly, sales is measured more accurately in the balance sheets than operating profits. Similarly, calculation of operating profit requires a valuation of cost of goods sold and changes in inventories in raw materials, which create complexity in estimation. Secondly, sales based measure allows for a departure from perfect competition. However, the markup of prices over marginal cost is allowed to vary over time and the departure comes at the cost of making a parametric assumption about the production function. A final problem with using operating profits as a measure of the return to capital is that operating profits are correlated with cash flow and during the pre-liberalization period, the correlation between cash flow and investment is higher than during post liberalization period. Hence the operating profit measure of the efficiency of the allocation of investment might be biased in favour of the pre reform periods. Hence by considering these empirical explanations, the study employed sales based measure of the efficiency of the allocation of investment as a standard measure to estimate efficiency of capital distribution in Indian industries during the pre and post reform periods.

4. Empirical Results

The study using sales based measure estimated the efficiency of investment allocation in Indian industries for the period 1990 to 2007. The period has been equally divided into two groups the pre- liberalization (1990-1998) period and the post liberalization (1999-2007) period. The reforms even though initiated in 1991, assumed to may have time effect in influencing the industries; hence in the study pre - liberalization effect is extended till the year 1998. The efficiency estimates of investment allocation of various industries are presented in table 2. The indices results reveal that in seven industries such as Manufacture of Food Products and Beverages (NIC 15), Manufacture of Textiles (NIC 17), Manufacture of Tanning and Dressing of Leather (NIC 19), Manufacture of Paper and Paper Products (NIC 21), Manufacture of Coke, Refined Petroleum products (NIC 23) Manufacture of Other non-metallic mineral products (NIC 26), and Manufacture of Motor Vehicles trailers and Semi-trailers (NIC 34), investment efficiency declined during post reform period. Meanwhile these industries such as Manufacture of Food Products and Beverages (NIC 15), Manufacture of Textiles (NIC 17), Manufacture of Tanning and Dressing of Leather (NIC 19), the share of investment in overall manufacturing sector during the study period has increased very

marginally whereas in the rest of the above seven industries they declined. In terms of sales, it increased in Manufacture of Food Products and Beverages (NIC 15), Manufacture of Textiles (NIC 17), Manufacture of Motor Vehicles trailers and Semi-trailers (NIC 34), decreased in Manufacture of Tanning and Dressing of Leather (NIC 19), Manufacture of Paper and Paper Products (NIC 21) and remained stable in Manufacture of Coke, Refined Petroleum products (NIC 23), Manufacture of Other non-metallic mineral products (NIC 26). In shares of profit it has decreased in Manufacture of Food Products and Beverages (NIC 15), Manufacture of Textiles (NIC 17), Manufacture of Tanning and Dressing of Leather (NIC 19), Manufacture of Paper and Paper Products (NIC 21), Manufacture of Coke, Refined Petroleum products (NIC 23), increased in Manufacture of Motor Vehicles trailers and Semi-trailers (NIC 34) and remained stable in Manufacture of Other non-metallic mineral products (NIC 26).

The tables in appendix reveal that on average in above seven industries sales increased but at the same time profit and investments declined. The decline in profits and investments may be caused due to lesser allocation of capital for inventories, which has a significant negative impact on output and profit growth, and thereby eventually affecting capital expenditure. The main reason attributed for decline in investments on productive assets is due to higher allocation of capital for financial investments such as loans and advances, securities and sundry credit in recent years in Indian industries. Meanwhile, the deterioration in the efficiency index may have been caused by the choice of the wrong types of investments to begin with, which did not lead to higher output and profits and ultimately reducing the growth of the industries. Meanwhile in Manufacture of Chemicals and Chemical Products (NIC 24), Manufacture of Rubber and Plastic Products (NIC 25), Manufacture of Basic Metals (NIC 27), Manufacture of Fabricated Metal

Table 1: Investment efficiency in Indian manufacturing sector

Industry/Period	Investment Efficiency Index Pre-liberalisation (1990-1998)	Investment Efficiency Index Post-liberalisation (1999-2007)	Difference
NIC 15	1.67	1.41	-0.26
NIC 17	1.56	1.35	-0.22
NIC 19	1.59	1.21	-0.38
NIC 21	1.86	0.7	-1.16
NIC 23	2.33	1.18	-1.15
NIC 24	0.88	1.13	0.26
NIC 25	0.65	1.35	0.71
NIC 26	1.86	1.25	-0.6
NIC 27	0.93	1.01	0.08
NIC 28	0.67	1.49	0.82
NIC 29	0.67	1.49	0.82
NIC 31	1.02	1.23	0.21
NIC 32	1.57	2.14	0.56
NIC 34	2.36	1.59	-0.77
NIC 35	1.79	3.19	1.39

Products (NIC 28), Manufacture of Machinery and Equipment (NIC 29), Manufacture of Electrical Machinery and Apparatus (NIC 31), Manufacture of Radio, television and communication Equipment (NIC 32) and Manufacture of Transport Equipment (NIC 35),

have shown improvements in the degree of efficiency in investment allocation during post reform period. Overall the results show that in majority of industries efficiency of investment allocation increased during the post reform period compared to pre reform period. On the other hand, tables 2-4 in appendix reveals a stable increase in sales, investments and profits in these industries during the study period. The general picture that emerges is that the industrial groups that show an increase in share of investment also tend to show an increase in the share of profitability. From the policy perspective, an implication of this finding is that investment funds of the economy went largely to groups of firms which are growing, profitable and efficient.

5. Conclusion

Private fixed investment; a component of aggregate investment is one of the major determinants of an economy's long-term growth; its increase in relative to GDP contributes higher growth and redirect available resources for expanding future production. It's an ideal indicator in explaining the business cycle oscillations. Over time interest in private investment grew because of its sensitivity to policy environment relative to public investment. It became even more policy relevant in the recent years after initiation of SAP in several developing countries. In this backdrop, the study examined efficiency of capital allocation in Indian manufacturing sector for the period 1990-2007. By using an efficiency index the study measured whether investment funds are going to industries with a higher marginal return to capital in pre reform and post reform periods. It provides a systematic comparison of investment efficiency among a sample of Indian manufacturing industries. The investment analysis indicates the complex nature of manufacturing industries where the factors influencing efficiency of investment are not identical across the industries. The results presents empirical support for the idea that economic reforms in general, industrial and financial sector reforms in particular have led to improvement in the efficiency with which investment funds are allocated in Indian manufacturing sector. By comparing the mean values of our efficiency index in the pre- and post- reform period it suggests that the index has improved for many (although not for all) many industries in the sample, following the introduction of economic reforms.

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Appendices

Table 2: Sample of industries based on national industrial classification (NIC) Code 2004

NIC Code	Industries by economic activity
NIC 15	Manufacture of Food Products and Beverages
NIC 17	Manufacture of Textiles
NIC 19	Manufacture of Tanning and Dressing of Leather
NIC 21	Manufacture of Paper and Paper Products
NIC 23	Manufacture of Coke, Refined Petroleum products
NIC 24	Manufacture of Chemicals and Chemical Products
NIC 25	Manufacture of Rubber and Plastic Products
NIC 26	Manufacture of Other non-metallic mineral products
NIC 27	Manufacture of Basic Metals
NIC 28	Manufacture of Fabricated Metal Products
NIC 29	Manufacture of Machinery and Equipment
NIC 31	Manufacture of Electrical Machinery and Apparatus
NIC 32	Manufacture of Radio, television and communication Equipment
NIC 34	Manufacture of Motor Vehicles trailers and Semi-trailers
NIC 35	Manufacture of Transport Equipment

Table 3: Industries Share of Investment in Total Manufacturing Investment

Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
NIC 15	5.87	7.29	7.74	8.65	8.27	7.78	8.00	7.71	6.96	8.24	8.86	7.81	8.21	8.24	7.39	7.21	7.11	7.11
NIC 16	1.70	1.90	2.18	2.63	2.44	2.08	2.15	2.15	3.81	4.49	3.66	3.21	2.91	4.29	5.62	6.44	5.53	3.89
NIC 17	4.67	4.81	6.48	8.72	12.15	12.24	14.26	13.22	11.87	10.90	9.84	7.84	8.33	10.37	9.29	8.85	8.45	4.43
NIC 18	.0002	.0002	.0184	.010	.0348	.0238	.0358	.0345	.0308	.0241	.0492	.0525	.0606	.0507	.0287	.0240	.0696	.0715
NIC 19	0.03	0.23	0.26	0.24	0.28	0.19	0.94	0.96	0.77	0.48	0.50	0.28	0.13	0.43	0.24	0.18	0.24	0.18
NIC 20	0.06	0.07	0.02	0.26	0.03	0.11	0.13	0.13	0.21	0.09	0.08	0.13	0.13	0.13	0.08	0.11	0.14	0.10
NIC 21	1.11	4.60	4.59	4.80	3.38	2.80	3.42	3.76	0.85	2.37	2.13	1.78	1.32	1.46	0.72	0.61	0.54	0.34
NIC 22	.0002	.0002	.0002	.0002	.0001	.0002	.0099	.0241	.0227	.0216	.4000	.2544	.2011	.0057	.1439	.1134	.0764	.0541
NIC 23	0.12	0.38	0.48	0.80	1.05	1.02	0.69	0.39	0.41	0.50	0.40	0.06	0.42	0.52	0.18	0.32	0.25	0.15
NIC 24	13.51	20.42	22.43	18.38	14.33	13.79	14.35	15.29	13.99	17.41	18.37	18.39	18.08	17.72	17.93	18.68	18.17	17.15
NIC 25	0.20	0.33	0.34	0.98	1.46	1.07	1.30	1.57	1.29	1.87	2.29	2.49	3.18	2.63	2.28	2.45	3.08	2.65
NIC 26	12.80	12.62	13.05	11.84	11.08	11.74	8.16	7.55	7.57	7.82	6.03	9.26	9.26	8.78	8.37	8.14	8.45	8.92
NIC 27	36.85	27.41	22.47	22.90	23.33	22.56	20.66	20.46	19.54	18.99	19.93	20.07	19.51	21.22	20.55	19.84	20.17	26.94
NIC 28	0.04	0.11	0.17	0.19	0.15	0.16	0.58	0.73	0.51	0.69	0.82	0.64	0.70	0.79	0.70	0.66	0.79	0.95
NIC 29	4.14	3.91	4.07	5.49	6.03	5.53	5.36	5.52	12.20	6.55	5.81	5.03	4.63	4.70	2.46	3.05	3.31	4.11
NIC 30	0.02	0.01	0.01	0.01	0.13	0.16	0.15	0.30	0.08	0.26	0.34	0.38	0.47	0.60	0.60	0.93	0.47	0.52
NIC 31	1.40	0.99	1.25	1.40	2.03	2.63	2.51	2.66	2.69	2.86	2.95	2.58	2.51	2.32	1.85	1.74	2.41	2.17
NIC 32	1.14	3.83	0.70	4.71	5.24	4.28	3.31	4.21	3.26	2.80	2.53	8.30	9.98	6.97	5.56	5.07	4.06	4.11
NIC 33	0.01	0.00	0.01	0.06	0.07	0.07	0.14	0.18	0.18	0.21	0.16	0.19	0.17	0.10	0.13	0.16	0.15	0.13
NIC 34	13.70	8.98	12.13	6.79	7.11	10.59	12.79	11.95	12.61	11.75	11.87	9.00	7.34	6.97	11.21	10.84	11.50	12.00
NIC 35	2.61	2.09	1.56	1.29	1.14	0.95	0.79	0.99	0.87	1.40	1.64	1.68	2.62	3.33	3.16	3.56	3.41	2.84
NIC 36	0.03	0.02	0.02	0.05	0.26	0.22	0.24	0.22	0.24	0.28	0.30	0.30	0.34	0.41	0.44	0.59	1.24	1.18
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 4: Industries Share of Sales in Total Manufacturing Sales

Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
NIC15	7.64	8.49	8.59	8.59	9.06	8.85	8.87	8.83	9.40	10.04	9.40	9.17	10.56	10.40	9.55	8.42	8.76	8.32
NIC16	2.96	2.97	3.09	3.17	2.93	2.69	2.24	2.51	2.69	2.72	2.54	2.52	2.74	2.64	2.26	2.26	2.37	2.32
NIC17	8.50	8.46	8.10	7.98	8.47	8.54	8.54	8.67	8.72	8.06	8.05	7.85	7.17	7.08	5.92	5.49	5.17	4.77
NIC18	0.02	0.02	0.02	0.01	0.04	0.11	0.12	0.13	0.14	0.12	0.17	0.15	0.17	0.18	0.16	0.12	0.13	0.12
NIC19	0.46	0.43	0.43	0.40	0.57	0.56	0.58	0.58	0.53	0.55	0.52	0.43	0.42	0.42	0.40	0.33	0.34	0.28
NIC20	0.16	0.19	0.15	0.18	0.23	0.25	0.25	0.26	0.23	0.24	0.21	0.21	0.20	0.17	0.13	0.12	0.14	0.17
NIC21	2.18	2.46	2.36	2.11	1.96	1.88	2.09	1.96	1.34	1.79	1.61	2.11	1.97	1.91	1.55	1.56	1.33	1.33
NIC22	0.03	0.03	0.04	0.04	0.04	0.04	0.03	0.03	0.03	0.05	0.06	0.06	0.04	0.02	0.03	0.03	0.02	0.02
NIC23	0.50	0.50	0.54	0.60	0.69	0.70	0.72	0.73	0.78	0.74	0.83	0.78	0.67	0.67	0.67	0.62	0.58	0.54
NIC24	22.65	22.08	23.84	23.36	21.83	21.92	21.14	20.96	21.95	21.93	22.03	21.41	21.57	21.32	20.49	18.81	19.39	17.02
NIC25	1.15	1.50	1.50	1.64	1.96	2.15	2.16	2.29	2.08	2.36	2.12	2.10	2.09	1.99	1.87	1.82	1.75	1.65
NIC26	6.96	7.21	6.83	6.48	6.65	6.17	6.17	6.11	6.17	6.23	6.01	6.24	5.74	6.97	6.09	5.97	5.96	6.99
NIC27	21.22	19.71	20.00	19.88	19.86	20.12	19.76	18.11	17.92	17.45	17.16	17.64	17.62	18.77	20.31	23.58	22.95	25.06
NIC28	0.76	0.82	0.73	0.74	0.78	0.83	0.69	0.74	0.78	0.81	0.72	0.81	0.79	0.79	0.67	0.72	0.84	0.81
NIC29	7.26	7.42	7.19	6.91	6.59	6.48	6.21	6.61	6.31	5.74	5.51	4.93	4.95	4.55	4.47	4.71	4.94	5.06
NIC30	0.35	0.35	0.38	0.69	0.77	0.75	0.94	1.22	0.90	1.04	0.98	1.11	0.95	0.89	0.96	0.81	0.79	0.74
NIC31	3.48	3.26	3.13	3.62	3.57	3.54	3.64	3.23	3.12	3.09	3.11	3.31	3.46	2.68	2.42	2.59	3.11	3.60
NIC32	2.69	2.78	2.05	3.00	3.11	2.78	2.75	2.76	2.97	3.38	3.20	3.50	3.10	4.28	3.81	3.54	2.59	2.08
NIC33	0.26	0.20	0.27	0.38	0.43	0.34	0.41	0.42	0.28	0.42	0.42	0.44	0.49	0.44	0.35	0.26	0.32	0.34
NIC34	8.22	8.61	8.52	7.83	7.99	8.71	9.94	11.55	10.10	9.42	11.24	10.92	10.63	10.58	12.13	12.97	13.21	13.84
NIC35	2.11	2.04	1.74	1.83	1.65	1.59	1.59	1.41	1.89	2.26	2.20	1.60	1.80	2.23	2.66	2.61	2.40	2.57
NIC36	0.46	0.47	0.50	0.56	0.82	1.02	1.15	0.89	1.66	1.57	1.94	2.70	2.08	2.26	2.82	2.63	2.68	2.34
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 5: Industries Share of Profits in Total Manufacturing sector

Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
NIC15	7.04	7.39	6.54	6.55	8.03	6.32	5.84	6.07	7.34	7.66	7.32	6.72	7.45	5.81	5.13	4.75	5.11	5.06
NIC16	1.31	1.58	2.04	2.23	2.20	1.91	1.41	1.59	2.47	2.79	3.43	3.99	4.57	4.14	3.63	3.54	3.31	2.90
NIC17	6.57	7.70	7.05	7.07	8.63	8.63	7.38	8.01	6.89	6.13	6.62	7.05	6.31	6.33	7.62	4.95	6.21	4.93
NIC18	0.03	0.03	0.03	0.01	0.04	0.09	0.01	0.07	0.02	0.02	0.11	0.11	0.09	0.10	0.05	0.05	0.09	0.06
NIC19	0.23	0.24	0.26	0.23	0.41	0.29	0.10	0.20	0.07	0.42	0.42	0.25	0.19	0.27	0.32	0.25	0.21	0.17
NIC20	0.16	0.16	0.12	0.19	0.27	0.31	0.32	0.34	0.34	0.30	0.30	0.21	0.19	0.17	0.12	-0.08	0.15	0.13
NIC21	2.87	3.12	2.81	2.36	2.19	1.77	2.65	2.10	0.92	1.71	1.58	2.63	3.11	2.01	1.66	1.46	1.57	1.36
NIC22	0.01	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.02	0.07	0.12	0.08	-0.01	-0.02	-0.01	0.01	0.02	0.01
NIC23	0.35	0.46	0.56	0.64	0.64	0.65	0.71	0.74	0.80	0.93	0.89	0.66	0.40	0.65	0.51	0.48	0.37	0.30
NIC24	24.33	23.41	24.27	26.02	25.03	25.14	23.02	23.07	24.31	26.24	24.55	21.70	25.86	23.18	21.28	18.14	19.12	15.05
NIC25	0.79	1.15	1.34	1.39	2.14	2.23	2.07	2.08	1.94	2.07	2.04	1.94	2.42	2.31	1.87	1.27	1.35	1.22
NIC26	7.20	9.83	9.84	7.27	7.38	7.55	8.17	7.20	7.05	7.77	6.56	8.63	9.32	7.75	7.73	7.01	7.48	10.79
NIC27	27.37	22.11	23.61	23.46	20.78	22.95	25.10	21.78	22.46	19.13	19.38	23.00	16.61	22.88	27.90	36.92	31.25	34.90
NIC28	0.48	0.51	0.56	0.63	0.65	0.66	0.65	0.74	0.63	0.38	0.61	0.51	0.73	0.68	0.58	0.49	0.78	0.67
NIC29	6.53	7.00	6.92	6.69	5.68	5.55	5.39	6.12	6.05	5.53	5.01	4.81	3.91	3.46	3.11	3.57	4.73	4.29
NIC30	0.33	0.33	0.39	0.65	0.64	0.62	0.64	0.64	0.50	0.33	0.67	1.00	1.02	0.89	1.03	0.60	0.63	0.58
NIC31	2.53	2.36	2.51	3.12	3.15	3.14	3.12	2.87	2.51	2.60	3.04	3.70	2.85	1.89	1.41	1.75	2.66	2.57
NIC32	2.53	2.78	1.93	3.24	3.50	2.36	1.57	2.15	2.35	2.50	2.83	2.76	2.48	2.97	1.68	0.87	0.35	1.64
NIC33	0.22	0.17	0.18	0.33	0.43	0.26	0.36	0.37	0.18	0.48	0.54	0.38	0.54	0.32	0.04	0.05	0.19	0.20
NIC34	7.01	7.52	7.23	6.05	6.60	7.63	9.33	11.23	10.32	9.29	10.34	7.22	9.14	9.80	10.85	11.04	11.40	10.15
NIC35	1.70	1.68	1.25	1.33	0.73	0.90	0.96	2.10	1.40	2.45	2.33	1.19	1.73	3.42	2.80	2.25	2.32	2.18
NIC36	0.41	0.44	0.54	0.51	0.73	0.88	0.90	0.58	1.13	1.21	1.29	1.47	1.09	0.99	0.68	0.63	0.70	0.82
	100.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 5: Industries Share of Profits in Total Manufacturing sector

Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
NIC15	7.04	7.39	6.54	6.55	8.03	6.32	5.84	6.07	7.34	7.66	7.32	6.72	7.45	5.81	5.13	4.75	5.11	5.06
NIC16	1.31	1.58	2.04	2.23	2.20	1.91	1.41	1.59	2.47	2.79	3.43	3.99	4.57	4.14	3.63	3.54	3.31	2.90
NIC17	6.57	7.70	7.05	7.07	8.63	8.63	7.38	8.01	6.89	6.13	6.62	7.05	6.31	6.33	7.62	4.95	6.21	4.93
NIC18	0.03	0.03	0.03	0.01	0.04	0.09	0.10	0.01	0.07	0.02	0.11	0.11	0.09	0.10	0.05	0.05	0.09	0.06
NIC19	0.23	0.24	0.26	0.23	0.04	0.41	0.29	0.20	0.32	0.42	0.42	0.25	0.19	0.27	0.32	0.25	0.21	0.17
NIC20	0.16	0.16	0.12	0.19	0.27	0.31	0.32	0.34	0.34	0.30	0.30	0.21	0.18	0.17	0.12	-0.08	0.15	0.13
NIC21	2.87	3.12	2.81	2.36	2.19	1.77	2.65	2.10	0.92	1.71	1.58	2.63	3.11	2.01	1.66	1.46	1.57	1.36
NIC22	0.01	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.02	0.07	0.12	0.08	-0.01	-0.02	-0.01	0.01	0.02	0.01
NIC23	0.35	0.46	0.56	0.64	0.64	0.65	0.71	0.74	0.80	0.93	0.89	0.66	0.40	0.65	0.51	0.48	0.37	0.30
NIC24	24.33	24.41	24.27	26.02	25.03	25.14	23.02	23.07	24.31	24.24	24.55	25.70	25.86	23.18	21.28	18.14	19.12	15.05
NIC25	0.79	1.15	1.34	1.39	2.14	2.23	2.07	2.08	1.94	2.07	2.04	1.94	2.42	2.31	1.87	1.27	1.35	1.22
NIC26	7.20	9.83	9.84	7.27	7.38	7.55	8.17	7.20	7.05	7.77	6.56	8.63	9.32	7.75	7.73	7.01	7.48	10.79
NIC27	27.37	22.11	23.61	23.46	20.78	22.95	25.10	21.78	22.46	19.13	19.38	23.00	16.61	22.88	27.90	36.92	31.25	34.90
NIC28	0.48	0.51	0.56	0.63	0.65	0.66	0.65	0.74	0.63	0.38	0.61	0.51	0.73	0.68	0.58	0.49	0.78	0.67
NIC29	6.53	7.00	6.92	6.69	5.68	5.55	5.39	6.12	6.05	5.53	5.01	4.81	3.91	3.46	3.11	3.57	4.73	4.29
NIC30	0.33	0.33	0.39	0.65	0.64	0.62	0.64	0.64	0.50	0.33	0.67	1.00	1.02	0.89	1.03	0.60	0.63	0.58
NIC31	2.53	2.36	2.51	3.12	3.15	3.14	3.12	2.87	2.51	2.60	3.04	3.70	2.85	1.89	1.41	1.75	2.66	2.57
NIC32	2.53	2.78	1.93	3.24	3.50	2.36	1.57	2.15	2.35	2.50	2.83	2.76	2.48	2.97	1.68	0.87	0.35	1.64
NIC33	0.22	0.17	0.18	0.33	0.43	0.26	0.36	0.37	0.18	0.48	0.54	0.38	0.54	0.32	0.04	0.05	0.19	0.20
NIC34	7.01	7.52	7.23	6.05	6.60	7.63	9.33	11.23	10.32	9.29	10.34	7.22	9.14	9.80	10.85	11.04	11.40	10.15
NIC35	1.70	1.68	1.25	1.33	0.73	0.90	0.96	2.10	1.40	2.45	2.33	1.19	1.73	3.42	2.80	2.25	2.32	2.18
NIC36	0.41	0.44	0.54	0.51	0.73	0.88	0.90	0.58	1.13	1.21	1.29	1.47	1.09	0.99	0.68	0.63	0.70	0.82
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

CSR-IN-PROCESS: A CASE STUDY OF DIARY HOME COMPANY, LIMITED

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Abstract

The objectives of this study are 1) to survey the perception of employees toward the CSR-in-process practices of the Company, 2) to contrast the different levels of perception of the CSR-in-process practices of the employees along socio-economic variables of job position, job tenure, and education level, 3) to survey the perception of CSR-in-process of organic diary farmers of member farms. The sources of data are from 50 executives and employees of the Company and farmers from 7 diary farms.

The descriptive statistics of the Company sample are mainly male (54 percent), with age range of 25-34 (42 percent), attaining below bechelor degree education (82 percent) and being operation employees (88 percent). The highest level of perception toward CSR-in-process practices is on the policy and goals of CSR-in-process (score of 4.39), followed by the CSR-in-process practices (4.36) and the employee participation (4.17) respectively. On the differences between the subgroups, those with executives and supervision positions, of six or more years of job tenure, and attaining higher-secondary education or bachelor degree are found to have higher level of perception toward CSR-in-process practices than those with operational job positions, of five or less years of job tenure, and attaining primary or lower-secondary education.

The respondents from the member farms are mainly male, being founders, with age range of 41-50, attaining technical/diploma education, married, and 3-4 members in the family. Their level of perception of the CSR-in-process practices is highest with respect to the production process not applying toxic chemical being harmful to consumers and workers (4.90), followed by the environmental management within the farm being sustainable, with efficient use of resources (4.60)

Keywords: CSR, ISO 26000, CSR-in-process

1. Introduction

Good health has been of great concern worldwide including Thailand. The health problems of the population have cost every country a great deal of resources to take care and cure. The maintainance of good health is thus very important and has to be undertaken continuously to prevent illnesses as stated by King Bhumibol Adulyadej "Good physical health is a factor supporting economic progress and social security of the country because it leads to good mental health. Physical and mental fitness enable the individual to effectively serve the nation while refraining from imposing burdens on the nation" (Thailand's Sustainable Development Sourcebook, 2015: 169).

Organic food is thus considered as a solution to good health because in the process of organic farming no chemical substances are involved leaving no toxic residue in the agricultural output, as well as in the soil, water, air, plant, animal, and human. The

consequences of organic agriculture are high quality products, good health for the farmers and consumers, as well as better environmental conditions. Organic agriculture could be taken as a means of social responsibility practices fostering balance and sustainability for society and the environments. This is supported by Viriyapan (2014) finding that the farmers who did not use chemicals in their farming would not only be steered clear of debt, but produces agricultural products being safe for the health of the farmers and the consumers.

The increasing trend for better health with the increasing popular consumption of organic food has led many firms to produce and market organic food and organic agricultural products commercially. According to the Kasikorn Research Centre, the market for organic agricultural products in 2008 was at 50,000 U.S. dollars, 9.6 percent increase from 2007. Organic vegetables, fruits, milk and milk products are the popular organic food among the health concious consumers. Organic diary products in foreign countries has increased over 30% during the past 5 years (Department of Livestock Development, 2010). This study is thus focused on the organic dairy products which are highly accepted by consumers as importance sources of protein and calcium valuable to the health of all ages and sexes. The market share of organic milk has increased steadily and The Diary Home Company, Ltd. Is one of the top companies producing organic milk. In fact, the Diary Home Company, Ltd. is the pioneer of the market for organic milk in Thailand and able to produce pasterized milk meeting the organic standard certificate of the National ACFS. The study, therefore, is limited to the case of Diary Home Company, Ltd. whose production and processsing of milk is entirely organic. The objectives are to examine the perception levels on the CSR-in-process practices of company employees and those of the diary farmers of member farms supplying milk to the Company.

2. Objectives of the Study

2.1 To examine the perception levels on CSR-in-process practices of the employees of the Diary Home Company, Ltd.
2.2 To assess the differences of the perception levels on CSR-in-process practices of the sub-groups distinguished by job positions, job tenure, and education attainment.
2.3 To examine the perception levels on CSR-in-process practices of farmers in the member farms of the Company.

3. Expected Useful Outcomes

3.1 To improve and further develop the CSR-in-process practices of the Diary Home Company, Ltd., and the member farms efficiently,
3.2 To apply the study results in devising further approach for the promotion of CSR-in-process practices for organizations in both the public and the private sectors.

4. Literature Review

Organic milk is the milk from the farm applying good farming management taking into account the environments and the animal welfare; and in every process of feeding and milking no synthetic chemical products or medicine are used, following food safety standards to be certified according to the organic livestock standards. (Organic Livestock Center, 2010). The transition to organic diary production system is one of the projects implemented by the Department of Livestock Development in cooperation with the National Bureau of for Agricultural Commodity and Food Standards (NSTDA, 2014). As a part of this project, the

Diary Home Company, Ltd. and six member farms were supported by the Department to bring the organic diary products up to the standards and to advance the standard of organic diary cows of Thailand.The Company is the first one to market organic milk in Thailand and to produce pasterized milk meeting the organic standard certificate of the National ACFS (Organic Livestock Center, 2010).

4.1 Corporate Social Responsibility (CSR)

There are three types of corporate social responsibility practices (Kotler & Lee, 2005):

1. CSR-in-process refers to practices for the society being in the main business process of the firm.

2. CSR-after-process refers to practices for the society in various aspects being undertaken outside the main business process of the firm.

3. CSR-as-process refers to the practices of firm for social benefit without seeking profit in every business process of the organization.

4.2 ISO 26000 - Social Responsibility

The ISO 26000 is developed by the International Organization for Standardization (ISO) covers the guidelines for social responsibility practices of organizations. The standard is for facilitation of wider implementation of socially responsible practice, with the belief that doing good should not be forced. There are seven areas of social responsible requirements in the ISO 26000, including good governance, human rights, labor relations, the environment, fair business practices, consumer issues, and community involvement and development.

4.3 CSR-in-process in accordance with the Sufficiency Economy

4.3.1 Philosophy (SEP)

To enhance value and welfare for the organizations and stakeholders, CSR practices are not only based on internationally recognized standards but also integrated with local knowledge and wisdom such as the Sufficiency Economy Philosophy, ethical principles of Buddhism and other religions, including Thai traditions and cultural values. This CSR awareness would be translated into socially responsible practices in the employees' daily working process as though it is the DNA of the organization and the employees. This would be most beneficial to the practitioners, the stakeholders, the society and the environment because the CSR practices would be consistent with the Thai way of life and its social context efficiently and effectively.   The expected consequence would be a sense of public responsibility of the people at the instinctive level strongly contributing to the sustainable development of the people, organization, society and the nation as illustrated in Figure 1.

Figure 1: Social Responsibility practice based on Sufficiency Economy Philosophy (Viriyapan, 2011)
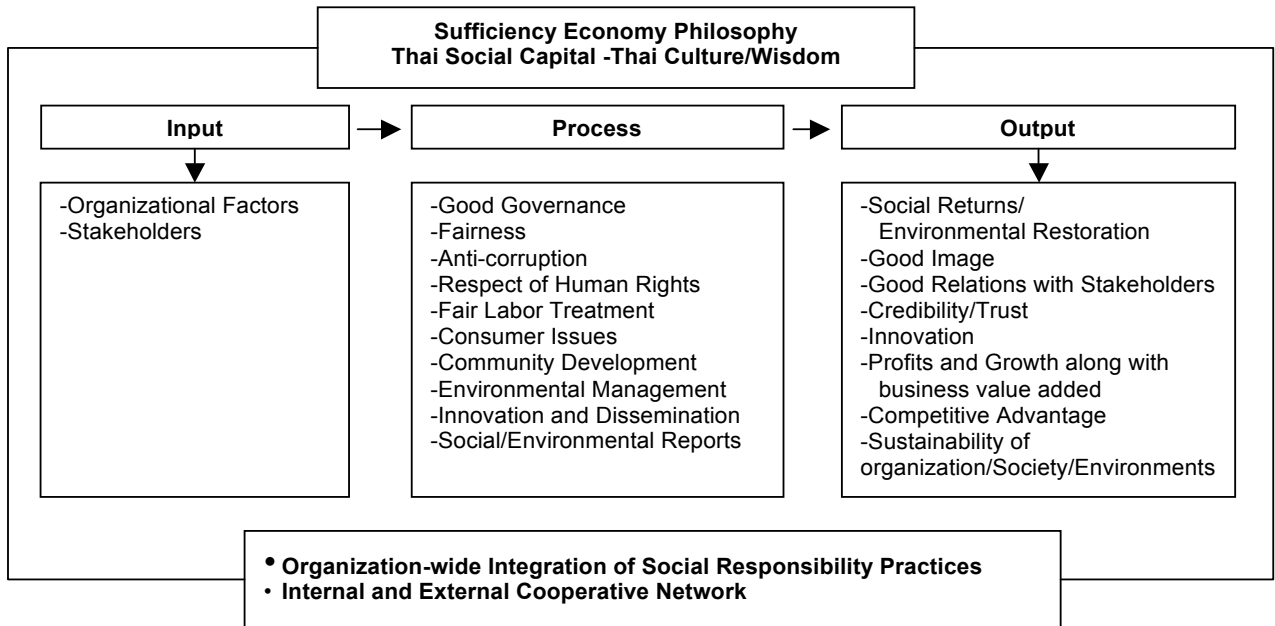
From Figure 1, the implementation of CSR-in-process practices consistent with Sufficiency Economy Philosophy would have to take a system approach incorporating all relevant factors from organizational factors to stakeholders both inside and outside of the organization. CSR-in-process practices refer to the implementation of socially responsible activities as parts of the normal business processes of the organization This approach would be like having a compass to guide the organization's operation from the beginning to the last operation. (Viriyapan, 2011),

4.3.2 Policy and Goals of CSR-in-process practices

The leader of organization is the most powerful person in the implementation of the CSR-in-process practices (Waldermanet et al., 2006) because he has the role of setting the policy and goals of the organization which would be highly related to the success of the operation (Pangnirun, 2007). The policy of a business firm is the guideline and operation rules used by the executives for making decision wisely and intelligently, or it is the carefully considered actions of the executives for the communication of the direction of change for the organization or the society to allow the employees to understand the activity or action, the strategy of means, and the value and decision as framework for appropriate implementation for the achievement of the set goals. (Sarnrattana, 2005)

To provide guidelines and framework for CSR-in-process practices (Standard for Corporate Social Responsibility, CSR-DIW: 2554), the corporate policy would be instrumental in setting the direction for the CSR activities appropriately. The setting of policy should follow these 3 steps: 1) the executives need to realize and accept their CSR role by making corporate policy consistent with CSR guidelines, and communicate it to all employees; 2) compilation of all the information on roles and obligation regarding social responsibility; 3) the leaders and managers at all levels cooperatively determine the common understanding of the roles and practices considered to be socially responsible, stimulate interest within the organization for appropriate responsive actions, mobilize resources and

rearrange the operational system to accommodate CSR-in-process practices (Certo 1997: 61-63 cited in Luengtrakarnkul, 2009).

Implementation of CSR practices would have to begin with the corporate vision and serious support of the owner who is the person setting the policy and goals of the business in all aspects including CSR practices. The starting point should be the setting of vision, missions, policy, and strategies consistent with CSR principles, with clearly defined responsibility structure, stated goals and implementation procedures appropriate for the business and expectation of the target group, in line with the international standards, appropriate budget allocated, monitoring procedures and publicity plan (Laungtrakarnkurn, 2009).

4.3.3 Participatory Role of Employees

Participatory role refers to the voluntary actions of the employees (Pawuttinant, 1998: 41) participating in the decisions, the implementation, the enjoying of benefit, and the evaluation of results (Cohen and Uphoff, 1977: 219-222) resulting in solutions to problems, including creative initiatives for the implementation of various activities including the effective solution of the current problems for the benefit of the organization and the formation of common sense of responsibility (Masawaeng, 2008: 10).

The fostering of participative resolve should start with the determination of the plan, policy, objective, goals, budget, working rule and procedures, accountable persons, timetable and actions. With good policy and plan, the implementation would be smooth and successful; the plan would be recognized as important and willingly implemented because of the stated guidelines for behavior essential for achievement of the objectives. The subsequent stage would be the implementation of the plan by the organization of responsibilities acording to the abilities, the taking up of given roles, the arrangement of communication system openly and meaningfully with common understanding for coordinated action to achieve the stated goals and the evaluation of the outcomes. Monitoring should be made periodically and at the end by various methods for making concluding evaluation and acknowledgement of problems and proposed recommended solutions for further improvement (Cheuyuenyong cited in Kaewchunant, 2000: 23).

4.3.4 Published Researches

Kornmathitsuk's (2010) study on "Development of Organic Milk in Thailand: A Study of Milk Quality, Health and Reproductivity of Organic Diary Cow" The study examines the natural production using chemical-free animal feed, antibiotic for the maintenance of hormone to enhance milk production. The main purpose of the study is to analyze the quality of milk raised with environmental-friendly method and concern for animal welfare in observing the sanitary standards of farm and cow specified by the ACFS. The outcomes for the cows include the production of organic milk leading to the improved balance of energy of cow metabolism after giving birth, the milk from the organic farm shows low level of somatic cells (indicator of the health of udder) indicative of low probability of mastitis. The reduced incidence of diary cows being sick physically as a result of mastitis and other health problems such as leg, hoof, acidity in the stomach, is partly due to the use of feed composing of greater amount of corse grain/vegetable. The cow is less stressful, reducing the fertility problem. The culling rate is low increasing the fertility rate, and productive longevity. The milk from cows raise organically commands 30% higher selling price. These outcome has enable the dairy farmers to earn good income, to enjoy good

quality of life, to be more capable of operating the dairy farm, and to attain sustainability in the organic dairy farming occupation.

Siriwong Na Ayudhya (2007) conducted a study on "Corporate Social Responsibility of Thai Business Firms: Case of Toyota Motor (Thailand), Co. Ltd." The results found that organization had set CSR policy and goals as a part of organization policy and philosophy and broadly communicated to employess at all levels for their awareness and participation. The driving force included both internal and external factors. There were three types of activities, corporate-driven CSR, social-driven CSR and both combined. The activities were taken place both inside and outside of the organization. The design and development of the CSR projects were based on the needs of the society with key performance indicators and goals, operating plans, and evaluation tools before, during and after the implementation. These were compile in "sustainable development report". For future plan, they would concentrate on the continuance of their current activities with further development. The aspects to be selected would depend on the social issues of current interest.

Wasu-aree (2009) in "Perception of Employees of Amphol Foods Processing, Co. Ltd. on ISO 26000)", The results indicated that the overall perception was at high level especially with respect to the area of consumer issues. They concured that the company had observed the relevant laws and regulations, established appropriate culture and principle of non-discrimination in accordance with good corporate governance. The company also repected the rights of the employees and allow free expression with channel for feedbacks from stakeholders in line with the human right principles. Furthermore, the company had abided by labor regulations and environmental requirements, implemented fair business practices, responded seriously to consumer issues and social development. These perceptions did not differ for the subgroups of the sample when differentiated by work tenure, but differed with respect to gender, marital status, education attainment, line of operation, and training.

Angkatapimont (2009) in her research titled "Employee Participation in Corporate Environmental and Social Responsibility Activities of Bank of Ayudhya, Plc." examined employees' perception of social and environmental responsibility, participation in the social and environmental responsibility activities, and approaches for promotion of employee involvement in the social and environmental responsibility activities, collecting data from a sample of 165 employees of the Bank of Ayudhya Plc. Most of the respondents had participated in the social and environmental responsibility projects of the Bank such as donation of goods and fund for disaster relief. The perception level of the sample group concerning Bank's social responsibility practices was high, but the level of particiation in the activities was moderate. There were no difference between the general perception and the level of participation at statistically significant level of 0.05.

Laemlak (2010) conducted a study of the factors affecting participation of employee with respect to social responsibility of Bangkok Commercial Asset Management Plc. to examine the personal factors and motivation factor affecting the employees' participation in the social responsibility activities of the company. The results obtained from the data collected from 300 employees indicated that motivational factor was highly related to the level of participation and it was more influential than hygienic factors. The employee participation was at moderate level in general, with the highest degree of involvelment in the outcomes, followed by the implementation, and lowest in the eveluation. Testing of statistical differences between the subgroups of the sample differentiate by sex, age, marital status, education attainement, job position, and income found no differences between the subgroups,

however the motivational factors and hygienic factors were positively correlated with social responsibility participation.

Lertchantueg (2011) conducted a study on the development of CSR-minded enterprises in the beer business with the objective of determining the business model of social enterprises appropriate for the beer business. As to the case of Singha Corporation, their CSR practices were in line with those of the four companies but still fell short in term of beer-relataed CSR activities while focusing on other areas. CSR practices for beer business should have two parts. The first part was the operation in accordance with legal requirements and international rules including environmental-friendly production process, product label warning of danger as specified by law, advertising with appropriate content and at specified time, or observing labor law in labor relations. The second part was CSR practices involving the beer product such as campaign against drink and drive, preventing minor from alcohol consumption, taking care of cirrhosis patients, etc. Additional issues for the beer business would be the inclusion of CSR in company policy and gaining support from the executives, and the involement of stakeholders, monitoring and compling of report which could be a good channel to communicate with all stakeholders in the society resulting in amicable understanding between the company and the society.

5. Conceptual Framework

Part 1: Executives/Employees of Dairy Home Co. Ltd.
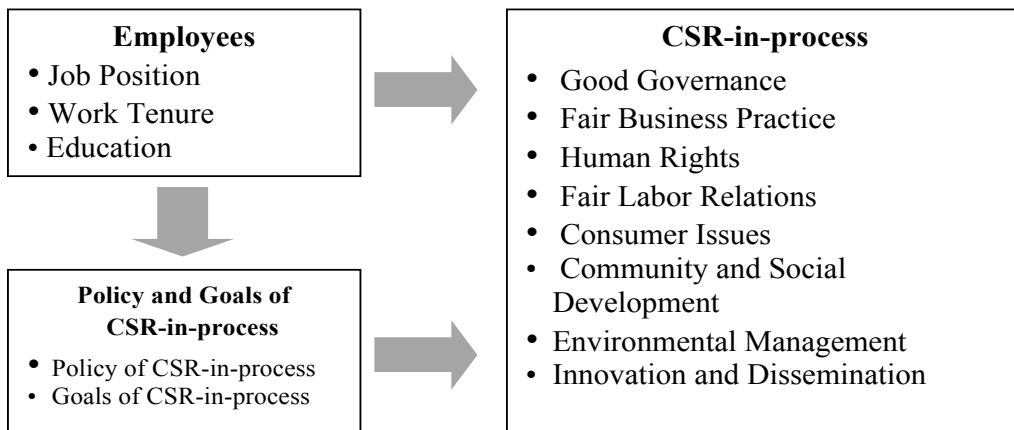
Part 2: Dairy Farmers in Member Farms of Dairy Home Co. Ltd.
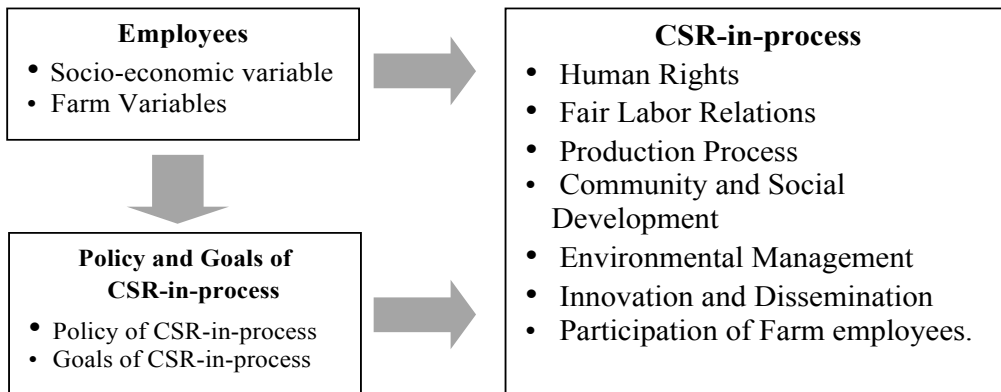
6. Research Method

6.1 Population and Sample

6.1.1 Total 50 Executives and Employees of Dairy Home Co. Ltd. making 100 percent

6.1.2 Dairy farmers from 11 member farms of Dairy Home Co. Ltd. supplying raw organic milk to the company. Convenience sampling was used obtaining respondents from 7 farms representing 63.64 percent.

6.2 Research Instrument

The instrument for this study is a carefully developed questionnaire of both closed-ended and open-ended consisting of two parts. The first part covers the variables regarding the respondents and the second part covers the CSR-in-process practices percerptions measured by the Likert's type rating scale of 5 levels. A structured list of questions is used for the in-depth interviews and the focus group in the field.

6.3 Data Collection

Two approaches of data collection were employed, primary data collection and secondary data collection. The secondary data are from relevant documents and publications from official organizations such as CSR approaches, organic dairy farm operation, etc.; and from printed media and websites.

6.4 Data Analysis and Statistics for the Study

The data were compiled and analyzed by statistical software based on statistical principles and method. Descriptive statistical analysis was performed giving statistics of percentage, frequency, mean, and standard deviation. Cross tabulations (Crosstabs) among the subgroups of the sample differentiated by job position, job tenure, and education attainment were undertaken to test the difference of perception levels for each of the variables. The qualitative data were analyzed by content analysis.

6.5 Limitation of the Study

The study is undertaken with limited time and dispersed locations of the member farms of the Company. Accessing the dairy farmers encountered difficulty with respect to long distances and the unavailability of respondents due to their need to spend the entire day for taking care of the cows closely.

7. Research Results

Part 1: Responses from Executives and Employess of Dairy Home Company, Ltd.

Of the 50 respondents, most are male (54 percent), of age range 25-34 (42 percent), with below bechalor degree education (82.0 percent), and in operation positions (88.0 percent) with job tenure of less than 2 years (48.0 percent) followed by 2-5 years (32.0 percent), 6-10 years (10.0 percent), and more than 10 years (10.0 percent).

7.1 Results of the perception levels on CSR-in-process practices of the employees of the Diary Home Company, Ltd.

On the perception levels of the respondents with respect to the three factors of study, the perceptions for the policy and goals of CSR-in-process, and the CSR-in-process practices were at the highest levels with mean values of 4.39 and 4.36 respectively, while that for employee participation was at high level with 4.17 with the details shown in the table below:

Factors/Items	Mean	SD	Meaning
Policy and Goals on CSR-in-process	**4.39**	**0.52**	**Highest**
1. The Company has clearly defined CSR-in-process policy	4.47	0.54	Highest
2. The Company has clearly defined goals and indicators for its CSR-in-process practices.	4.39	0.61	Highest
3. The Company has encouraged employees to be involved in setting policy and goals on CSR-in-process practices.	4.48	0.65	Highest
4. Company executives are involved in setting policy and strategies on CSR-in-process practices.	4.63	0.64	Highest
5. Company executives have encouraged employees to take part in CSR-in-process practices seriously and concretely to improve company competitiveness.	4.45	0.71	Highest
6. Company policy on CSR-in-process promotion is announced and communicated to all employees to be understood widely.	4.14	0.71	High
7. The Company sets a policy to train employees and develop their capability to implement CSR-in-process practices.	4.18	0.73	High
8. The Company has implemented measures to ensure the awareness of employees on Company policy and goals with respect to CSR-in-process.	4.18	0.73	High
9. The Company sets a policy to ensure the health and safety of consumers and employees, by various protective and preventive measures including the fostering of ethical mind in related parties.	4.31	0.74	Highest
10. The Company abides by relevant laws and international practices such as HACCP, GMP, ISO 26000, etc.	4.55	0.65	Highest
11. The Company sets a policy to receive customer complaints and to give utmost importance to consumers' interests.	4.51	0.62	Highest
CSR-in-process Practices	**4.36**	**0.47**	**Highest**
12. Company has good corporate governance, ethical purchasing practices, honesty, providing factual information, financial statements prepared in accordance with recognized accounting standards.	4.24	0.62	Highest
13. Company implements fair business practices, not involved in intellectual property infringements, acting responsibly, no conflict of interest, setting rules on prohibition of propaganda, distortion of facts, open communication channel for complaints with appropriate reviews and protection of informants.	4.36	0.83	Highest
14. Company sets a human right policy, protect and promote the practices in accordance with human right principles equally and these are communicated to the employees and related parties.	4.14	0.64	High
15. Company implements fair labor relations, non-discrimination hiring practice, constant employee skill development, hiring of disable or	4.24	0.72	Highest

Factors/Items	Mean	SD	Meaning
senior employees.			
16. Production process, use of machine and other equipment of company do not cause adverse impact on the health and the environments of people involved.	4.38	0.65	Highest
17. Implementation of pollution control and reduction system in production and procedures to prevent and address possible negative impacts from operation promptly.	4.32	0.68	Highest
18. Implementation of procedures to reduce wastes from production process appropriately in accordance with recognized principles.	4.33	0.59	Highest
19. Change in production process to reduce natural resources inputs or replant.	4.34	0.66	Highest
20. Non-use of toxic chemical harmful to the health of consumers and employees in the production	4.57	0.74	Highest
21. Designing of products with consideration to risk of harmful impacts to consumers, society and the environments.	4.59	0.57	Highest
22. Implementation of production standards to reduce possible harms from use of product.	4.46	0.65	Highest
23. Product Label is carefully designed to provide complete information and warning of possible risk to consumers. In case of questions, staffs are capable of answering correctly, completely and easily understandably.	4.38	0.67	Highest
24. Encouraging consumers to be conscious of the importance of using goods and services which are socially and environmentally friendly.	4.38	0.75	Highest
25. Community and social development: Involvement in the development of community and society, supporting people in nearby communities or far away to develop their communities, providing mutual consultation on assistance of approaches for self-development sustainably relying on themselves, cooperating integrative with public or private organizations.	4.27	0.67	Highest
26. Environmental management: Top executives are both team leaders and implementers on environmental conservation, by encouraging employees at all levels to utilize resources sustainably, i.e. worthily, valuably, efficiently and most economically.	4.53	0.65	Highest
27. Innovation and dissemination of CSR-related innovation: Fostering of organizational values/culture openly and facilitating related people to be creative, supporting employees to develop new ideas or knowledge valuable to company and stakeholders, offering to both internal and external related parties, publicizing of benefits from the innovation to the public to instill pride among the employees.	4.22	0.71	Highest
Employee Participation	**4.17**	**0.46**	**High**
28. You have a good understanding of CSR-in-process principles.	4.22	0.62	Highest
29. Your office has applied the principles of CSR-in-process in every stages of operation.	4.20	0.58	High
30. The CSR-in-process practices have made you proud of working for the good of the organization and the good sanitary health of people involved.	4.29	0.61	Highest

Factors/Items	Mean	SD	Meaning
31. CSR-in-process practices have contributed to improve work efficiency.	4.27	0.64	Highest
32. You have cooperated and been a part of CSR-in-process practices of the Company consistently.	4.31	0.68	Highest
33. You are satisfied for working with CSR-in-process practices, in delivering quality goods expressing responsibility and care to the consumers.	4.43	0.54	Highest
34. You have the opportunities to make suggestions in the development of CSR-in-process practices.	3.77	0.64	High
35. You have received awards or praises for your CSR-in-process practices.	3.47	1.14	High

On the reasons for the difficulties in implementing CSR-in-process practices, the study found that the highest mentioned is that no clear communications from the executives on CSR-in-process practices (34 percent), seconded by executives/employees being satisfied in doing CSR-after-process activities (20 percent) and employees not aware of the importance and necessity of implementing CSR (20 percent), followed by lack of knowledge/ understanding on clearly defined CSR practices (16 percent) and others/unidentified reasons (10 percent).

7.2 Results of the differences of the perception levels on CSR-in-process practices of the sub-groups distinguished by job position, job tenure, and education attainment.

Analyzing for the differences between the supgroups classified by job position, job tenure, and education attainment, the results are shown in the table below:
The differences between the supgroups classified by job position:

Factors/Items	Job position							
	operational group		managerial group		managers		Total	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Policy and Goals on CSR-in-process								
1. Company policy on CSR-in-process promotion is announced and communicated to all employees to be understood widely.	4.19	0.70	4.00	1.00	4.00	0.00	4.17	0.69
CSR-in-process Practices								
1. Change in production process to reduce natural resources inputs or replant.	4.39	0.65	4.33	0.58	4.00	0.00	4.37	0.64
Employee Participation								
1. Your office has applied the principles of CSR-in-process in every stages of operation.	4.19	0.55	4.00	1.00	4.50	0.71	4.19	0.57
2. CSR-in-process practices have contributed to improve work efficiency.	4.28	0.63	4.00	1.00	4.50	0.71	4.27	0.64

On Job position: With respect to the factor of Policy and Goals on CSR-in-process, the perception level of those in managerial positions (managers and heads of units) is higher than those in operational positions (operation employees/staff) for almost all items except that of "Company policy on CSR-in-process promotion is announced and communicated to all employees to be understood widely," whose mean perception level of the managerial group is 4.00 less than that of the operational group of 4.19. With respect to the factor of CSR-in-process Practices, the perception level on the item "Change in production process to reduce

natural resources inputs or replant," of the managerial group is 4.00 and 4.33 which is less than that of the operational group of 4.39. With respect to the factor of Employee Participation, the perception level of the managerial group Is higher for almost all items except that of "Your office has applied the principles of CSR-in-process in every stages of operation," having whose perception level mean of unit head of 4.00 less than the mean of 4.50 for managers compared to the mean of 4.19 for the operational group, and of "CSR-in-process practices have contributed to improve work efficiency", having perception level mean of unit head of 4.00 less than the mean of 4.50 for the managers compared to the mean of 4.28 for the operational group.

The differences between the supgroups classified by job tenure

Factors/Items	Job tenure									
	Less than 2 year		2-5 years		6-10 years		More than 10 years		Total	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Policy and Goals on CSR-in-process 1. The Company sets a policy to train employees and develop their capability to implement CSR-in-process practices.	4.43	0.51	3.75	1.00	4.40	0.55	4.40	0.55	4.18	0.76
CSR-in-process Practices 1.. Change in production process to reduce natural resources inputs or replant,	4.17	0.64	4.63	0.62	4.40	0.55	4.20	0.84	4.34	0.66
Employee Participation 1. You have the opportunities to make suggestions in the development of CSR-in-process practices.	3.96	0.56	3.50	0.72	3.80	0.45	3.75	0.96	3.77	0.64

On Job tenure: With respect to the factor of Policy and Goals on CSR-in-process, the perception level of those with Job tenure in the range of 6-10 years and of more than 10 years is higher than that of 2-5 years and less than 2 years for almost all items except that of "The Company sets a policy to train employees and develop their capability to implement CSR-in-process practices," whose mean perception level of those with Job tenure of 6-10 years and of more than 10 years being 4.40, less than that of Job tenure less than 2 years being 4.43. For the item "Change in production process to reduce natural resources inputs or replant," of the factor of CSR-in-process Practices, the mean perception level of those with Job tenure 6-10 years is 4.40, and of those with Job tenure more than 10 years being 4.20, which is less than that of 2-5 years being 4.63. For the factor Employee Participation, the mean perception level of the item "You have the opportunities to make suggestions in the development of CSR-in-process practices," for those with Job tenure 6-10 years is 3.80, and that of more than 10 years being 3.75, which is less than that of those with Job tenure less than 2 years of 3.96.

The differences between the supgroups classified by Education Attainment

Factors/Items	Education Attainment

	Primary		Secondary		Upper Secondary		Diploma		bachelor degree		Total	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
<u>Policy and Goals on CSR-in-process</u> 1. The Company sets a policy to train employees and develop their capability to implement CSR-in-process practices.	4.00	1.00	4.29	0.73	4.25	0.86	4.00	0.00	4.13	0.64	4.18	0.76
<u>CSR-in-process Practices</u> 1. Company has good corporate governance, ethical purchasing practices, honesty, providing factual information, financial statements prepared in accordance with recognized accounting standards.	4.43	0.79	4.21	0.58	4.12	0.70	4.33	0.58	4.25	0.46	4.22	0.62
<u>Employee Participation</u> 1. Your office has applied the principles of CSR-in-process in every stages of operation.	3.67	0.52	4.14	0.53	4.35	0.49	4.33	0.58	4.38	0.74	4.21	0.58

On Education Attainment: With respect to the factor of Policy and Goals on CSR-in-process, the perception level of those with upper secondary/ tecnhical college education, diploma/higher technical education, and bachelor degree education is higher than that of other education attainment for almost all items except that of "The Company sets a policy to train employees and develop their capability to implement CSR-in-process practices", whose mean perception level of the upper secondary/technical education group is 4.25, that of diploma/ upper technical education being 4.00 and 4.13 for that of bachelor degree education, less than 4.29 for that of lower secondary education. With respect to the factor of CSR-in-process Practices, the mean perception level of those with lower secondary education, of those with upper secondary/ technical education, of those with diploma/ upper technical education, and of those with bachelor degree education is higher than those with other education attainment in almost all items except that of "Company has good corporate governance, ethical purchasing practices, honesty, providing factual information, financial statements prepared in accordance with recognized accounting standards", whose mean perception level of those with lower secondary education is 4.21, those with upper secondary/ technical education being 4.33, and 4.25 for those with bachelor degree education, less than 4.43 for those with primary education. And for the factor of Employee Participation, the perception level of those with upper secondary/ technical education and of those with diploma/ upper technical education is higher than the perception of those with other education attainment for almost all items except that of "Your office has applied the principles of CSR-in-process in every stages of operation", whose mean perception level of those with upper secondary/ technical education is 4.35, and of those with diploma/ upper technical education being 4.33, less than that of those with bachelor degree education being 4.38.

Part 2: Results regarding Member Farms of the Company

Of the 7 member farms being studied, 4 are run by founders and 3 by succeeding generation. Most of the respondents are male (71.4 percent), with age range of 41-50 years (57.1 percent), with diploma/ upper technical education (57.1 percent). All of them are married with 3-4 household members. Workers in 4 of the dairy farms are both family members and non-family members, while 3 of the farms do not hire any workers. The average life of the farms is 10.7 years with most of them operating less than or equal to 10 years. Most have been member farms of the Company for 5 or more years with an average of 5.86 years. The reasons for joining the network are having same vision and ideology, interest in organic dairy cow raising, and good healthy operation. The reason for choosing organic approach is to provide healthy outcomes for people and dairry cows as best as possible.

Most of the respondents earn additional income from other sources such as from artificial insemination service, raising local-breed chickens, and consignment of products with the Company. The utilization of land, which most of them are the owners, would be for feed growing more than the part for cow raising. The average number of cows per farm is 54 and 26 of which are producing organic milk at the average per day of 12.58 kilograms. The organic milk output is less than the amount raised by traditional method but the organic milk quality is much better, commanding the price of 18-20 Baht per Kg., higher than normal milk. This price is satisfactory, profitable and worthwhile for the organic dairy investment.

With respect to the CSR-in-process practices in the farm, the highest issue perceived by the respondents is that of "Non-use of toxic chemical harmful to the health of consumers and workers in the production process", (4.90) followed by that of "Environmental management in the farm: utilization of resources sustainably, i.e. worthily, valuably, efficiently and most economically", (4.60) and those of "The Company announced and communicated its policy to promote member farms to implement CSR procedures accountable to consumers and society continuously", and of "Implementation of pollution control and reduction system in farm management and procedures to prevent and address possible negative impacts from operation promptly", and of "Implementation of procedures to reduce wastes from cow raising process appropriately in accordance with recognized principles", (4.40). On the lowest side the issues "Workers in the farm work in accordance with socially responsible principles improving the efficiency of dairy cow raising process", is the lowest point (3.10) followed by "Innovation and dissemination of CSR-related innovation: Facilitating farm workers to be creative, supporting them to develop new ideas or knowledge valuable to the farm and stakeholders, and publicizing of the innovation to the public", (3.30) the details of which appear in the Table below.

Issues	Mean	Meaning
Policy and Goals on CSR-in-process		
1. The Company announced and communicated its policy to promote member farms to implement CSR procedures accountable to consumers and society continuously.	4.40	Highest
2. The Company sets a policy to ensure the health and safety of consumers and farm workers, by various protective and preventive measures including the fostering of ethical mind in related parties.	4.30	Highest
3. The Company sets a policy to train farm workers and develop their capability to implement CSR-in-process practices efficiently.	4.00	High
CSR-in-process Practices		
4. Company sets a human right policy, protect and promote the practices in accordance with human right principles equally and these are	4.10	High

Issues	Mean	Meaning
communicated to the related parties such as equal treatment of Thai and foreign workers.		
5. Company implements fair labor relations, non-discrimination hiring practice, constant employee skill development, hiring of disable or senior employees.	3.60	High
6. Production process, use of machine and other equipment in the farm do not cause adverse impact on the health and the environments of people involved.	4.30	Highest
7. Implementation of pollution control and reduction system in farm management and procedures to prevent and address possible negative impacts from operation promptly.	4.40	Highest
8. Implementation of procedures to reduce wastes from cow raising process appropriately in accordance with recognized principles.	4.40	Highest
9. Change in cow raising process to accommodate the use of existing natural resources such as not contaminating the soil, economically use of water, or recycle the water.	4.30	Highest
10. Non-use of toxic chemical harmful to the health of consumers and workers in the production process.	4.90	Highest
11. Community and social development: Involvement in the development of community and society, supporting people in nearby communities or far away to develop their communities, providing mutual consultation on assistance of approaches for self-development sustainably relying on themselves, cooperating integrative with public or private organizations.	3.60	High
12. Environmental management in the farm: utilization of resources sustainably, i.e. worthily, valuably, efficiently and most economically.	4.60	Highest
13. Innovation and dissemination of CSR-related innovation: Facilitating farm workers to be creative, supporting them to develop new ideas or knowledge valuable to the farm and stakeholders, and publicizing of the innovation to the public.	3.30	Moderate
Farm Workers Participation		
14. All workers in your farm take part in the development of the farm following the organic approach.	3.60	High
15. Workers in the farm work in accordance with socially responsible principles improving the efficiency of dairy cow raising process.	3.10	Moderate

The four most mentioned causes of obstacle on the implementation of CSR-in-process practices are "Not recognizing the importance and need of the CSR-in-process practices" followed by "More comfortable with CSR-after-process activities such as donations or social assisting events", "Lack of knowledge/understanding of the CSR-in-process approach", and "Lack of policy on CSR-in-process promotion", respectively.

On the part of the dairy farm operation, the findings include: the cows health is generally good and strong with proper daily care; cows are vacinate 1-2 times annually; the overall organic milk output is 2,240 kilograms per day, or 12.58 kilograms per cow per day, and maximum of 19.23 kilograms per cow per day versus minimum of 8.33; the organic milk output is lower than that from traditional dairy farm especially during the period of change over; all respondents point to the better quality of raw organic milk, obtaining the price of 18-20 Baht per kilogram higher than normal milk; the price is satisfactory; the cost of feed is lower due to the use of less concentrated feed and more fresh grass; cost of farm management

is lower; but the farm has to invest more on planting of grass field and plant for feed, on grass cutting machine and fuel for the machine; the profit to be earned is satisfactory, thus it is a worthwhile investment, with no financial problem for the households and could be a sustainable occupation.

8. Conclusion and Discussion

8.1 The Dairy Home Company, Limited.

The results showing that the first 3 items with the highest mean perception level are 1) Company executives are involved in setting policy and strategies on CSR-in-process practices, 2) The Company abides by relevant laws and international practices such as HACCP, GMP, ISO 26000, etc., and 3) The Company sets a policy to receive customer complaints and to give utmost importance to consumers' interests are indicative of the importance given by the Company to the CSR-in-process practices starting from the level of policy to the operational level making the employees aware of CSR and applying in their practices. This is consistent with the provisions of the Standard for Corporate Social Responsibility (CSR-DIW: 2554) stating that business enterprises should set CSR policy and goals to ensure that the organization can follow the set directions and framework for the clear and fruitful implementation of CSR-in-process practices, and the results also consistent with Waldmanet et al. (2006) stating that the leader of business is the highly influential person in the implementation of CSR-in-process practices because he takes the role of setting policy and goals of operations in the organization necessary for the success of the business (Pangnirun, 2007). The policy of an enterprise is the guideline and procedure for the executives to make decision wisely and smartly, that is, it is the carefully thought out directions of the executives for communication of the desired approaches for the changes to occur in the organization of the society. It would enable employees to understand the activity or action, strategy or means and value and decision of the company (Saratana, 2005) for their appropriate implementation to achieve the set objectives. This would be in line with the recommendation of the Thaipat Institute that the CSR-in-process practices which would truly bring about happy co-existence in the society must be those activities combining business process practices with socially responsible activities as one and same action. The Thaipat institute has focused on the design and development of CSR-in-process practices consistent with the Thai social context.

On the lowest perception level for the item "Company policy on CSR-in-process promotion is announced and communicated to all employees to be understood widely," although at High level, this may be the consequence of the Company having no sufficiently efficient procedures to communicate it CSR-in-process promotion. Thus the executives of the organization should establish an efficient communication process to disseminate information on its policy regarding CSR-in-process to the employees in greater details. Employees would then be able to implement CSR-in-process practices to achieve the set goals increasingly, which would improve the efficiency of Company's CSR-in-process practices. The finding is not consistent with Certo (1997: 61-63 cited in Luengtrakarnkul, 2009) suggesting that the executives should set organization policy on CSR-in-process in the same way as policy for business operation in 3 steps being: 1) The top executives have to be aware and recognized the obligations to implement CSR-in-process practices by setting policy consistent with the obligations and duly communicated to all employees, 2) Compilation of all duties and obligations related to CSR-in-process, and 3) Leaders and executives at various levels cooperatively determine common agreement of organization members regarding its CSR duties and obligations, encouraging feedbacks within the organization to drive the efforts

appropriately, including management of resources and operation system to accommodate CSR activities.

For the factor of CSR-in-process Practices, almost all the items get the Highest perception levels with the top 3 being: 1) Designing of products with consideration to risk of harmful impacts to consumers, society and the environments, 2) Non-use of toxic chemical harmful to the health of consumers and employees in the production, and 3) Environmental management: Top executives are both team leaders and implementers on environmental conservation, by encouraging employees at all levels to utilize resources sustainably, i.e. worthily, valuably, efficiently and most economically. This reflects the Company's concrete implementation of CSR-in-process practices by giving importance to consumer welfare based on the idea of consumer rights, or the enterprise must produce goods and services that are trusted for consumers' safety health and living, having efficient consumer database system, implement customer relation marketing both before and after sale service, providing factual and adequate product information to the consumers including relevant information for purchasing decision making, conducting research and development to create innovative products and services giving importance to processes and actions beneficial to the society and the environment leading to sustainable consumption. With respect to the production process, the Company should take great care in the operation of machine and equipment in such a way not to cause negative impact on health and the environment of people involved, incorporating pollution control and reduction system; preventing and remedying potential negative impacts from operation promptly, implementing measures to reduce production waste in accordance with technical principles by reducing the use of natural resources or replanting, non-use of toxic chemicals harmful to the health of consumers and employees; designing of products taking into consideration the risk of harmful impacts to consumers, society and the environments, implementation of production standards to reduce possible harms from use of product; designing of Product Label carefully to provide complete information and warning of possible risk to consumers and in case of questions, staff being capable of answering correctly, completely and easily understandably; and for environmental management, top executives being both team leaders and implementers on environmental conservation, by encouraging employees at all levels to utilize resources sustainably, i.e. worthily, valuably, efficiently and most economically.

On the lower end of the perception level for the factor of CSR-in-process Practices, the item "Company sets a human right policy, protect and promote the practices in accordance with human right principles equally and these are communicated to the employees and related parties" gets the lowest mean of 4.14, although with high level. This is inconsistent with the approaches of Guidelines for Corporate Social Responsibility (CSRI: 2012) stating that business organization must set policy on human rights and facilitate the implementation of human right requirements equally, and communicate this to the employees and parties involved, including fair treatment of labor, non-discrimination policy on hiring, continuous employee training, and supporting the hiring of disables and senior persons.

With respect to the factor of Employee Participation, the perception of almost all items are at Highest level, the top 3 of which are: 1) Employees being satisfied for working with CSR-in-process practices, in delivering quality goods expressing responsibility and care to the consumers, 2) Having cooperated and been a part of CSR-in-process practices of the Company consistently, and 3) CSR-in-process practices having made employees proud of working for the good of the organization and the good sanitary health of people involved. This indicates that the Company employees implement the CSR-in-process practices from within themselves, consistent with Viriyapan (2011) proposition that any socially-responsible

business organization should undertake organization activities in the direction of socially responsible to the stakeholders both inside and outside of the organization whether it be shareholders, investors, executives/employees, trading partners, customers, communities, society, and the environment; starting with the fostering of organization values and culture emphasizing the importance of CSR then implanting them as parts of DNA of the organization and its members, in order to ensure that CSR practices are normal operations. In other words, the organization personnel are conscious of CSR duties and roles in their hearts. This would drive all actions, whether they be the setting of policy, strategies, plans, etc. consistently with the CSR approaches. Examples are work practices giving importance mainly to organization, economy, society, and the environment performed by employees with complete volition to contribute for public interest bringing happiness and welfare to people involved voluntarily and willingly, thus not only contributing to "Efficiency" and "Profit" for the organization, but also "Sustainability" for the society and the environment as well as Happiness for all the parties involved in all dimensions. This also fits with Cheuayeunyong (cited in Kaewjunant, 2000: 23) stating that participation starts with planning, setting of policy, objectives, goals, budget, work procedures, and working instructions, responsible persons, schedule and tasks; and is consistent with Pavuthinant (1998) Ma-Sawaeng (2008) and Cohen and Upholff (1977) stating that participation means employees willingly take part in organization tasks voluntarily, in decision making, in implementation, in gaining the benefit, and in evaluation of outcomes, leading to solutions to problems including creativity, enabling the organization to accomplish various tasks and solve the current problems successfully for the benefit of the organization and fostering of common sense of responsibility.

The lowest mean perception level item in the factor of Employee Participation, although being at High level, is 3.47, being "Having received awards or praises for your CSR-in-process practices". This is contradictory to the concept of employee participation because in order to foster employee participation in CSR-in-process practices, the employees must have a good understanding of CSR-in-process principles as the organization must apply the principles of CSR-in-process in every stages of operation, thus making them proud of working for the good of the organization and the good sanitary health of people involved, contributing to improve work efficiency; they must willingly extend cooperation and be a part of CSR-in-process practices of the organization, and be satisfied for working socially responsibly in delivering quality goods exhibiting social responsibility and care to consumers, as well as having opportunities to make suggestions in the development of CSR-in-process practices. Finally the organization must present awards or praises to employees for their CSR-in-process participation.

8.2 Member Farms Findings

With respect to the responses of member farms, the top 3 issues with highest means perception level are: 1) Non-use of toxic chemical harmful to the health of consumers and workers in the production process, 2) Environmental management in the farm: utilization of resources sustainably, i.e. worthily, valuably, efficiently and most economically, 3) three issues with equal means being: The Company announcing and communicating its policy to promote member farms to implement CSR procedures accountable to consumers and society continuously, Implementation of pollution control and reduction system in farm management and procedures to prevent and address possible negative impacts from operation promptly, and Implementation of procedures to reduce wastes from cow raising process appropriately in accordance with recognized principles. The results are indicative that the dairy farmers of the member farms of the Company implemented CSR-in-process practices consistent with the

principle of Care of organic agriculture approach indicating that all persons involved in the production process must take great care with good conscience in avoiding practices with the risk of damaging the health of the ecosystem and the quality of life of all beings, understand the ecosystem, agriculture, and nature of all things being linked in the food chain; thus the organic agriculture would make the non-use of chemicals, bio-engineered beings as the basic operating principle. The respondents are aware of the organic approach to dairy farming consistent with the organic agriculture principles. For example, they implement measures to prevent contamination in every production stages of their products of organic meat, milk, eggs offered to the market or through the entire production chain to the consumers. This contamination prevention is within the normal production process such as the separation of feed production, placing of raw materials, production, processing, transportation, and selling points, etc. It is consistent with the organic livestock principles pointing out that organic livestock means livestock production system in proper harmony with the soil, plant and animal, in accordance with physiological needs and animal behavior producing minimum stress to the animal, promoting good animal health, emphasizing disease prevention through the good management of farms avoiding use of chemicals and drugs (TACFS 9000-2003 PART 1). The important management principles and techniques of organic livestock include livestock production system incorporating the balance of soil, plant, and animal, the biodiversity of plant, animal, micro-organism and ecosystem, and the mutually supporting nature of the environment such as growin plants, raising animals, using plants and leftover as feed, animal dung used as fertilizer, and use of micro-oranism, etc. Waste from the farm is treated such as the growing of plants for making feed fertilized by manure or the recycle of waste water from the dairy farm to water the plants, avoiding the use of chemicals and synthetic products including genetically-engineered feed that could have adverse impact on the environment. The finding also consistent with the principles of the Organic Livestock Center (2010) stating that organic milk means "milk produced by dairy farmers paying close attention to the environment and animal welfare, minimizing the stress of the animals to make them healthy, disease immuned, by arranging the dairy cows to happily feed themselt on the grass field uncontaminated by chemical fertilizer or pesticide but enriched with manure and a small amount of organic supplements made from non-GMO raw materials; and with good farm management which the cows have appropriate space, with clean and airy barn for rest, sleep, with open area for exercise; every stages of care and milking would avoid the use of chemical, drugs and synthetic substances; maintenance of biodiversity of local plants and animals such as herbal plants, birds, local chicken that would help eat ticks and worm eggs; the processing of organic milk must be at factories with production process capable of controlling contamination of chemicals with the organic quality of milk maintained throughout to the selling point; all processes following the food safety standard and certified according to the organic livestock standards".

On the 2 issues with lowest means and only Moderate level of perception being 1) Workers in the farm work in accordance with socially responsible principles improving the efficiency of dairy cow raising process, and 2) Innovation and dissemination of CSR-related innovation: Facilitating farm workers to be creative, supporting them to develop new ideas or knowledge valuable to the farm and stakeholders, and publicizing of the innovation to the public, it could be because the member farms do not operate their CSR-in-process practices consistent with their product. This is in line with Lertchantueg (2011) finding for the case of Singha Corporation stating that "their CSR practices were in line with those of the four companies but still fell short in term of beer-relataed CSR activities while focusing on other areas". On the other hand this is contrary to the Guidelines for Corporate Social Responsibility (CSRI: 2012) recommending that business organizations wanting to

implement CSR-in-process practices have to foster Innovation and dissemination of CSR-related innovation, instilling an open organizational values/culture, and facilitating involved parties to be creative, supporting them to develop new ideas or knowledge valuable to the organization and stakeholders with opportunities for both internal and external parties to participate, and publicizing of the innovation to the public to foster pride among the employees.

As to the mentioned causes of obstacles on the implementation of CSR-in-process practices being 1) "Not recognizing the importance and need of the CSR-in-process practices", 2) "More comfortable with one-off CSR-after-process activities such as donations or social assisting events," 3) "Lack of knowledge/ understanding of the CSR-in-process approach", and 4) "Lack of policy on CSR-in-process promotion"., these are in line with Guidelines for Corporate Social Responsibility of Corporate Social Responsibility Institute (2012) pointing out that the approach of CSR according to the ISO 26000 stating that CSR practices should have an ultimate goal of achieving maximum outcome from the dedication of the enterprise to bring about sustainable development. The initiaive to implement CSR efficiently and effectively must be basically built upon common understanding ot CSR especially on the scope of CSR activities which often interpreted differently. In fact, CSR-in-process practices are very essential because these involve the stakeholders covering customers, trading partners, communities and the environment in the supply chain (the enterprise upstream) and the value chain (upstream through to downstream), not just the external society and the environment. The enterprise with the proper goals of CSR would be like having a compass help directing the business away from problems and obstacles caused by socially irresponsible practices at the initial stages, which could not be compensated with CSR-after-process. The findings are also consistent with the study of Lertchantueg (2011) on the Development of CSR Approaches for Beer Business, recommending the determination of CSR practices appropriate and linked to the product of the business.

The findings with respect to the dairy farm operation that the cows health is generally good and strong with proper daily care and that the milk output is of beter quality and commanding highr price are consistent with Kornmathitsuk's (2010) finding that cows raised in organic dairy farms are generally more healthy and producing raw milk of better quality and commanding higher price of upto 30 percent.

The finding that organic dairy farm is a worthwhile investment, with no financial problem for the households and could be a sustainable occupation, thus could be confidently recommended to other farmers is consistent with the Fairness principle of International Organic Agriculture principles pointing out that organic agriculture should be built on relationships between farmers, producers, processors, distributors, and consumers that ensure fairness of exchange and rights of every organism. It would fit with the strengths of organic agriculture with respect to the reduction of cost, increase of revenue, expansion of opportunities, production of greater value-added products, and lowering cost of drugs and chemicals, and also be consistent with Kerdchuchuen's (2014) statement that the operation of organic dairy farm does not have higher cost but would incur lower cost, and although the milk output is lower, but the higher quality would command higher price. This also points along the principles of self-sufficiency offered by Tantivejkul (2006) being: 1) Spiritually, being self-dependent, maintaining high moral conscience, creating heavenly environment for oneself and the nation publicly; 2) Socially, members of each community supporting one another and forming network of communities for mutual assistance; 3) On natural resources, these being utilized intelligently looking out for means to increase the value added; 4) On

technology (local wisdom), these being employed logically because the development should be consistent with social conditions.

8.3 In-dept Interview Results

Mr. Phuetthi Kerdchuchuen: Owner of the Dairy Home Company, Limited.

8.3.1 We are determined "to produce the best milk" with the expectation to see Thai farmers standing on their own, self-reliant and gaining increasing income.

8.3.2 Promoting Maug-Lek dairy farmers to alter their thinking, thus switching from industrial production system to that of organic agriculture or sustainable approach.

8.3.3 Incorporating clear CSR practices.

8.3.4 Adopting Sufficiency Economy Philosophy, such as operating according to own capacity, work within own skills and ability, not greedy, expanding at reasonable speed, extending of member farm network, generating immunity by a 50:50 selling of products by oneself and through other retails outlets, developing innovative products constantly to provide product diversity in response to consumers' need, utilizing knowledge and information for decision making, conducting research and development in cooperation with education institutions, and being ethical, honest and responsible to the stakeholders from consumers, trade partners, communities, society, to the environment.

8.3.5 Utilization of Thai traditional wisdom in business operation such as substitution of herbal substance for antibiotics, forming network of member farms based on Thai culture of friendliness, mutual care and help, trusting in trading relationship without the need for signing of contract farming agreement.

8.3.6 Providing support for organic dairy farms of members by purchasing of their raw milk output at 30% above market price.

8.3.7 Application of green standard from upstream to downstream by the encouragement of organic dairy farming in accordance with international standards of GMP, HACCP, CODEX, etc.

9. Management Implications

9.1 Business organizations including daily farmers could use the findings as guidelines for the promotion organic milk production and distribution, not only gaining acceptable returns from the investment, but also getting non-financial benefit in the form of valuable contribution from the CSR-in-process practices enabling consumers to benefit fully from the consumption of organic milk.

9.2 Business organizations or interested parties could apply the approaches of CSR-in-process practices for the sustainability of the organizations, social and environment.

9.3 For potential farmers, organic dairy farming has proven to be a feasible investment providing sufficient returns and at the same time providing good health and good quality of life for both consumers and producers as well as better environmental conditions.

10. Recommendations from the study

10.1 On Dairy Home Company, Limited.

10.1.1 The Company should make it an importance issue in dissemination of CSR policy and in fostering knowledge and understanding of CSR-in-process practices widely.

10.1.2 The Company should promote CSR-in-process practices among all employees, and provide opportunities for them to make CSR-relevant suggestions.

10.1.3 The Company should give awards or praises to employees taking actions on CSR-in-process practices, in order to stimulate employees at all levels to participate more in the CSR-in-process practices.

10.2 On Member Farms of the Company

10.2.1 The Company should communicate to the farm owners regarding the procedures and method to operate responsibly, socially and environmentally.

10.2.2 The Company should get involved in the development of CSR-in-process practices for the member farms, by setting practice guidelines consistent with organic dairy farm, thus allowing employees of the farms to operate with CSR-relevant actions concretely.

10.2.3 The Company should support member farms in the development of new ideas or knowledge for increasing the value-added of the farms, and promote the member farms implementing CSR practices as prototype farms to be publicizing to the general public.

11. Recommendations for Further Research

11.1 The study should be extended to CSR-in-process practices of all organic milk producers in great details, in order to be used as guidelines in the determination of CSR-in-process approaches appropriate for the product.

11.2 Similar researches should be undertaken on CSR-in-process practices of other organic agricultural farms, in order to be applied for the determination of CSR-in-process approaches appropriate for the products.

11.3 Studies should be made on the CSR-in-process practices of companies/farmers involved in the production or processing of each type of organic agricultural products, in order to formulate approaches for CSR-in-process appropriate for the respective products.

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FINANCIAL RATIOS AND STOCK PRICES: EVIDENCE FROM THE AGRICULTURE FIRMS LISTED ON THE STOCK EXCHANGE OF THAILAND

by

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Abstract

The objective of this study is to examine the effect of financial ratios on the agriculture firms' stock prices. The samples are 4 companies listed on the Stock Exchange of Thailand in the agribusiness sector with the complete monthly data of current ratio, debt to equity ratio, net profit margin ratio, total assets turnover ratio and stock prices from June 2005 to June 2015. This study also uses agriculture production index as a control variable. The companies studied include Sri Trang Agro-Industry Public Company Limited (STA), Thai Rubber Latex Corporation (Thailand) Public Company Limited (TRUBB), United Palm Oil Industry Public Company Limited (UPOIC) and Univanich Palm Oil Public Company Limited (UVAN). After applying the multiple regression analysis, the results show that current ratio, net profit margin ratio and total assets turnover ratio positively affect stock prices at the statistical significance level of 0.01. However, debt to equity ratio negatively affects stock prices at the statistical significance level of 0.01.

Keywords: Agriculture firms, Stock prices, Financial ratios, the Stock Exchange of Thailand

1. Introduction

The agriculture sector has been essential to the economics of Thailand because of many reasons. Firstly, Thai agriculture produces and supplies food not only to Thai people but to the world. Secondly, Thai agriculture is one of the major sources of raw materials, such as rubber, to fulfill the needs of both domestic and foreign manufacturers. Lastly, Thai agriculture brings in foreign currencies, which is very important for developing countries like Thailand, from exporting to the world.

Apart from the growing agriculture sector, investments in the Stock Exchange of Thailand are also important. The market capitalization has been increasing from 11.8 million Baht in 2012 to 12.3 million Baht in 2015 (source: the Stock Exchange of Thailand, 2015). Therefore, the Stock Exchange of Thailand is very attractive to both investors as a channel of investment and companies as a source of raising capital.

However, there are many factors affecting stock prices, including internal factors such as firms' financial ratios as well as external factors such as political stability and economic conditions. As a result, it is difficult for investors to analyze the determinants of stock prices. Therefore, the objective of this study is to examine the effect of financial ratios of the agriculture firms on their stock prices. The findings will be beneficial to investors who are interested in investing in the agriculture firms listed on the Stock Exchange of Thailand.

2. Hypothesis

H_0: None of the variables examined, namely current ratio, debt to equity ratio, net profit margin ratio, total assets turnover ratio and agriculture production index statistically significantly affects stock prices of agriculture firms listed on the Stock Exchange of Thailand.

H_1: At least one of the variables examined, namely current ratio, debt to equity ratio, net profit margin ratio, total assets turnover ratio and agriculture production index statistically significantly affects stock prices of agriculture firms listed on the Stock Exchange of Thailand.

3. Literature Review

There are many research papers worldwide studying the relationship between financial ratios and stock prices. Recently, there are some papers studying firms in the Middle East. For example, Mohammad Reza Kohansal, et.al (2013) study the relationship between financial ratios and stock prices of the food industry firms in Stock Exchange of Iran. They use the financial variables including current ratio, asset turnover ratio, return on assets ratio, return on equity ratio, debt ratio and equity prices of companies listed on the Stock Exchange of food during the period from 1992 to 2010. The results indicate a positive and significant response in food stock prices due to the current ratio, return on asset ratio and return on equity ratio.

Moreover, Amir Dadrasmoghadam and Seyed MohammadReza Akbari (2015) study the relationship between financial ratios in the stock prices of agriculture-related companies listed on the Stock Exchange of Iran. They use the financial variables including current ratio, asset turnover ratio, return on assets ratio, return on equity ratio, debt ratio and equity prices of the selected companies from 1999 to 2009. The results show that debt ratio, current ratio and return on assets ratio have significant effect on stock prices.

Additionally, there are some studies in Latin America. For instance, Rishma Vedd and Nataliya Yassinski (2015) study the effect of financial ratios, firm size and operating cash flows on stock price of firms listed in the Latin America industrial sector. They study the period from 2004 to 2013. They examine 717 firms listed on the biggest stock exchange markets in Latin America such as the Bolsa Mexicana de Valores in Mexico, Bolsa de Valores de Colombia in Colombia, Rio de Janeiro Stock Exchange in Brazil and the Santiago Stock Exchange in Chile. The results exhibit the significant effect of assets turnover ratio and firm size on stock prices of firms in Brazil, Chile and Mexico. Additionally, the results show the important effect of debt ratio on stock prices of firms in Colombia.

Also, some studies are found in Hong Kong. For example, Lai Ping-fu and Cho Kwai-yee (2016) study the relationships between stock returns and corporate financial ratios based on a statistical analysis of corporate data from the Hong Kong Stock Market. They use a multiple regression technique to analyze the financial ratios of 17 firms selected from 50 HSI constituent stocks in Hong Kong Stock Exchange. They compare the effectiveness of price-to-sales, market-to-book, earnings per share, dividend yield and market capitalization against stock returns. According to the findings, it is impossible to conclude which financial ratios are the most effective in forecasting stock returns. However, they find the close alignment between a regression line and financial ratio data, indicating the appropriateness of multiple regression technique in analyzing financial data.

In Thailand, Kaewmanee Utirum (2013) examines the relationship between financial ratios and expected returns of 10 companies listed on the Stock Exchange of Thailand in technology industry group. Descriptive statistics, pearson correlation analysis and multiple regression analysis are executed to analyze the data. The findings show that all of the financial ratios examined significantly affect expected returns besides the total assets turnover ratio and the operating profit margin ratio. Thus, investors who are interested in investing in firms in technology industry group can use financial ratios to assist in making investment decision.

In addition, there are some studies in Thailand using agriculture firms. For instance, Wanchai Aimlaor (2009) studies factors affecting stock prices in food and agriculture industry group. The monthly data are collected from January 2004 to June 2009. The multiple regression analysis is used to analyze the data. The findings indicate that the exchange rate between Thai Baht and US Dollar, the food and agriculture industry group index and the 3-month fixed deposit interest rate positively relate to stock prices. On the other hand, the consumer price index has a negative association with stock prices.

Furthermore, Sukanya Chanprechachai (2010) examines factors affecting rates of return of securities listed on the Stock Exchange of Thailand in agribusiness sector. The sample firms are Sri Trang Agro-Industry Public Company Limited and Thai Rubber Latex Corporation (Thailand) Public Company Limited. The monthly data are collected from January 2005 to December 2009. The multiple linear regression with ordinary least square method is employed to analyze the data. The results show that only the percentage change in the numbers of natural rubber ribbed smoked sheet no.3 futures contracts and the percentage change in the agriculture sector index positively correlate to rates of return of securities in agriculture sector.

Therefore, the findings of this study "financial ratios and stock prices: evidence from the agriculture firms Listed on the Stock Exchange of Thailand" are not only important to fulfill the literature in this area but also essential for other researchers as a reference.

4. Methodology

Even though there are 12 companies listed on the Stock Exchange of Thailand in the agribusiness sector, the samples in this study include only 4 companies with the complete monthly data of relevant financial ratios and stock prices from June 2005 to June 2015. The data of financial ratios and stock prices are from the Stock Exchange of Thailand, while the data of agriculture production index are from the Office of Agricultural Economics. The followings are the companies examined.

1. Sri Trang Agro-Industry Public Company Limited (STA)
2. Thai Rubber Latex Corporation (Thailand) Public Company Limited (TRUBB)
3. United Palm Oil Industry Public Company Limited (UPOIC)
4. Univanich Palm Oil Public Company Limited (UVAN)

Moreover, multiple regression analysis is employed for each firm. The equations (eq.1-4) are as follows.

$$STA_t = a + b_1CR_t + b_2DER_t + b_3NPM_t + b_4TAT_t + b_5API_t + e_t \quad \text{-----(eq.1)}$$
$$TRUBB_t = a + b_1CR_t + b_2DER_t + b_3NPM_t + b_4TAT_t + b_5API_t + e_t \quad \text{-----(eq.2)}$$
$$UPOIC_t = a + b_1CR_t + b_2DER_t + b_3NPM_t + b_4TAT_t + b_5API_t + e_t \quad \text{-----(eq.3)}$$
$$UVAN_t = a + b_1CR_t + b_2DER_t + b_3NPM_t + b_4TAT_t + b_5API_t + e_t \quad \text{-----(eq.4)}$$

where: CR_t = Current Ratio at time t

DER_t = Debt to Equity Ratio at time t

NPM_t = Net Profit Margin Ratio at time t

TAT_t = Total Assets Turnover Ratio at time t

API_t = Agriculture Production Index at time t

t = monthly period starting from 1 (June 2005) to 121 (June 2015)

Since this study uses time-series data, the problems of multicollinearity, heteroscedasticity and autocorrelation are tested and solved before obtaining the final equation for each firm.

5. Results

5.1 Descriptive Statistics

During the study period (June 2005-June 2015), Agriculture Production Index (API) has a mean of 117.63 points with the maximum of 288.17 points, the minimum of 77.67 points and the standard deviation of 41.35 points.

STA has an average share price of 17.55 Baht with the maximum price of 87.25 Baht, the minimum price of 8.05 Baht and the standard deviation of 10.12 Baht. Current ratio has a mean of 1.25 times with the maximum of 1.67 times, the minimum of 0.92 times and the standard deviation of 0.26 times. Debt to equity ratio has a mean of 1.80 times with the maximum of 3.91 times, the minimum of 0.78 times and the standard deviation of 0.78 times. Net profit margin ratio has a mean of 1.66% with the maximum of 7.16%, the minimum of -3.93% and the standard deviation of 2.19%. Total assets turnover ratio has a mean of 2.78 times with the maximum of 3.64 times, the minimum of 1.70 times and the standard deviation of 0.47 times.

TRUBB has an average share price of 10.14 Baht with the maximum price of 64.50 Baht, the minimum price of 1.63 Baht and the standard deviation of 9.21 Baht. Current ratio has a mean of 0.79 times with the maximum of 0.98 times, the minimum of 0.51 times and the standard deviation of 0.13 times. Debt to equity ratio has a mean of 3.80 times with the maximum of 5.71 times, the minimum of 2.78 times and the standard deviation of 0.66 times. Net profit margin ratio has a mean of -0.25% with the maximum of 9.14%, the minimum of -8.38% and the standard deviation of 2.85%. Total assets turnover ratio has a mean of 2.18 times with the maximum of 3.24 times, the minimum of 1.49 times and the standard deviation of 0.36 times.

UPOIC has an average share price of 24.16 Baht with the maximum price of 89.50 Baht, the minimum price of 6.10 Baht and the standard deviation of 21.71 Baht. Current ratio has a mean of 4.31 times with the maximum of 10.67 times, the minimum of 0.77 times and the standard deviation of 2.27 times. Debt to equity ratio has a mean of 0.15 times with the maximum of 0.52 times, the minimum of 0.05 times and the standard deviation of 0.10 times. Net profit margin ratio has a mean of 9.60% with the maximum of 48.11%, the minimum of -244.88% and the standard deviation of 38.43%. Total assets turnover ratio has a mean of 0.91 times with the maximum of 1.43 times, the minimum of 0.49 times and the standard deviation of 0.26 times.

UVAN has an average share price of 54.93 Baht with the maximum price of 124.00 Baht, the minimum price of 10.10 Baht and the standard deviation of 32.10 Baht. Current ratio has a mean of 6.82 times with the maximum of 11.60 times, the minimum of 3.03 times and the standard deviation of 2.09 times. Debt to equity ratio has a mean of 0.13 times with the maximum of 0.23 times, the minimum of 0.08 times and the standard deviation of 0.03 times. Net profit margin ratio has a mean of 13.41% with the maximum of 24.41%, the minimum of 4.66% and the standard deviation of 4.47%. Total assets turnover ratio has a mean of 2.15 times with the maximum of 3.76 times, the minimum of 1.01 times and the standard deviation of 0.59 times.

5.2 Multiple regression analysis

Since none of the absolute of correlations among independent variables (comprising of CR, DER, NPM, TAT and API) is greater than 0.80, there is no multicollinearity problem. All five independent variables are eligible to be used in the multiple regression analysis. However, both heteroskedasticity and autocorrelation problems are found in every firm. Therefore, before obtaining the final equation for each firm, the Newey-West HAC standard errors and covariance method is employed to remedy those problems. The final equations (eq.5-eq.8) are exhibited below.

Eq. 5:
$$STA_t = -41.3119 + 19.7890CR_t + 2.6813DER_t + 2.6676NPM_t + 8.5591TAT_t + 0.0093API_t$$
(-3.3395) (3.2978)** (1.5203) (2.9146)** (2.8777)** (0.6362)
F-Statistic = 18.8559
Prob.(F-Stat) = 0.0000
Adjusted R^2 = 0.4266
** = statistical significance at the 0.01 level

From equation 5, Prob. (F-Stat) is statistically significant at the 0.01 level indicating that at least one of the independent variables examined affects STA stock price significantly. All the five independent variables help explain the change in STA stock price 42.66%. According to the statistical significance of the coefficients of the independent variables, current ratio, net profit margin ratio and total assets turnover ratio positively affect STA stock price at the 0.01 level.

Eq. 6:
$$TRUBB_t = -14.0402 + 43.8774CR_t - 0.1858DER_t - 0.1437NPM_t - 4.1871TAT_t - 0.0031API_t$$
(-1.0478) (3.5433)** (-0.0938) (-0.3535) (-0.9933) (-0.2434)
F-Statistic = 31.3705
Prob.(F-Stat) = 0.0000
Adjusted R^2 = 0.6090
** = statistical significance at the 0.01 level

From equation 6, Prob.(F-Stat) is statistically significant at the 0.01 level indicating that at least one of the independent variables examined affects TRUBB stock price significantly. All the five independent variables help explain the change in TRUBB stock price 60.90%. According to the statistical significance of the coefficients of the independent variables, only current ratio positively affects TRUBB stock price at the 0.01 level.

Eq. 7:

$$UPOIC_t = 36.0503 + 2.7658CR_t - 16.1621DER_t + 0.1238NPM_t - 24.0697TAT_t - 0.0072API_t$$
$$\qquad\quad (1.4813)\ (1.2804)\quad (-0.4336)\quad (2.1158)^* \quad (-1.9712)\quad (-0.1521)$$

F-Statistic = 6.4180
Prob.(F-Stat) = 0.0000
Adjusted R^2 = 0.1842
* = statistical significance at the 0.05 level

From equation 7, Prob.(F-Stat) is statistically significant at the 0.01 level indicating that at least one of the independent variables examined affects UPOIC stock price significantly. All the five independent variables help explain the change in UPOIC stock price 18.42%. According to the statistical significance of the coefficients of the independent variables, only net profit margin ratio positively affects UPOIC stock price at the 0.05 level.

Eq. 8:

$$UVAN_t = 24.1638 + 1.6245CR_t - 450.0484DER_t + 3.0135NPM_t + 12.4102TAT_t + 0.0923API_t$$
$$\qquad\quad (0.8379)\ (0.7481)\quad (-3.2279)^{**}\quad (3.2949)^{**}\quad (1.6701)\quad (1.5264)$$

F-Statistic = 19.4359
Prob.(F-Stat) = 0.0000
Adjusted R^2 = 0.4344
** = statistical significance at the 0.01 level

From equation 8, Prob.(F-Stat) is statistically significant at the 0.01 level indicating that at least one of the independent variables examined affects UVAN stock price significantly. All the five independent variables help explain the change in UVAN stock price 43.44%. According to the statistical significance of the coefficients of the independent variables, debt to equity ratio negatively affects UVAN stock price at the 0.01 level, and net profit margin ratio positively affects UVAN stock price at the 0.01 level.

6. Conclusions and Discussions

Table 1: Summary of the statistical significance of the overall results

	STA	TRUBB	UPOIC	UVAN
Current ratio (CR)	+	+		
Debt to equity ratio (DER)				-
Net profit margin ratio (NPM)	+		+	+
Total assets turnover ratio (TAT)	+			
Agriculture production index (API)				

Table 1 shows the summary of the overall results. All of the four financial ratios, including current ratio, debt to equity ratio, net profit margin ratio and total assets turnover ratio, statistically significantly affect stock prices of the agriculture firms examined. However, agriculture production index has no effect on stock prices.

Current ratio has a positive correlation to stock price, which is consistent with Mohammad Reza Kohansal, et.al (2013) and Amir Dadrasmoghadam and Seyed MohammadReza Akbari (2015). The higher the current ratio, the better is the liquidity of the firm, resulting in the superior firm performance. Thus, the stock price increases.

Debt to equity ratio has a negative correlation to stock price, which is consistent with Amir Dadrasmoghadam and Seyed MohammadReza Akbari (2015) and Rishma Vedd and Nataliya Yassinski (2015). The higher the debt to equity ratio, the higher debt financing the firm uses, resulting in the higher risk perceptions of investors. Thus, stock price decreases.

Net profit margin ratio has a positive correlation to stock price, which is consistent with Wanchai Aimlaor (2009). The higher the net profit margin ratio, the better is the profitability of the firm, resulting in the superior firm performance. Thus, the stock price increases.

Total assets turnover ratio has a positive correlation to stock price, which is consistent with Rishma Vedd and Nataliya Yassinski (2015). The higher the total assets turnover ratio, the better is the asset utilization of the firm, resulting in the superior firm performance. Thus, the stock price increases.

To conclude, agriculture firms with high current ratio, low debt to equity ratio, high net profit margin ratio and high total assets turnover ratio have high stock prices. Thus, basing on these findings, investors can select agriculture firms listed on the Stock Exchange of Thailand to invest in order to maximize their wealth. Additionally, to overcome the limitation of this study, the next research should increase the number of agriculture firms listed on the Stock Exchange of Thailand by reducing the period of study.

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