

Influential Factors related to International and Exchange Programs in Information Technology

Thitiporn Lertrusdachakul^{#1}, Kasem Thiptarajan^{#2}

[#]Faculty of Information Technology, Thai-Nichi Institute of Technology
1771/1 Pattanakarn Rd., Suanluang, Bangkok 10250, Thailand

¹thitiporn@tni.ac.th

²kasem@tni.ac.th

Abstract— The world economy and society have become much more globally integrated particularly when the ASEAN Economic Community (AEC) will be fully established by 2015 and completely affect to Thailand. The impact of this globalization challenges Thai-Nichi Institute of Technology (TNI) as the educational organization to move forward successfully with this opportunity. Faculty of Information Technology realizes this international trend and study the influential factors related to the international and exchange programs in Information Technology (IT) field under the Japanese collaboration concept. This research focuses on two aspects which investigate the high school students about interested field in IT and factors to further study the bachelor degree in international program. The research also explores how the enterprise or industry has interest in graduate from international program. The significant results reveal that the chance to work aboard and in foreign company after graduation is the most influential factor for study in international program. Beside the Japanese collaboration, America is the most selected country that international program should collaborate with. Finally, this paper also presents the survey result of undergraduates for the case study of influential factors and interested subjects in the exchange program based on the offered courses by TNI international partnership.

Keywords— International program, exchange program, collaboration, information technology, university

I. INTRODUCTION

The number of students in international school is continuously increasing in Thailand since 2008 due to the realization of English practice in young students and the increase in number of foreign students whose parents work in Thailand. This leads to the growth in number of international schools which reached 138 schools by the end of year 2012 [1]. The trend of further study in international program drives the public university to open more international curriculum competitive with the private university. As the result, totally 344 international curriculums of bachelor degree are open in 2012. From all of these reasons and the globally integration of ASEAN Economic Community (AEC) in 2015, it is the challenge for university to adapt and develop the curriculum according to this dynamic change.

The EF English Proficiency Index (EF EPI) which is the world's most comprehensive ranking of English ability reveals that Thailand is in the rank of 55 or very low proficiency in English [2]. Thai-Nichi Institute of Technology

(TNI) has realized this competitive weakness of Thai people and their opportunity for AEC particularly in information technology field. Therefore, TNI begins to study the possibility of international program.

Kanokporn [3] conducted research to investigate the desired factors on studying an international program for the first year student at public university. The results from 7 public universities showed that 36.5% of sample students searched the information from internet and website to make decision on further study. Students and their parents are the most influential persons for decision making. Beside the information from website, information from school advisors and alumni also significantly affect the student's decision.

Currently, there are many universities opened the international curriculum related to the information technology as follows.

- Bachelor of Science in Information and Communication Technology, Mahidol University [4]
- Bachelor of Science Program in Computer Science [5] and Bachelor of Engineering Program in Computer Engineering [6], King Mongkots's University of Technology Thonburi
- Bachelor of Engineering Program in Software and Knowledge Engineering, Kasetsart University [7]
- Bachelor of Science in Information Technology and Bachelor of Engineering in Computer Engineering, Sirindhorn International Institute of Technology, Thammasat University [8]
- Bachelor of Science Program in Information Technology, Computer Sciences, Multimedia Technology and Animation, Software Engineering and Bachelor of Engineering Program in Computer Engineering, Information and Communication Engineering, Mae Fah Luang University [9]
- Bachelor of Science in Information Technology, Stamford International University [10]
- Bachelor of Science in Information Technology, Payap University [11]

Some of them succeed in providing an excellent preparation for graduate study at leading universities abroad and working at leading local, international, and joint-ventured companies.

Varaporn [12] suggested that beside the up-to-date curriculum and international standard, international program should consider strategy for international activities

particularly in the exchange program for both student and teacher. In 2014, TNI has cooperation with Japanese universities and has cooperative agreements both university or faculty level about 42 universities. The collaboration carried out various academic exchange programs, joint researches, joint seminars/symposiums/trainings etc. in order to enhance the quality of education through the acquisition of relevant knowledge. Faculty of Information Technology realizes in preparing for the AEC and the successful exchange program. Therefore, the study of influential factors related to the international and exchange programs in Information Technology under the Japanese collaboration is investigated. Sections 2 and 3 will describe the research methodology and the survey results, respectively. Finally, the conclusions will be given in section 4.

II. METHODOLOGY

This research was conducted based on three main questionnaires which consist of the following studies. The survey method used both paper-based and web-based questionnaires distributed to the target groups.

A. Survey on the Interest of Study the Bachelor Degree in International Program

The questionnaire consists of two parts. The first part is about personal information, e.g., gender, level and type (Thai/English/other) of current study. The second part focuses on the interest in international program and interested field in information technology. In this part, influential factors to decide for further study the bachelor degree in international program are investigated. The interest in program that has international collaboration with Japan and the opinion of other collaboration countries are determined. For students who are not interested in international program, the reason and interested field in IT are also observed.

The target group is the high school student which we distributed the questionnaire directly in the classroom and in National Science and Technology Fair 2013 at Bangkok International Trade Exhibition Centre (BITEC). Some of questionnaires were passed to consulting teacher and social media.

B. Survey on the Interest to Employ Graduate from International Program

The questionnaire consists of the following parts.

Part 1: General information of respondents: position, business type, nationality of company, number of employee, related international country (if any).

Part 2: Information related to employing the graduate from international program: reason, field of study, TOEIC score, most required English skill and other languages.

The questionnaires were distributed to the enterprise, industry and organization that the 4th year students of Faculty of Information Technology work for the cooperative study. The cooperation of working students and their advisor is the key to follow and collect the complete data.

C. Survey on the Interesting Subjects of the Exchange Program in Japan

The undergraduate students of Faculty of Information Technology, TNI were asked to answer the first part of general information, e.g., gender, field and year of study, maximum budget, interested activities and places of exchange program in Japan, and other suggestions. For the second part about interesting subjects, we use the selected courses of NSG Group which is the TNI partnership as the case study. The fields of study used in this survey are shown in Table I.

TABLE I
SELECTED FIELDS OF STUDY IN EXCHANGE PROGRAM

Field of study	Number of subject
Computer	13
Game Creator	7
CG and Web Creator	8
Digital Design	27
Graphic Design	17
Illustration	14
Fine Art	14
Miscellaneous Goods and Jewelry Design	15
Shop and Sale	15
Fashion Design	10
Brand Producing	7
Fashion Business	4
Stylist	8
Vocal	13
Japanese Performance	10
Musical · Broadcast Business	7
Comic Creation	8
Comic Illustration	6
Character Design	8
Animator	9

The students were asked to select only interested subjects in each field and rate on the five-point Likert scale (1=less interested to 5=most interested). The data collected from questionnaire were computed and analyzed in terms of mean and standard deviation.

III. RESULTS AND ANALYSIS

The results of each questionnaire and their analysis are described as follows.

A. The Interest of Study the Bachelor Degree in International Program

There are totally 838 students from various schools that respond to the questionnaire. The period of survey is from July 15 to September 5, 2013. Examples of school in this survey are as follows.

- Saint Dominic School
- Thewphaingarm School
- Saint Joseph Convent School
- Samsenwittayalai School
- Assumptionsuksa School
- Bodindecha (Sing Singhaseni) School

• Bangkok Christian College

The 838 respondents were 69% male and 31% female students. They were in different level of high school, i.e., 28% for grade 10, 21% for grade 11, 47% for grade 12 and 4% for other. About 92% and 6% of students are currently study in Thai and English program, respectively. There are 40% of students interested in further study the bachelor degree in international program. Fig. 1 shows the percentage of field of interest in information technology for respondents that select further study in Thai program while Fig. 2 shows the percentage result of the respondents that select further study in International program. The result of highest selection in Multimedia Technology (MT) for Thai program is corresponding to the highest number of students currently enrolled in this program of the Faculty of Information Technology, TNI. For the students who interested to further study in international program, Business Information Technology (BI) is the most selected field and Multimedia Technology (MT) is the second selected one. Therefore both BI and MT are recommended to further consideration for international program of Faculty of Information Technology, TNI.

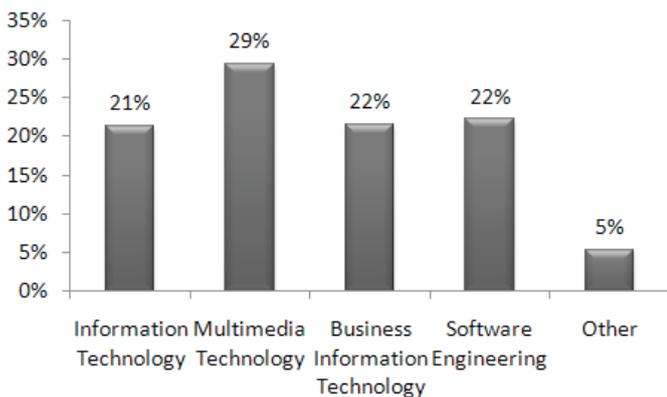


Fig. 1 The percentage of interested field in information technology of the students who select to further study in Thai program

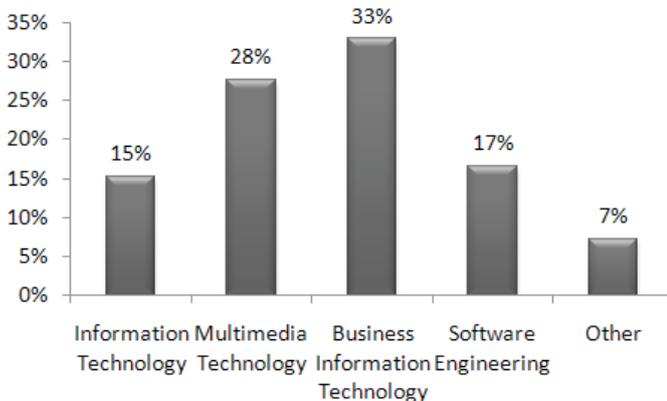


Fig. 2 The percentage of interested field in information technology of the students who select to further study in international program

Fig. 3 shows the result of influential factors to decide for study the bachelor degree in international program. The most influential factor is the opportunity to work in foreign country or company which is about 23% of responses. The second influential factor is the opportunity to study abroad with about 17% of responses. The overseas exchange or training and the chance to learn the third language such as Japanese are the third influential factors which are selected by 14% of responses.

About 27% and 34% of students are very much and much interested in international curriculum with Japanese collaboration, respectively. Beside the Japanese collaboration, 50% of responses suggested that international program should have collaboration with America. Germany and China are the second recommended collaboration countries with 16% of responses.

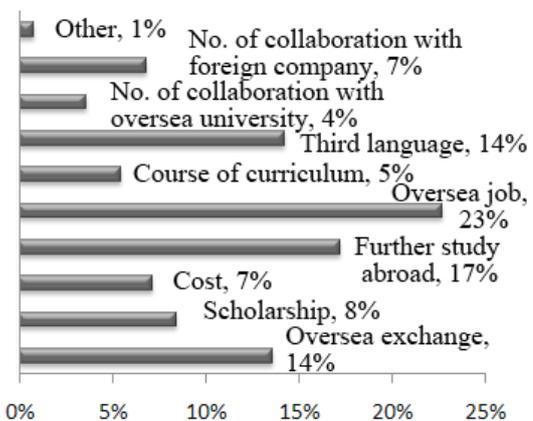


Fig. 3 The percentage of influential factors to decide for further study the bachelor degree in international program

B. The Interest to Employ Graduate from International Program

The results of 60 respondents were collected from the enterprise or industry in the first semester of academic year 2013. The types of respondent business consists of 33% in IT, 17% in other, 15% in advertisement/entertainment, and the rest in multimedia, service, industry, government, public enterprise and communication/telecommunication. About 92% are Thai nationality companies and the rest are Japanese and American nationalities, and other. The business scale varies from 1-50 employees (35%) to more than 500 employees (27%) as shown in Table II.

TABLE II
THE SCALE OF COOPERATIVE BUSINESS IN THE STUDY

Number of employee	Percentage of respondents
1-50	35%
51-100	18%
101-200	8%
201-500	12%
More than 500	27%

Most of businesses work internationally and about 27%, 20% and 18% of respondents are related to ASEAN, Japan and America, respectively. There are 85% of respondents interested to employ graduate from international program. This is because of the following reasons.

- Good command in English (42%)
- Ability to work with foreigner (22%)
- Having confidence and high leadership (21%)
- Other (14%)

The respondents have interest in employing the graduate from international program in various fields of studies as shown in Fig. 4. The highest percentage of is in Information Technology field with about 61% of respondents. About 32% and 30% of respondents require minimum TOEIC score of 700 and 600, respectively. Fig. 5 shows the English skill that enterprise/industry needs most. The speaking skill is the most required which was selected by 65% of respondents. The reading skill is also necessary with about 22% selection. From these results, it is suggested that teachers should encourage more English speaking and reading skills in their classroom.

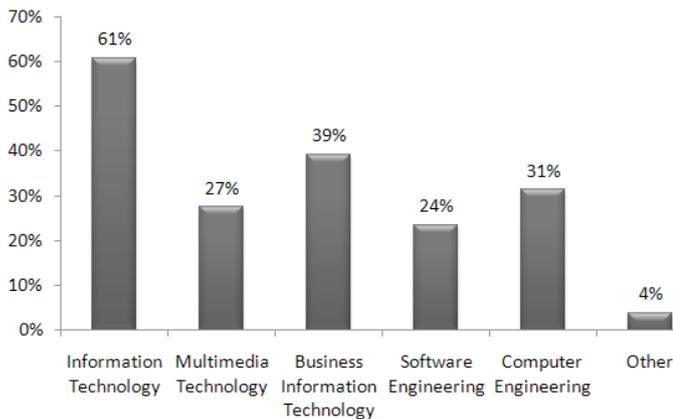


Fig. 4 The percentage of interested field in employing the graduate from international program

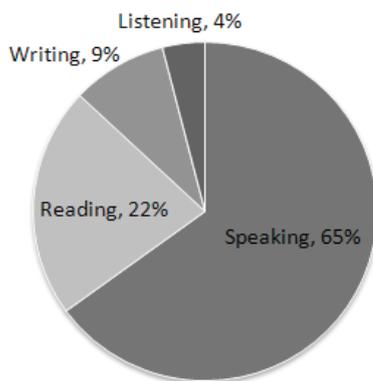


Fig. 5 The English skill that enterprise/industry needs most

Beside the English skill, the enterprise/industry also requires Japanese and Chinese skill equal to 47% and 40% of respondents, respectively. The most reason that enterprises are not interested to employ graduate from international program

is “no international communication” which is about 64% of respondents.

C. The Interesting Subjects of the Exchange Program in Japan

The 84 respondents were 55% male and 45% female students from IT (33%), MT (42%) and BI (25%). They are all from the 1st (32%), 2nd (8%), 3rd (49%), and 4th (11%) year students of Faculty of Information Technology, TNI. The maximum budget that most selected by respondents is 60,000 Baht (36%) and 100,000 Baht (21%) per one month including accommodation fee, tuition fee and airfare. Fig. 6 shows the percentage of interest in exchange program with various kinds of activities. The respondents can select more than one activity up to their interest. The results showed that the students were interested most in activities of study Japanese language (76%), field trip (71%) and study Japanese culture (70%). About 54% of respondents are interested to study the special course related to their major field. Some exchange program such as Aso Juku program already integrated Japanese language and culture, major course study and field trip in the program. How much it will be interesting for the students depends on the total cost of the program. Ritsumeikan University exchange program also combines the Japanese language and major course study with atmosphere of research laboratory. The new summer programs of TNI try to add more option to the Japanese language based exchange program. For example, ABK program integrates with teamLab for training and Digital Hollywood University for field trip and major course study.

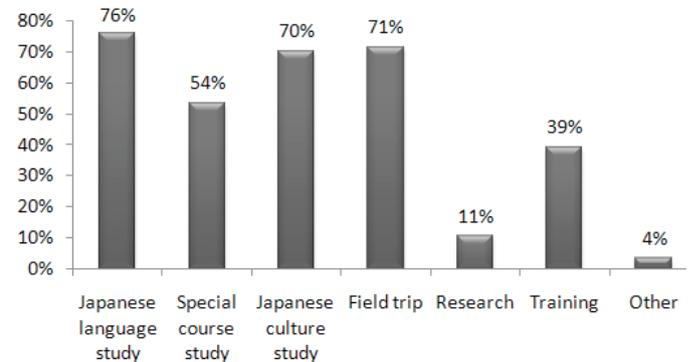


Fig. 6 The percentage of interest in exchange program with various kinds of activities

The respondents were also asked about the most interested place of the exchange program in Japan. The result showed that Tokyo is the most popular place and was selected by 29% of respondents. The second interested ones are Osaka and Hokkaidou with about 18% selection and 17% of respondents are interested in any place of Japan. The students also suggested that the exchange program should provide more scholarship in the future.

Table III shows the most interesting subjects from 20 fields of study. These subjects were selected based on the following criteria.

- Percentage of respondents more than 60

- Mean in level of interest more than 4.00
- Standard deviation in level of interest less than 1.00

TABLE III
THE MOST INTERESTING SUBJECTS OF EXCHANGE PROGRAM IN JAPAN

Subject	Percentage of respondents	Mean of interest	Standard deviation
Cartoon Illustration	60%	4.08	0.90
Game Graphics	70%	4.07	0.94
Comic Practice	60%	4.06	0.82
Movie Production	61%	4.06	0.88
Character Design	61%	4.04	0.92
3D Computer Graphics	63%	4.04	0.90

Other interesting subjects are as follows. These subjects have the percentage of respondents more than 55, and mean in level of interest more than 3.90 with standard deviation less than 1.00.

- Windows Game Development
- Nintendo 3DS Game Development
- Drawing
- Graphic Design
- Digital Design
- Computer Graphic Animation
- Photo Retouch Practice
- English Conversation in Vocal
- Comic Technique
- Perspective Drawing
- Digital Cartoon
- Drawing · Sketch
- Comic Art
- Character Drawing
- Animation Movie

The courses of NSG group are selected to use in this study because of a variety in information technology field and the partnership of NSG group with TNI. The list of these interesting subjects will be useful for consideration and applying for the content management in the exchange program. However, the results might be similar to the interest of students in Multimedia Technology Program because of their highest number of responses in this survey.

IV. CONCLUSIONS

This research attempted to investigate the influential factors to the high school students for further study the bachelor degree in international program. The results showed that about 40% of 838 respondents have interest in international program and the most influential factor for their decision is the opportunity to work in foreign country or company. The opportunity to study abroad also significantly affects their consideration. Business Information Technology is the field that they are interested most in IT.

For the enterprise or industry, about 85% of 60 respondents have interest in employing the graduate from international

program with the most important reason of good command in English. The most required English skill is speaking and other required languages are Japanese and Chinese. Information Technology is the field that enterprise or industry is interested most.

For the activities in exchange program, about 76% of 84 undergraduate students in Faculty of Information Technology are interested in Japanese language study. Other interesting activities are field trip and Japanese cultural study. The result reveals that the respondents are very interested in the following subjects of the exchange program.

- Cartoon illustration
- Game graphics
- Comic practice
- Movie production
- Character design
- 3D computer graphics

These results will be useful for preparing and improving the study content of the exchange program at the Faculty of Information Technology.

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