

# กลุ่มที่ 1

International  
Research Papers

## **THE STUDENTS' ATTITUDE TOWARD THE FOUR SQUARE WRITING TECHNIQUE IN IMPROVING THEIR WRITING SKILLS**

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### **ABSTRACT**

This paper reports a classroom study aiming to enhance Thai students' essay writing skills. The author applied an outline writing technique --- the four -square writing technique. 54 fourth-year English majors received a series of instruction on how to structure and write a five-paragraph essay using the technique. These were those who were taking a course titled Reading and Summarizing of Academic Texts (EN 317). Data were collected from 38 students. These students were asked to answer the questionnaires and answered three open-ended questions related to their experience using the method. Results showed that the majority of the students had positive attitudes toward the method. They perceived it as being a helpful tool, assisting them in planning and organizing their ideas before writing. Some even perceived it as being helpful in developing their vocabulary and grammar skills. However, it is noted that weaker students needed special support in terms of basic writing skills at the sentence - construction level.

**KEYWORD :** paragraph/essay writing, four-square writing technique, Thai students' writing difficulties

### **INTRODUCTION**

For many Thai EFL students, writing a well-organized paragraph or essay in English has always been a challenge. Previous studies report a myriad of challenges, ranging from grammatical errors to rhetorical challenges. For example, Hinnon (2014) reported common errors in English writing among Thai university students. It was found that Thai students made grammatical and lexical errors as well as writing organization. It was also reported that there was interference from Thai, their first language. Efforts, thus, have been made to help develop Thai students' English writing skills. For example, Sersen (2011) tried raising Thai students' awareness of the differences between Thai and English and the negative transfer. He found that such an awareness-raising activity helped reduce Thai students' writing errors.

Good writing comes from good thinking. Hence, planning and making an outline of ideas are necessary. Very often, Thai students have problems organizing their ideas when they have to write a paragraph or essays. In this study, the researcher introduced one of the writing organization techniques by the name of “the four-square writing technique”, introduced by Judith Gould and Evan Gould in 1999.

The technique requires that the students plan their writing in five squares. The first square is put at the center of the table. Each square provides key words or phrases related to the main idea or topic idea. It is expected that this would help the students write better essays in English. As the technique requires extensive preparedness and it often appears to be time consuming, the researcher was not sure if the students would like it and perceive it to be useful. Hence, the focus of this present study was to determine their attitudes toward the technique and their perception about the benefits of the technique.

In this study, the author applied the four-square writing method to help develop some Thai EFL students’ English writing skills. The instruction was a part of the requirements of the course titled Reading and Summarizing of Academic Skills (EN 317) offered as a required course by the English Program at Dhurakij Pundit University.

The research questions are:

1. What are the students’ attitudes toward the four-square writing method?
2. What do the students think about the method?
3. Are there any differences the attitudes among three levels of achievers?

## **BRIEF LITERATURE REVIEW**

When it comes to writing in English at a paragraph or an essay level, one of the challenges faced by most Thai EFL students is their rhetorical tradition and style. In modern days, this realization was first noticed and documented by Kaplan (1966).

The thought patterns with speakers and readers of English appear to expect as an integral part of their communication is a sequence that is predominantly linear in its development....Some Oriental writing, on the other hand, is marked by what may be called as approach by indirection. In this kind of writing, the development of the paragraph may be said to be “turning and turning in a widening gyre”

Kaplan (1966, p. 13 and 19)

Thai students are often classified as those belonging to the Oriental camp. This might have made it difficult for them to write well in English. Of course, one cannot rule out their linguistic limitations, e.g. poor English writing skills at the sentence level.

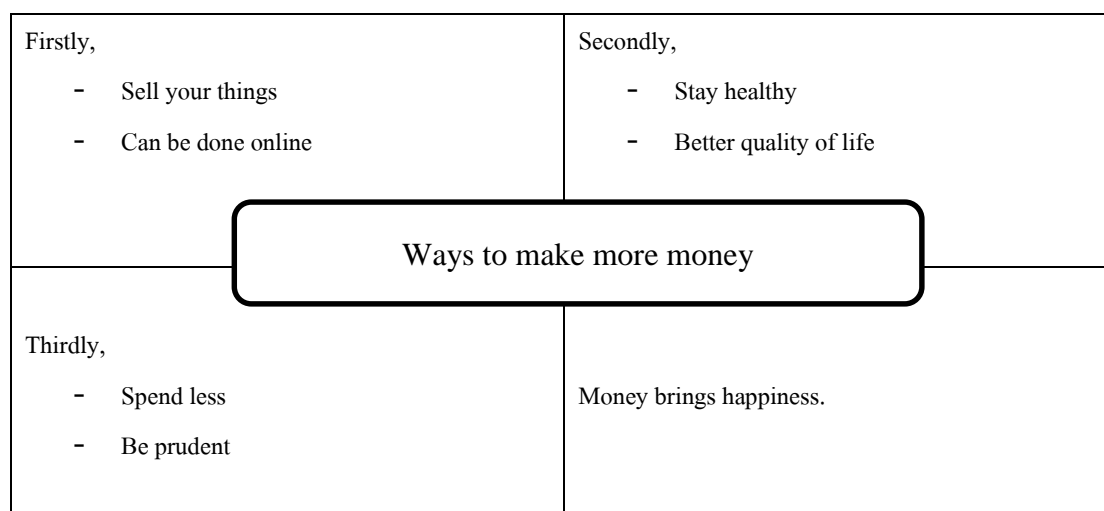
In the late 1970s, Edward T. Hall, an American anthropologist, has also pointed out that culture influences language. He classified culture into two groups: low-context and high-context culture. Like Myanmar and Vietnamese, Thai culture is considered a high-context culture, according to Edward T. Hall (1976), many things are often left unsaid and participants are expected to guess or interpret the meaning from the context. Unlike Thai culture, most western cultures, including American, Australian, and English cultures, are classified as being those in the low-context camp. They rely less on the context, so writers or communicators need to make more effort to make it clearer. In other words, low-context learners tend to create overt messages or texts. In short, low-context writers exhibit many overt and explicit messages that are simple and clear.

Thai students, on the other hand, when they communicate in English, often create implicit texts. Readers have to be able to figure out their metaphor and have to read between the lines. They sometimes do not elaborate or give supporting details. Thai students often leave out some details, expecting the reader to fill the gap of their own understanding. This often results in unclear writing. Their writings may appear that they are less coherent and lack organization.

What is the four-square writing method?

According to Judith Gould and Evan Gould (1999), four-square writing refers to a method of teaching basic composition skills. It is also a set of pre-writing and organizational skills, heavily focused on with this method's well developed graphic organizer, and a tool for writing, for example writing a five paragraph essay.

As its name suggests, the method entails four squares. At the center of the table, another square is placed there. The researcher often referred to the method in his class as 'the five-square method', as it appears that there are actually five squares. The figure below shows the components of the method and all the squares.



As shown above, the topic sentence (the first square) is put at the center. This is the theme or topic of the paragraph or essay. The last square (the bottom right one) is the summary.

There are many benefits. Firstly, it helps students in organizing their thoughts/plans before writing. Secondly, it can be applied across grade levels and content areas. Moreover, it can be applied to different genres: expository, narrative, persuasive, and descriptive forms of writing. Furthermore, it provides visual and kinesthetic aid to help students focus on their writing. Finally, it offers opportunities for the students to write in small groups.

## METHOD

The subjects were 54 fourth-year English majors who were taking a course titled Reading and Summarizing of Academic Texts (EN 317). After receiving six hours of instruction and classroom practice, the students were asked to answer the questionnaires designed by the researcher. The questionnaires were answered by 38 students; they were those who were present and available for data collection. They answered the Liker's type questionnaires and three open-ended questions. The appendix shows the items in the questionnaires. The data were collected in September 2016.

To answer the third research question, the researcher asked the respondents to provide their GPA, which was done on a voluntary basis. Their GPA was used to determine their academic achievement. Those whose GPA was lower than 2.50 were considered low achievers; the students whose GPA was at 3.00 or higher were considered the high achievers.

This study only investigated the students' attitudes and their perceptions of the students. The instruction was given in weeks 4 and 5, and the data collection was done in week 7.

## RESULTS

Results are as follows:

Findings based on the students' responses to the questionnaires.

A total of 38 students (28 or 73.7% female and 9 or 23.7% male) answered the questionnaire. Their GPA ranges from 2.00 to 3.50 or above, as shown in Table 1 below.

**Table 1: GPA**

GPA Range	Frequency	Percent
Below 2.00	0	0.0
2.00-2.49	9	23.7
2.50-2.99	7	18.4
3.00-3.49	5	13.2
3.50 or above	4	10.5
Missing	13	34.2

Table 1 shows that four students (10.5%) had their GPA as high as 3.50 or above. Five students (13.2%) had their GPA between 3.00-3.49. Seven of them (18.4%) had their GPA between 2050-2.99. Nine of them (23.7%) had their GPA between 2.00-2.49. No one had his or her GPA below 2.00. Thirteen students (34.2%) chose not to reveal their GPA. Based on the set criteria, there were 9 high achievers and low achievers.

**Table 2:** Four-square Writing Method helps me write better English

Opinion	Frequency	Percent
Strongly Agree	0.0	0.0
Agree	13	34.2
Undecided	25	65.8
Disagree	0.0	0.0
Strongly Disagree	0.0	0.0
Total	38	100

To the statement “The Four-Square Writing Method helps me write better English,” it was found that only 13 students (or 34.2%) agreed and the majority of them (25 or 65.8%) were undecided. This table shows that most students were not sure if the technique helps them. Only one-thirds thought the technique helps them.

**Table 3:** Four-square Writing Method is an effective way to organize my thought before writing.

Opinion	Frequency	Percent
Strongly Agree	0.0	0.0
Agree	12	31.6
Undecided	26	68.4
Disagree	0.0	0.0
Strongly Disagree	0.0	0.0
Total	38	100

When the responses to “Four-square Writing is an effective way to organize my thought before writing” were analyzed, it was found that 12 students (31.6%) agreed, and the majority of them (26 or 68.4%) were undecided. This shows a similar pattern to their responses in the previous table --- to-thirds of the students were unsure whether the method is an effective way to help them organize their thought before writing.

**Table 4:** Four-square Writing is useful.

Opinion	Frequency	Percent
Strongly Agree	21	55.3
Agree	15	39.5
Undecided	1	2.6
Disagree	0	0.0
Strongly Disagree	1	2.6
Total	38	100

When asked if the four-square writing is useful, 21 students (or 55.3%) agreed strongly and 15 students (39.5%), agreed. One student (2.6%) was undecided, and one strongly disagreed. This table shows that almost all students agreed that the technique is useful.

**Table 5:** Four-square Writing does not help me in my writing of an essay.

Opinion	Frequency	Percent
Strongly Agree	5	13.2
Agree	7	18.4
Undecided	4	10.5
Disagree	17	44.7
Strongly Disagree	5	13.2
Total	38	100

Table 5 shows that 12 students (31.6 %) believed that the four-square writing technique did not help them in their essay writing while 22 students (58%) believed that the technique helped them. Four students (10.5%) were undecided. This table shows that about one-thirds of the students thought the technique did not help them in their essay writing. The majority thought it helps.

**Table 6:** I like the Four-square Writing.

Opinion	Frequency	Percent
Strongly Agree	6	15.8
Agree	25	65.8
Undecided	6	15.8
Disagree	1	2.6
Strongly Disagree	0	0
Total	38	100

The majority of the students (80%) agreed and strongly disagreed with the statement “I like the Four-square Writing”. Six of them (15.8%) were undecided. Only one student disagreed with the statement.

**Table 7:** Four-square Writing helps improve my vocabulary and grammar.

Opinion	Frequency	Percent
Strongly Agree	10	26.3
Agree	16	42.1
Undecided	10	26.3
Disagree	2	5.3
Strongly Disagree	0	0
Total	38	100

The majority of the students (68.4%) either agreed or strongly agreed with the statement “Four-square Writing helps improve my vocabulary and grammar.” Ten students (26.3%) were undecided. Only two students disagreed with the statement.

**Table 8:** The Four-Square Writing Method helps me to pay more attention to organization and ideas.

Opinion	Frequency	Percent
Strongly Agree	20	52.6
Agree	16	42.1
Undecided	2	5.3
Disagree	0	0
Strongly Disagree	0	0
Total	38	100

The majority of the students (94.7%) either agreed or strongly with the statement “Four-square Writing helps me to pay more attention to organization and ideas.” Two students (5.3%) were undecided. No one disagreed with the statement.



**Table 9:** I enjoy writing using the Four-Square Writing Method.

Opinion	Frequency	Percent
Strongly Agree	12	31.6
Agree	17	44.7
Undecided	8	21.1
Disagree	1	2.6
Strongly Disagree	0	0
Total	38	100

Table 9 shows that the majority of the students (76.3%) either agreed or strongly agreed with the statement “I enjoy writing using the Four-square Writing Method.” Eight of them (21.1%) were undecided. Only one student (2.6%) disagreed with the statement.

The researcher also conducted an analysis to determine if there were any differences in terms of attitudes and perceptions between the high achievers and the lower ones. The independent t-test was thus applied to determine whether there is a statistically significant difference between the means in the two groups. It was found that only one item, the item on the extent to which the students thought the technique was useful, was found to be significantly different at the 0.05 level of confidence.

**Table 10 :** Difference between High and Low Achievers

	High-achievers (N = 9)	Low-achievers (N =9)
Mean	3.22	1.77
Standard Deviation	1.48	0.55

$P < 0.05$

The table above shows that the lower achievers’ mean (3.22) for the item “The Four-square Writing does not help me in my writing of an essay” is much higher than that of the higher achievers (1.77). This seems to show that the low achievers perceived the method to be less helpful when compared with the opinion of the high achievers.

In sum, in general, most students had positive attitudes toward the four-square writing method. They liked it and enjoyed using it to help them write paragraphs and essays. Even though some students not were skeptical whether the technique helped them write an essay, they agreed with the other aspects of the technique, e.g. they enjoyed the technique and it helped them to better organize their ideas.

Findings based on the students’ responses to the open-ended questions.

How does the Four-Square Writing Method help you to write a paragraph or essay?

- It develops my writing skills. The square helps make my writing easier.
- The method helps me to manage my ideas before writing.
- It helps me focus and plan my essay.
- The method helps make my writing easy to follow and less confusing. I have to organize my topics and ideas before doing the writing.
- It helps me to write step by step.
- I can better plan my ideas before writing.
- The method helps me in my writing of English.
- It is helpful, but it wastes a little time in my writing of an essay.
- Four-square writing is a great tool.
- It helps make paragraph writing easier.
- It helps me organize my ideas. I can write a paragraph more systematically and the paragraph is easy to understand.
- It helps me to organize my ideas.
- It helps me write better, easy to understand. It is clearer for me where each topic is.
- It helps me organize my thought or ideas before writing.

Most of them said that the method helped them to organize their ideas before writing.

What are the key benefits of the 4-square writing method?

Many students cited the benefits as follows:

- Improve my organizational skills, helping me write a better essay.
- It makes my essay easier to read and understand.
- Easy for me to organize ideas.
- It helps me to get ideas and organize them.
- It helps me organize ideas effectively.
- The method helps me to stay focused.
- It helps me better organize my paragraphs or essays.
- It helps me improve my essays.
- It helps improve my writing skills.

The majority of the students said that the method helped them to better organize their ideas before writing. They felt they could write better paragraphs and essays.

Prior to your experience with the four-square writing method, how do you write a paragraph or essay?

- I used to write an essay without preparing and organizing my sentences. I just write everything up on the paper.
- In the past, writing an essay was very difficult for me. Noe, I find the four-square method easy to me to write one.
- In the past, I used a simple outline method (bullets)
- Never been taught how to write an essay.
- The four-square method is very helpful for me. I have adapted it to use in other subjects.
- I just made a quick outline and wrote the essay immediately. There was nothing to organize my ideas.
- I did not make any outline or plan before writing.
- Got the topic and wrote it down without little idea organization.
- Just wrote it down without planning...just planned in my head and started writing.
- Just wrote it ..didn't plan or thought much about it.
- Created an outline like topic and supporting details in a linear manner (bullets)
- I used to think about words to use as I wrote.
- Prior to the four-square writing method, I wrote an essay by writing and thinking in my head at the same time. That made my writing redundant and confusing.
- I just wrote down what I had in my head.
- I wrote an outline before I wrote a paragraph.
- I began with the introduction, followed by the body, and ended it with the conclusion.

Sixteen students (about 50%) of the students wrote their responses to the question. Based on their responses, the most cited method was using a traditional bullet outline. It was also found that many students did not plan their essay. They just wrote whatever came in their mind at the time when they thought in their heads.

## **DISCUSSIONS**

Most students surveyed had positive attitudes toward the writing method. They perceived the method as being a useful tool helping them organize their ideas in a systematic manner. However, the result of the T-test analysis suggested that lower achievers perceived the method differently. Many of them said the method did not help them to write essays at the organizational level. This may signify that they need more help, for example, help in vocabulary, sentence construction, and other basic writing mechanics.

The majority of the students liked the method, regardless of their levels of achievement. This assertion was supported by their written responses. Many of them opined that the method helped them to organize their ideas and to write systematically. Many of them mentioned that prior to their experience writing using the four-square writing technique, they just wrote down what they had in their heads.

This study provides some evidence to suggest that the four-square writing techniques are flexible and viable for helping EFL/ESL students write better English. For weaker students, support at the sentence-writing level is crucial. A lot of examples should be provided to scaffold their writing. According to Benko (2012), scaffolding is crucial for L2 writing development, and teachers should provide sufficient scaffolds and make sure that those scaffolds are not released too abruptly.

## SUMMARY

This classroom action research aimed to develop the students' essay writing skills by applying the outline writing technique by the name of for-square writing technique. 56 fourth-year English majors received a serious of instruction on how to write an essay using the technique. By the end of the module, they were asked to answer the questionnaires and three open-ended questions.

Results showed that the majority of the students had positive attitudes toward the method. They perceived it as being a helpful tool helping them to organize their ideas before writing. Some even perceived it as being helpful in developing their vocabulary and grammar skills. It is also noted that weaker students need support both at the organization and sentence-writing levels.

## RECOMMENDATIONS

Further study should analyze the students' essay quality before and after the instruction and determine their progress or changes, in addition to asking them about their attitudes.

As for the implication for classroom practice, Thai teachers should seek ways to help Thai students organize their ideas before writing paragraphs or essay. The four-square technique is a viable way to achieve a well-structured piece of writing.

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# **A BEHAVIORAL STUDY OF “GENERATION Y” LIVING IN BANGKOK WITH REGARDS TO MUSIC CONSUMPTION AND DIGITAL MEDIA PATH**

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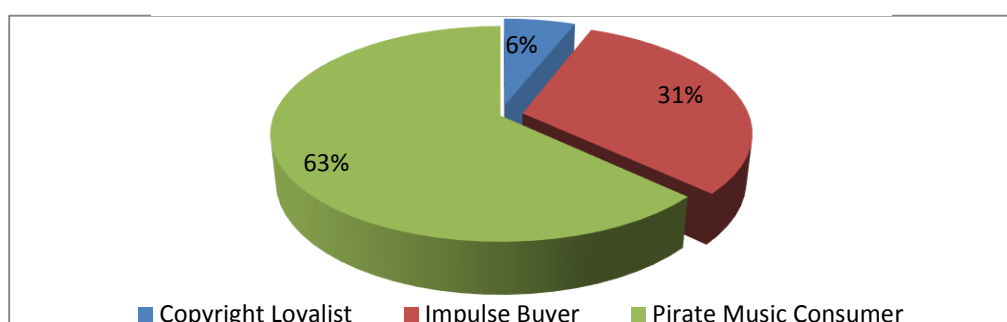
## **ABSTRACT**

This research aimed to study the consumer behavior and factors that affecting decisions on music consumption behavior and digital media path in Generation Y living in Bangkok by researching from demographics factors, domestication theory and the AIDA Model (Customer Journey) in order to determine their consumption behavior and the digital media path. This research was carried out using the quantitative research methods using focus group interview to determine the consumer behavior and digital media path in order to design the survey. The surveys were then distributed online, completed by 220 sample size group between 16-35 years old. The data were analyzed by percentage, mean, paired Sample t-test and multiple regression. The results of this research stated that there is a significant difference between past and present music consumption via CD/MP3, Thumb drive, YouTube, Joox, Apple Music and other music application. Whereas there is a significant difference between present and future music consumption via Radio, CD/MP3, Thumb drive, Joox, Apple Music and other music application. Additionally, customer journey drafted from the focused group is proven valid by 220 survey applicants, whereby all parts: Awareness, Interest, Desire and Action (Present music consumption behavior) shows a positive correlation towards one another in both upper and lower Generation Y.

**KEYWORDS:** Music Consumption Behavior, Digital Media Path, Customer Decision Journey

## **1. INTRODUCTION**

With loss in physical sales and non-recoupable illegal downloads many artists and record labels were forced out of practice. By 2010, the music industry shrank by half, compared to a decade before. (Goldman, 2010) Despite persevered and collaborated efforts to adapt to the digital era, the income generated digitally was insufficient and had never exceeded that of diminishing physical sales. Thailand also experienced the rise of pirate music consumer in 2013 as shown in figure below.



**Figure 1:** Proportion of music consumer (2005)

Source: (Pichaipat, 2010, p. 5)

It was only in early 2015 where the global music industry finally saw a surplus of digital revenue, netting 6.85 billion USD while physical netted 6.82 billion USD. (Vincent, 2015) Reports indicated that although download has more than 50 per cent contribution in the digital revenue, an increasing popularity in music streaming services was observed (International Federation of the Phonographic Industry, 2015). Nevertheless, there were limited studies on digital music consumption behavior of Thai users.

Over the years there have been several global brands, such as KKbox and Deezer, whom have entered Thai market. Last year (2014), YouTube launched its Thai office, officially recognizing Thailand as potential market in the global digital streaming service. (Pornwasin, 2014) YouTube Thailand has approximately 26.2 million users, resulting in more than 1,500 million monthly page views. (Vichienwanitchkul, 2015) Even the Line, one of the most use chat application, has stepped in the arena, offering paid subscription music streaming service: Line Music. Sources report that YouTube has its own platform ready for launch in Thailand as well.

Rate of population 6 years of age and over by listening to radio, age group: 1989, 1994, 2003 & 2008  
(National Statistical Office, 2008)

1989	1994	2003	2008	Age group (years)
56.7	43.9	42.8	31.1	Total
41.9	31.4	26.1	12.7	6 - 14
69.4	56.8	57.5	37.1	15 - 24
59.6	45.0	45.0	34.6	25 - 29
42.6	31.3	30.7	28.3	60 & over

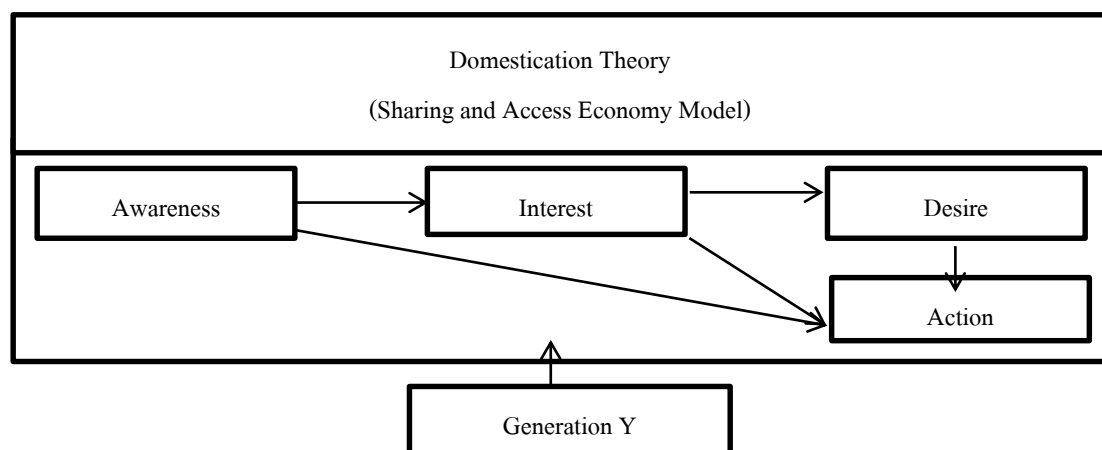
The table above shows a decline in percentage of radio listeners in Thailand. Twenty years ago, radio was more than half of the population's source of entertainment. However, over the years the crowd has reduced to merely a third of the population. This gives rise to the next assumption, if radio is still employed Thai main source of music consumption.

## 2. RESEARCH OBJECTIVES:

- 1) To study the behavioral change and trends in music consumption in digital media era of Generation Y, comparing the past, present and future.
- 2) To study the influence of digital media path (AIDA model) towards current behavior of Generation Y, upper and lower age tier.

## 3. CONCEPTUAL FRAMEWORK

Music Consumption of Generation Y



## 4. Methodology

### 4.1 Research Design

The research project is an exploratory research with focus group interview as it is conducted to clarify “A behavioral study of “Generation Y” living in Bangkok with regards to music consumption and digital media path”.

### 4.2 Population and Sampling

The selected population for this research was Generation Y living in Bangkok, age ranges between 16 and 35 years old. Based on Taro Yamane formula, if the population size is more than 100,000 at confidence level of 0.95 and precision level of  $\pm 7\%$ , the appropriate sample size should be 204. (Israel, 1992)



Beside the Yamane formula, we have also conducted a simple survey among 4 sample groups of 4-5 people asking if they thought Generation Y in Bangkok consume their music mainly on digital platforms. The results below were then used to calculate the appropriate sample size.

#### 4.3 Variables

H1: Past, Present and Future's music consumption behaviour via: Radio, CD/MP3, Thumbdrive, Pre-downloaded music into mobile phone, YouTube, Joox, Apple Music and other applications

H2: Present music consumption behavior, Awareness of new music, Interest in listening new music and Desire to listen to new music

#### 4.4 Data collection

Data was collected using purposive sampling only Generation Y living in Bangkok. The survey was distributed via online channels within 2 weeks.

#### 4.5 Data Analysis Plan

<i>No</i>	<i>Hypothesis</i>	<i>Statistical Design</i>
H1	From the past, to present and towards the future, there are differences in music consumption via digital media by Generation Y.	n = 220 Paired Sample T-Test (Repeat 2 times, compare past to present and present to future)
H2	Awareness, interest and desire has a positive impact on present music consumption behavior	n1 = 110 n2 = 110 Multiple Regression (Awareness to Interest - simple regression Interest to Desire - simple regression Desire to Present - simple regression)

#### 5. Conclusion

1) According to the research Generation Y living in Bangkok has most definitely moved towards digital consumption. There was a change in music consumption behavior among participants in the past compared to the present. There was a shift in Radio, CD/MP3, Thumb drive, YouTube, Joox, Apple Music and other music application consumption. Mainly because in the past Joox, Apple Music and other music application were yet to be developed and main publicly available. While pre-downloaded music saved in mobile phone has no change in behavior.

2) Participants also perceived that there will be another change in music consumption behavior via Radio, CD/MP3, Thumb drive, Joox, Apple Music and other music application. However, participants also expect music consumption via pre-downloaded music in mobile phones and YouTube to remain the same.

3) Even though 96.7% of participants agreed that music is valuable, only 57.6% of participants felt that consumer should have to pay for its consumption.

4) There were positive correlations amongst each stage of Customer Journey pre-identified by the focused group, for both age groups. In which, when a subject experiences a stronger degree of awareness will positively influence subject's interest as well; similarly for interest towards desire, desire towards action, and each stages towards action. Proving that the Customer Journey sketched from the focus group interview is indeed valid.

## 6. DISCUSSION

From the research findings we can safely concluded that Generation Y living in Bangkok has most definitely moved towards the digital consumption era and moving onto the sharing economy.

In the past, most participants consumed their music mainly from Radio, followed by CD/MP3. Whereby, presently participants strongly identify YouTube as their main source of music consumption; and a sharp decline in consumption via CD/MP3. There was a visible increase in participants using Joox, Apple Music and other mobile application in the present; however, it was still minimal compared to that of YouTube.

Customer journey drafted from the focused group is proven valid by 220 survey applicants, whereby all parts: Awareness, Interest, Desire and Action (Present music consumption behavior) showed a positive correlation towards one another in both upper and lower Generation Y.

YouTube was identified as the main source of music discovery, followed by Facebook. Music application is least identified a source of music discovery, followed by radio. Most participants also ranked Artist's name or pseudo name as the strongest factor influencing their interest in a new musical piece, followed by musical piece with available video for view. Artist's name or pseudo name was also ranked as the strongest factor influencing participants desire to listen to a new musical piece. Number of Facebook comment was one of the factor most participants least identify as a factor that influences their desire to listen to a musical piece, followed by number of YouTube comments. However, although at a lower rate than that of Artist's name and pseudo name, number of YouTube view and chart ranking within a music application are strongly identify as influencing factors of their desire to listen to a musical piece.

## **7. SUGGESTIONS**

### **7.1 Suggestion for application of research**

1) Record labels and Artists should seriously consider various digital platforms as a new distribution channel for each stages of audiences' journey (Customer Journey). As the traditional platforms, such as radio and CD/MP3, are losing their popularity, digital platforms are gaining more users. Current users even perceived that there will be prolonged use within the next 5 years. Industry players should keep a sharp eye on possibly disrupting alternative for music consumptions.

2) Additionally, it is prudent that the private sector take note of the percentage of participants willing to pay for music consumption presently. Further study and analysis may be required in order to investigate feasibility of B2C (business-to-consumer) model of the industry in Thailand; alternatively, an extended study may be able to identify the solution or substitute source of monetization.

3) Furthermore, industry players should also take note the importance of accompanying media such as videos, graphics and descriptive text. As these media, especially video, are associated as fairly strong influencing factor of target audiences' interest in a new musical piece beside Artist's name or pseudo name. This would give less well known artists and new comer a more competitive edge in their marketing plans in order to promote their musical work.

4) YouTube view and Facebook likes should be prioritize over comments of both platforms.

5) Music application may consider developing and creating an impactful, value-added exposure of its charts within its applications. As a significant number of participants viewed music application charts as one of the strong influencing factor that effect their desire to listen to a musical piece.

### **7.2 Suggestion for further studies**

1) For future research and studies, researchers should consider other age groups and a larger sample size. It would be prudent to study the perspective of the new generations and those of older generations as well.

2) This research is conducted mainly on quantitative analysis, pre-scoped by a focus group interview session with 6 participants of Generation Y in proportionate number of each gender. Future research should consider conducting the research based on a qualitative analysis as well, such as in-depth interview. In order to better understand the target groups and identify their behavioral insights.

## **8. ACKNOWLEDGEMENT**

First of all, I would like to gratitude to my advisor sincerely, Dr. Chutima Kedsadayurat for supporting the inception and the process that led to the results of this research, for her patience with me. The assistance and guidance of my advisor was essential to the completion of this Independent Study.

Besides my advisor, I also would like to thank all lecturers of Digital Marketing Communications for the knowledge they have bequeathed, and the encouragement they have given me.

I sincerely thank all participants who dedicated their time to answer and complete the questionnaire. This Independent Study will not have been possible without their enthusiastic responses.

Thank you to my classmates, my friends, who accompanied me while we walked down our respective paths, and for the suggestions and opinions which they offered.

Finally, I would like to dedicate this document to my family, who has been an undeniable pillar of support throughout the years.

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**ATTITUDES TOWARD ENGLISH LEARNING OF THAI STUDENTS  
MAJORING IN JAPANESE LANGUAGE:  
BASED ON THE SURVEY RESULTS OF SRIPATUM UNIVERSITY**

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**ABSTRACT**

The purpose of this paper was to clarify consciousness, opinion, or attitudes toward *English* and *English learning* of Thai students. The target group was the 31 second-year students in an academic year 2016 who majored in Japanese course at Sripatum University, Bangkhen Main Campus, Bangkok, Thailand. The research was conducted by a questionnaire method, namely, a closed-ended question was consisted of 14 questions: a multiple-choice question that chose a single answer out of agree, disagree and neutral. Valid responses were 23 students and Cronbach's coefficient alpha was 0.87. The findings of the survey results were processed in terms of 5 categories through the data analysis. The conclusion, as a general statement, was that Japanese learners in major course had affirmative attitudes toward English and English learning, however, it was uncertain whether they had strong or proactive attitudes toward English learning or not. In the light of significance of English, it is expected not only to enhance intrinsic motivation for Japanese learning but also to increase incentive to English learning in parallel by the improvement of Japanese teaching.

**KEYWORDS:** Thai learners, Japanese major course, English learning, attitudes to English, Sripatum University

**1. INTRODUCTION**

Even nowadays in the 21st century, *English* doesn't only further raise its position as *International language*, but is also widely recognized as *the common language of the world* and is used as *an important language* all the more in various fields in accordance with the progress of globalization of economy, society and culture. If one looks from a global perspective, the English users are about 1.75 billion people, that is, occupied 25 % of the world population (approximately 7 billion people). The populations of native English speakers are about 390 million people in this English population, and the remaining of about 1.36 billion people, namely, 78 % are non-native English speakers who are using English as the second language (Oyanagi, 2014).

English speakers in Thailand, including native speakers as mother language and quasi-native or non-native speakers as the second language are 17,121,187 people and accounted for 27.16 % of the total population (List of countries by English-speaking population 2012). On the other hand, Thailand also widely accepted English as *international language*, therefore, English is increasingly recognized as one of basic skills that all of the students should acquire. Thai learners of English language are based on the secondary education institutions and higher education ones are 5,543,321 learners

(Ministry of Education in Thailand, 2015). Of these, undergraduate student numbers are 1,837,077 students and they learn English as compulsory subject in the general education course. Nonetheless, according to *World Competitiveness Yearbook 2016*, English language ability of Thai people was ranked as the 28th place out of 61 countries. Moreover, according to survey result of *EF Education First, 2015*, English proficiency of Thai people was ranked as the 62th place out of 70 countries. Neither of these rankings proved high level as seen in the worldwide standard.

In the English learning environment under these backgrounds, the researcher conducted a survey, so called classroom research, about a way of thinking, consciousness of, or attitudes toward English language or English learning targeting university students who majored in Japanese language course at Sripatum University, Bangkok Main Campus, Bangkok, Thailand (herein referred to as SPU).

## 2. BENEFITS OF RESEARCH

The required English courses in general education at SPU have 4 subjects (8 credits) for the first and the second-year students, and each title of these subjects are *ENG111 Everyday English*, *ENG112 Social English*, *ENG213 Vocabulary and Reading Skills*, and *ENG324 Grammar and Writing Skills*. Although the target group in this classroom research is the students who registered Japanese language as a main major course, it will get to know the current state of English teaching in Japanese major course and the approaches to English learning for Japanese major students. In addition to this benefit, it will also be a better opportunity to consider and discuss the way English learning proceeds and how course-design is perceived in both of English and Japanese courses.

## 3. RELATED RESEARCH

A number of research is conducted widely on English education and English teaching or English learning, however, as far as the researcher searched, there was no attitude survey on English learners targeting only another language learners like Japanese language except English. Some examples based on the following three pillars continue here from the related research. In the first, there is a perspective survey on *International language as Foreign Language Education for Fostering Global Citizenship* (The Japan Association for Language Education & Technology, 2014) or *Preparing Thai Students' English for the ASEAN Economic Community: Some Pedagogical Implications and Trends* (Daranee, 2014). In the second, there is a number of investigation on English learning from each of formal education stages like *English Education at Primary Level in Thailand* (Pornpimon, 2016), *Fact-finding Survey on English Learning of Junior and High School in Japan* (Benesse Educational Research and Development Institute, 2014), *Students Perceptions of Their Foreign Language Study : A Survey Report* (Kite, Shen & Sugitani, 2002), *Survey on Attitudes towards Foreign Language Education of Teachers and Students through Questionnaires and Changes in English Proficiency of Hokkaido University Students* (Ito & Sato, 2002), *Attitudes toward English Language Learning in Higher Education in Japan (2): Raising Awareness of the Notion of Global English* (Tsuda, 2003), *The Japanese Students Perspectives on Learning Foreign Languages* (Lu, 2008), and *Study Report on Purpose and Consciousness that Learners Learn "English" at University* (Pennington, 2012). In the third, there are a lot of concrete study reports on English teaching or learning from the viewpoint

of English pedagogy or foreign language education as *Motivation Toward English Language Learning of Thai Students Majoring in English at Asia-Pacific International University* (Nakhon & Tantip, 2012), *Student Beliefs about Foreign Language Learning: In the Case of AUE Freshman* (Inaba, 2014), and so on. In any event, it is a fact that these research results have some meaningful impact on English teaching or learning.

#### 4. PURPOSE RESEARCH

The purpose of this research was to clarify consciousness, opinion, or attitudes toward *English as a common language in the world* or *English as a foreign language* and *English learning* of Thai students who were major in Japanese course at SPU. It was also to explain features on overall or individual tendency through an analysis and discussion on the answers obtained by this research. On the occasion of making question form in this research, although a part of the questions was revised, 14 questions were referenced to a questionnaire involving opinion on English, attitudes toward English learning and motivation for and significance of English learning in *Lu, 2008*.

#### 5. RESEARCH METHODOLOGY

##### 5.1 TARGET GROUP

Target group in this research was the second-year students who enrolled in department of Japanese for Business Communication at SPU in an academic year 2016 and was 31 students (8 males: 25.81 % and 23 females: 74.19 %, rounded to the second decimal place, hereinafter the same shall apply) who registered *JBC221 Japanese Society and Culture*. The grade point average: GPA of three English subjects (*ENG111* = 3.38, *ENG112* = 2.91 and *ENG213* = 3.09) and three Japanese subjects (*JBC121 Japanese 1* = 3.39, *JBC122 Japanese 2* = 3.05 and *JBC222 Japanese 3* = 3.39) in the first year was, respectively, 3.13 points and 3.28 points from 28 students had the all grades of the above 6 subjects.

##### 5.2 INSTRUMENT

A questionnaire method was adopted as an instrument used mainly in the quantitative research and was consisted of 14 questions. It was a closed-ended question and a multiple-choice question that chose a single answer out of a. *I think so* (agree), b. *I don't think so* (disagree), and c. *I can't say which I can say neither a nor b*: neutral (neither agree nor disagree).

##### 5.3 DATA COLLECTION

The questionnaire was distributed to 25 students who attended the class of *JBC221 Japanese Society and Culture* on September 19, 2016 in the first semester of the 2016 academic year (6 absentee). It took about 10 minutes to answer the 14 questions. The valid respondents were 23 students except 2 invalid respondents, thus, the percentage of valid responses were 92.00 % and Cronbach's coefficient alpha was 0.87 (Wessa, 2016).

##### 5.4 DATA ANALYSIS

The result of collected data was shown in the following table. The tendency in all choices indicated that more than 50 % in a. (agree) was 6 answers (item No.1 = 56.52 %, 4 = 52.17 %, 5 = 60.87 %, 6 = 73.91 %, 7 = 60.87 %, 13 = 100.00 %), more than half in b. (disagree) was 4 answers (item No.2 = 78.26 %, 3 = 69.57 %, 9 = 86.95 %, 10 = 82.61 %), and 50 % or more in c. (neutral) was only 1 answer (item No.11 = 52.17 %). The answer for a. and b. in item No.8 was the same percentage (26.09 %). Item No. 12 and 14 less than 50 % were divided into two answers, namely, a. (34.78 % and 47.83 %) and c. (47.83 % and 34.78%).

Table The results of the questionnaire survey (23 valid respondents)

No.	Question	a. agree	b. disagree	c. neutral	SD
1	Internationalization and globalization lead to the motivation of English learning	13 (56.52%)	4 (17.39%)	6 (26.09%)	4.73
2	As far as living in Thailand, there is no need to learn English	1 (4.35%)	18 (78.26%)	4 (17.39%)	9.07
3	English should be learned by only person who is interested in	3 (13.04%)	16 (69.57%)	4 (17.39%)	7.23
4	English learning has a meaning in being possible to speak	12 (52.17%)	4 (17.39%)	7 (30.44%)	4.04
5	English learning is a process of learning different culture rather than learning language	14 (60.87%)	2 (8.70%)	7 (30.44%)	6.03
6	English learning can become person who is a wide field of view	17 (73.91%)	2 (8.70%)	4 (17.39%)	8.14
7	To be able to understand English lead to a true cross-cultural understanding	14 (60.87%)	1 (4.35%)	8 (34.78%)	6.51
8	English learning leads to learn one's own language and culture (Thai language)	6 (26.09%)	6 (26.09%)	11 (47.82%)	2.89
9	English learning in early stage hinders in learning mother tongue (Thai language)	1 (4.35%)	20 (86.95%)	2 (8.70%)	10.69
10	English learning will result in a fear of thinking lightly of mother tongue (Thai language)	1 (4.35%)	19 (82.61%)	3 (13.04%)	9.87
11	English learning is an important in understanding rather than memory	7 (30.44%)	4 (17.39%)	12 (52.17%)	4.04
12	Learning and mastering English need mother tongue	8 (34.78%)	4 (17.39%)	11 (47.83%)	3.51
13	English should be learned absolutely	23 (100.00%)	0 (0.00%)	0 (0.00%)	15.28
14	Person who has a good command of English is a competent person	11 (47.83%)	4 (17.39%)	8 (34.78%)	3.51
	SD	6.67	7.30	3.60	

In overview of 23 responses from a standpoint of the ratio in each answer, on the one hand, there were no answers more than 80 % in a. excluding item No.13 = 100.00 %, and the highest ratio in a. was item No.6: 73.91 %, on the other hand, the answers more than roughly 80 % in b. were item No. 2 = 78.26 %, item No.9 = 86.95 %, and item No.10 = 82.61 %.

## 6. FINDINGS

Although data analysis was performed based on the result of the respondents' answers and was perceived as numerical trend, here, 14 answers for each question were divided into 5 categories in order to interpret the obtained data in detail. These categories were, that is, 1. *Motivation and necessity for English learning* (item No.1, 2, and 3), 2. *The significance of English learning* (item No.4, 5, 6, and 7), 3. *The relevance between English learning and mother tongue* (item No.8, 9, and 10), 4. *The method of English learning* (item No.11 and 12), and 5. *Necessity and evaluation for English learning* (item No.13 and 14).

### 6.1 Motivation and the necessity for English learning

About 60 % of the respondents agreed with that internationalization and globalization led to motivation for English learning, whereas about 30 % was neutral in item No.1. It was thought that this didn't mean that internationalization or globalization had a strong and direct motivation for English learning. Nevertheless, about 80 % of the respondents needed English learning as showed in item No.2, in other words, the recognition to the necessity for English learning was high



extent. Moreover, it was believed that the necessity to learn English was understood regardless of an interest or concern on English in item No.3. In that sense, it could be said that there was sufficient circumstance or background to have many opportunities to use English within Thailand.

### **6.2 The significance of English learning**

Although the answers that there was significance to be able to speak it in English learning were a little more than half in item No.4, this meant that there were the other significances in English learning. Of course, it was thought of basic skills to listen, read and write, however, it might be said that traditional English learning as liberal education was still supported in the emphasis on personal development as shown in item No.6. At any rate, it resulted that there were other factors, except to master English basic skills, as learning different culture or cross-cultural understanding in the purpose or benefit of English learning. Especially, in view of higher ratio in personality development than cultural aspects, significance in English learning wasn't necessarily limited to acquire basic skills like speaking.

### **6.3 The relevance between English learning and mother tongue**

It was proved that, generally speaking, English learning didn't effect directly on mother tongue of the respondents in relevance between English learning and mother tongue (= Thai language). But it could be said that the attitudes showed in item No.8, including neutral answer, were divided as to whether English learning connected to learn one's own language (= mother language) and one's own culture or not. In short, it was inferred that the relevance between English learning and mother tongue was viewed as separate one rather than its relevance.

### **6.4 The method of English learning**

As for method or means in English learning, it indicated that the answer in item No.11 placed importance on understanding, however, it implicated that the purposes of English learning differed depending on the respondents combining the answers of c. in item No.11 and each answer in 6.2 the significance of English learning. In other words, it was thought that if the purposes of English learning were different, their methods also varied. Meanwhile, it was thought that the necessity to mother language in English learning wasn't felt strongly so much. As pointed in 6.3 the relevance between English learning and mother tongue, it was seemed that the respondents had no opinion to connect English learning with mother language directly. Through the position of a cognitive capacity or an intellectual ability of the learners and from a perspective of the studies or theories on acquisition of mother tongue (= the first language), learning foreign language (= the second language), bilingual education, etc., it was thought that the learners didn't have much knowledge about positive or negative influences on native language in English learning.

### **6.5 Necessity and evaluation for English learning**

There were no respondents to deny English learning as showed in a remarkable answer for item No.13. Literally, whatever the reason for or the purpose of English learning and including the answers in item No. 3, English learning was taken as an indispensability. Though the answer whether it was accepted as a capable person or not in item No.14 indicated a little less than half in the evaluation of English users, as a reason, there might be a consciousness to be evaluated of Japanese language proficiency.

## **7. CONCLUSION AND SUGGESTIONS**

It was consistently maintained that the survey findings indicated the consciousness or attitudes of the students who majored in Japanese course at SPU and it wasn't the survey results to reflect it of general English learners at universities.

A certain tendency could be read as it related to what kind of consciousness of or attitudes toward English and English learning they have. As a general review, Japanese major students at SPU recognized the importance of English and understood the significance of English learning. The respondents in this research had affirmative attitudes toward English or English learning as a whole, but then it was uncertain whether they had positive or proactive attitudes toward English learning or not. In this regard, no opinion, no strong opinion, not sure, or do not apply might be included in the answers of c.: neutral (= neither agree nor disagree) for each question from No.1 to No.14. At any hand, according to the findings suggested by this survey result, it is important to discuss the improvement of foreign language educational method, through Japanese teaching, so that Japanese learners as major course can promote their own independent-minded learning and can also learn English in a positive manner in conjunction with the achievement or outcome of Japanese learning. As an example, here, in teaching translation or interpretation, usually, Japanese-Thai or Thai-Japanese become major topic of the course content, however, by combining with Japanese-English or English-Japanese, it is expected not only to enhance intrinsic motivation for Japanese learning but also to increase incentive to English learning.

## 8. ACKNOWLEDGEMENT

The researcher would like to express the deepest gratitude to Aj. Rohit Agarwal, a full-time lecturer at Sripatum International College in English proofreading for this proceeding paper, and would also like to express thanks to Aj. Phraophilard Buranavanichakul, French and English Instructor and Aj. Sompittaya Obrom, English Instructor, School of Liberal Arts, Sripatum University, for translating an abstract in this paper and a questionnaire used in this survey from English into Thai language.

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## AN ANALYSIS OF UNDERGRADUATE STUDENTS' SELF-DISCIPLINE IN BEIJING, CHINA

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### ABSTRACT

The purposes of this study were (1) to study the levels of undergraduate students' self-discipline in Beijing, China; (2) to analyze the factors of undergraduate students' self-discipline in Beijing, China; (3) to compare the levels of undergraduate students' self-discipline under different university authorities in Beijing, China. The survey data were collected by using questionnaires which were developed based on the concept of students' self-discipline. The sample consisted of 414 undergraduate students from three types of university authority in Beijing, China: Type I (the university that is under the Ministry of Education), Type II (the university that is under Beijing City), and Type III (the university that is under the State of Council). The data were analyzed by using descriptive statistics and one-way ANOVA with SPSS, and CFA with LISREL. The research findings were as follows: (1) The overall of undergraduate students self-discipline in Beijing, China was at a moderate level ( $M = 3.31$ ,  $S.D. = 0.40$ ). (2) The measurement model of undergraduate students' self-discipline in Beijing, China fitted the data well [ $\chi^2$  (3,  $N = 414$ ) = 4.61,  $\chi^2/df = 1.54$ ,  $p = 0.20$ ,  $GFI = 1.00$ ,  $AGFI = 0.98$ ,  $CFI = 1.00$ ,  $SRMR = 0.00$ ,  $RMSEA = 0.04$ ]. All observed variables yielded significant factor loadings on undergraduate students' self-discipline. Among the five observed variables, healthy habits and work ethics yielded the highest factor loadings. (3) The findings indicated that there was not a statistically significant difference of undergraduate students' self-discipline under different university authorities in Beijing, China ( $F(2, 411) = 2.82$ ,  $p = .06$ ).

**KEYWORDS:** Self-discipline, undergraduate students' self-discipline

### 1. INTRODUCTION

As learning at university is less directed and controlled than in high school, the degree to which students are able to regulate their own learning is essential for their academic success. Undergraduate students' self-discipline refers to regulating the stream of thought, altering moods or emotions, restraining undesirable impulses, and achieving optimal performance, all constitute important instances of the self overriding its responses and altering its states or behaviors of undergraduate students. More generally, general capacity for self-discipline, deliberate action, healthy habits, work ethics, reliability all reflect the ability to keep good self-discipline (Tangney et al., 2004; Rui & Yi-Lung, 2015; Unger et al., 2016).

Self-discipline plays an important role in achieving important tasks and in reaching goals, at the same time, it is also vital to resist and avoid inappropriate choices, such as eating too much unhealthy food, smoking, or engaging in excessive alcohol consumption (Unger et al., 2016). Self-discipline is important for undergraduate students, which could discipline different aspects on their thinking, motivation and behavior during the learning process (Pintrich & Zusho, 2002). Numerous studies have confirmed the importance of self-discipline for academic achievement (Pintrich & De Groot, 1990).

Self-discipline is playing an important role in the wide range of human behaviors, while one of the most important roles is academic performance (De Ridder et al., 2012). Many of the strongest effects on self-discipline had been found in the area of higher education (De Ridder et al., 2012). There is without any surprise that is because university students are required to spend their own time on a significantly larger degree than high-school students (Parker et al., 2004). University students get high score on self-discipline measure and they postpone less (Steel, 2007). In the mean time, they make the tasks done on time because they can control their study time well (Misra & McKean, 2000). They would not make free-time activities or emotional distractions to stop them from doing their work (Tangney et al., 2004). Thus, it could predict that self-discipline actually holds explanatory value in academic achievement.

Self-discipline would help people to overcome the feelings of fear, anger, envy, and helplessness in a positive way and to show respect to others' rights, at the same time, it also could assist them to express their emotions in an appropriate way. As a consequence, they will be reinforced in a positive self-image. Students will meet their needs and take up their responsibilities at school or home adequately and they prefer to accept the current situation and restriction.

With the development of economy, the thought of people has already undergone tremendous changes in China. As undergraduate students, they can accept new things easily, their thoughts with the change of economic environment and reform present some new characteristics and new development trend. Especially, the advent of Internet era provides realistic condition and environment foundation for undergraduate students' personality and thought liberation. Undergraduate students are the main group of Internet users, they can easily understand the world, stimulate their curiosity, and improve their operational ability through the network. However, it is undeniable that the network not only brings convenience, but also brings many ethical problems. Therefore, the cultivation of undergraduate students' self-discipline can make them benefit from the usefulness of the Internet, and also can make them avoid the negative effects of the Internet. In the meantime, as the network is virtual, previous and traditional means cannot play a role in the present time. So, it becomes more and more urgent to improve undergraduate students' self-discipline level. Only by cultivating self-discipline can undergraduate students make consciously and independently blind themselves and develop their ability in the network era (Lixia, 2006).

Nowadays, as for the current situation of undergraduate students' self-discipline in China, there are lots of news reporting that university students cannot manage their lives well, and cannot hold their temper properly, at the same time, because of lacking the ability of self-discipline, when university students have some conflicts with other students, they do not know how to solve these problems (Takefoto, 2016). Yu (2008) revealed that the self-discipline ability of university students was low, there existed many problem, such as many university students cannot control their time on playing online games, some choose to use fights to solve problems with their classmates, and many students ignore their assignments and cannot submit the assignments on time in Hebei, China.

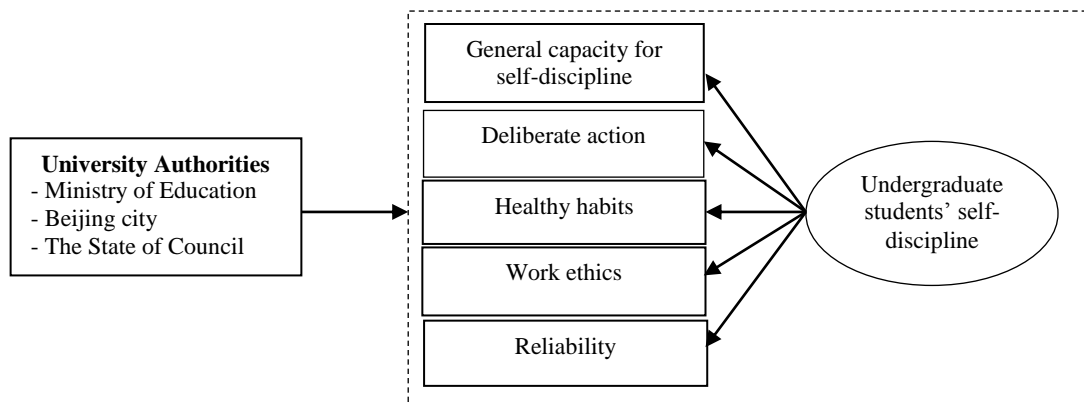
Having a strong sense of self-discipline is an important symbol of improving undergraduate students' comprehensive quality. At the same time, it is also one key factor for undergraduate students to realize their goal of success. However, before undergraduate students come to university in China, most of them received exam—oriented education, what they would do to guide their daily action mainly base on heteronomy, which is the most common problem faced by undergraduate students (Bo, 2007).

The researcher believed that there was a great need to have a study on the levels of undergraduate students' self-discipline in Beijing, China. The researcher also did confirmatory factor analysis to identify and analyze the main components of undergraduate students' self-discipline.

## 2. Research Objectives

- (1) To study the levels of undergraduate students' self-discipline in Beijing, China.
- (2) To analyze the factors of undergraduate students' self-discipline in Beijing, China.
- (3) To compare the levels of undergraduate students' self-discipline under different university authorities in Beijing, China.

## 3. Research Framework



**Figure 1** Research Framework

#### 4. Research Methodology

A quantitative survey research method was applied to study undergraduate students' self-discipline in Beijing, China. The research methodology was provided into six parts as following: 1) Population, 2) Determination of sample size, 3) Sampling procedures, 4) Research instrument, 5) Data collection, 6) Data analysis. Each part was detailed below.

1) *Population*: The population of the study is undergraduate students who study in Beijing, China in the 2014 academic year, including 499,300 undergraduate students. (National Bureau of Statistics of China, 2014).

2) *Determination of sample size*: This study used Taro Yamane (1967) formula to calculate the total respondents. The number of data required to be collected was 400 undergraduate students in Beijing, China. However, an average of the actual requirement of response rate was about 20 percentages (Wiratchai, 1999), the researcher therefore added up the sample size to 480 respondents in order to substitute for response rate.

3) *Sampling procedures*: The sample size of this study was 480 undergraduate students in Beijing, China. The sampling procedures were sampled by using stratified random sampling design.

The participants were recruited by using stratified random sampling based on the university authorities. According to Beijing Municipal Education Commission (2015), there are three types of university in Beijing, China; the university that is directly under the Ministry of Education (MoE), the university that is under Beijing city, and the university that is under the state of council.

The researcher then conducted a stratified random sampling in order to select universities regarding the three authorities. There were 58 universities, including 24 universities that were under Ministry of Education, 22 universities that were under Beijing City, and 12 universities that were under the State of Council. 12 universities were selected to represent 20% of all 58 universities. The unproportional sampling was conducted to determine four universities in each university authority. With the simple random sampling, four universities were selected from each type of university authorities. Moreover, the unproportional sampling was conducted to select 40 undergraduate students in each university. As a result, there were required 480 undergraduate students for the study

4) *Research Instrument*: The instrument of this study was a questionnaire that was developed based on five dimensions of undergraduate students' self-discipline (Trangney, 2004). As developing the questionnaire, the researcher developed the questions both in English and Chinese language. The drafted questionnaire was submitted to the major advisor and the experts to check the content validity, appropriateness of language used in the questionnaire and the print format.

The questionnaire on undergraduate students' self-discipline in Beijing, China was divided into two parts. The first part of this questionnaire was used to obtain the participants' background information (e.g. gender, current year of studying, and major). The second part of the questionnaire was used to study undergraduate students' self-discipline in Beijing, China including five dimensions, 36 items. General capacity for self-discipline is composed of 11 items, deliberate action comprises 10 items, healthy habits, work ethics, and reliability comprise 5 items respectively. The scale responses were made on a five-point Likert Scale, 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree), and 5 (strongly agree).

The quality of content validity item-objective congruence (IOC) of this questionnaire was examined. The analysis of congruence was analyzed by three experts who could understand both Chinese and English language. As a result, it was found that the highest index of item-objective congruence (IOC) was 1.00 and the lowest was 0.67. The instrument reliability was investigated by using Cronbach's Alpha which above 0.50 was kept as adequate reliability.

5) *Data Collection*: For data collection, the researcher was given an official letter to collect data from 12 universities in Beijing, China by the Faculty of Graduate Studies, Mahidol University, Thailand. The official letter was sent to twelve universities in order to inform about the research objectives regarding analyzing undergraduate students' self-discipline in Beijing, China. Then, the packed questionnaires with approval letter that described the purpose of the study were sent to targeted university administrators by the researcher. The questionnaire data collection was conducted from September, 2016 to October, 2016. There were 414 undergraduate students participated in the research, which were less than the actual requirement ( $n=480$ ). Consequently, the response rate was 86.25%.

6) *Data Analysis*: The data was analyzed by using descriptive statistics (e.g. frequency, percentage, mean, and standard deviation), one-way ANOVA analysis and confirmatory factor analysis (CFA).

#### 5. Research Findings

##### 5.1 Demographic characteristics of undergraduate students in Beijing, China

The samples consisted of 414 undergraduate students in Beijing, China which largely comprised of female (78.50%), and male (21.50%). The sample in three types of university authority was approximately equal sized group. Type I the university that is directly under the Ministry of Education (MoE) (33.60%), Type II the university that is under Beijing city (33.60%), and Type III the university that is under the state of council (32.90%). The results showed that 174 undergraduate students attended activity club (42.00%), while 240 did not attend any activity club (58.00%). The results also found that 70 undergraduate students were studying in the first year (16.80%), followed by 117 undergraduate students were studying in the second year (28.30%), 94 undergraduate students were studying in the third year (22.70%), and 133 undergraduate students were studying in

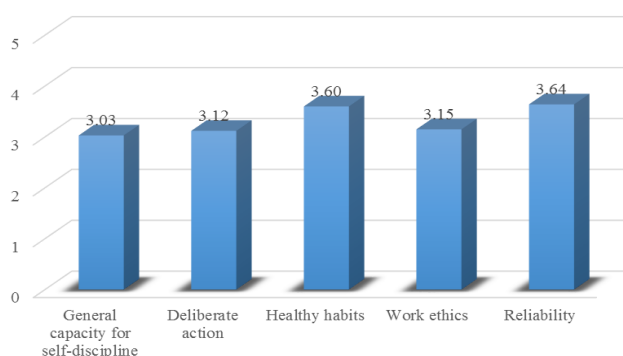
the fourth year (32.10%). In regard of the field of study, 198 undergraduate students were from the field of Applied Sciences/ Science and Technology/ Health Sciences (47.80%), while 216 undergraduate students were from the field of Social Sciences/ Liberal Arts (52.20%).

### 5.2 A study of level of undergraduate students' self-discipline in Beijing, China

Table 1 presented the descriptive statistics of the overall of undergraduate students' self-discipline in Beijing, China. The findings indicated that the overall of undergraduate students' self-discipline in Beijing, China was at a moderate level ( $M = 3.31$ ,  $S.D. = 0.40$ ). The range of the overall of undergraduate students' self-discipline in Beijing, China was between 3.03 – 3.64. The mean of reliability and healthy habits were at high level, while the mean of work ethics, deliberate action, and general capacity for self-discipline were at moderate level. The mean of reliability was the highest of all components ( $M = 3.64$ ,  $S.D. = 0.51$ ), followed by healthy habit ( $M = 3.60$ ,  $S.D. = 0.56$ ), work ethics ( $M = 3.15$ ,  $S.D. = 0.70$ ), and deliberate action ( $M = 3.12$ ,  $S.D. = 0.57$ ). The mean of general capacity for self-discipline was the lowest of all components ( $M = 3.03$ ,  $S.D. = 0.38$ ).

**Table 1** Descriptive statistics of the overall of undergraduate students' self-discipline in Beijing, China (n = 414)

Components	Mean	S.D.	Min	Max	Range	level
<b>Overall of undergraduate students' self-discipline</b>	<b>3.31</b>	<b>0.40</b>	<b>2.09</b>	<b>4.46</b>	<b>2.37</b>	<b>Moderate</b>
- General capacity for self-discipline	3.03	0.38	1.91	4.09	2.18	Moderate
- Deliberate action	3.12	0.57	1.30	4.60	3.30	Moderate
- Healthy habits	3.60	0.56	2.00	5.00	3.00	High
- Work ethics	3.15	0.70	1.20	5.00	3.80	Moderate
- Reliability	3.64	0.51	2.00	5.00	3.00	High



**Figure 2** The levels of undergraduate students' self-discipline in Beijing, China

### 5.3 The factors of undergraduate students' self-discipline in Beijing, China

The measurement model was a latent construct measured by five observed variables; general capacity for self-discipline (GENE), deliberate action (DELI), healthy habits (HEAL), work ethics (WORK), and reliability (RELI).

Firstly, the correlations among the five observed variables were tested as presented in the table 2. The correlations among the five observed variables were ranged from 0.26 ( $p < .01$ ) to 0.50 ( $p < .01$ ). All of the correlations were statistically significant ( $p < 0.01$ ). Bartlett's test of sphericity yielded a  $\chi^2$  of 526.04 with df of 10 ( $p = .00$ ). This showed that the correlation matrix for the five observed variables were not the identity matrix (all off-diagonal elements were zero). Generally, the Kaiser—Meyer - Olkin measure of sampling adequacy (KMO) for the correlation matrix was greater than 0.50, it will be better if the KMO is greater than 0.70. In this study, the results revealed that the correlation matrix of the study was greater than 0.70 (KMO = 0.81). This showed that the five undergraduate students' self-discipline indicators were highly correlated with each other. Therefore, the data were appropriate for doing confirmatory factor analysis (CFA).

**Table 2** Means, standard deviations, and correlation matrix for five components measuring undergraduate students' self-discipline in Beijing, China (n = 414)

Variables	GENE	DELI	HEAL	WORK	RELI
GENE	1.00				
DELI	0.49**	1.00			
HEAL	0.48**	0.38**	1.00		
WORK	0.50**	0.42**	0.50**	1.00	
RELI	0.43**	0.26**	0.40**	0.33**	1.00
<i>M</i>	3.03	3.12	3.60	3.15	3.54
<i>SD</i>	0.38	0.57	0.56	0.68	0.51
Bartlett's Test of Sphericity [ $\chi^2$ (10, N = 414) = 526.04, $p$ = .00]					
Kaiser – Meyer – Olkin Measure of Sampling Adequacy (KMO) = 0.81					

Note: \*\*  $p < .01$ .

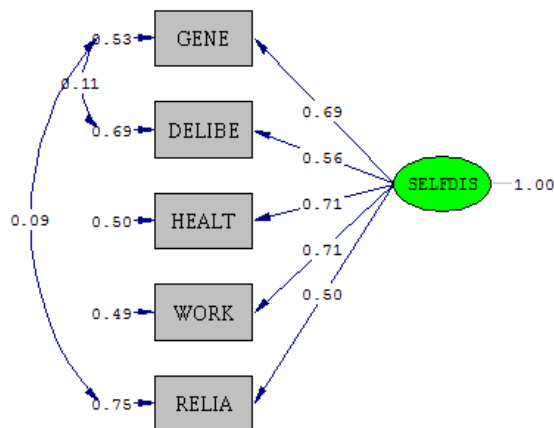
The measurement model of undergraduate students' self-discipline in Beijing, China fitted the data well [ $\chi^2$  (3, N = 414) = 4.61,  $\chi^2/df$  = 1.54,  $p$  = 0.20, GFI = 1.00, AGFI = 0.98, CFI = 1.00, SRMR = 0.00, RMSEA = 0.04]. All observed variables yielded significant factor loadings on undergraduate students' self-discipline. The factor loadings ranged between 0.50 ( $p < .01$ ) and 0.71 ( $p < 0.01$ ). Among the five observed variables, HEAL and WORK yielded the highest factor loadings. Figure 3 showed the path diagram of the empirically validated measurement model of undergraduate students' self-discipline. The students' self-discipline index of each participant was calculated by using the factor score. The factor score equation could be expressed as follows:

$$\text{Undergraduate students' self-discipline} = 0.64(\text{GENE}) + 0.25(\text{DELIBE}) + 0.57(\text{HEALT}) + 0.49(\text{WORK}) + 0.25(\text{RELIA})$$

**Table 3** Standardized parameter estimates for the measurement model of undergraduate students' self-discipline in Beijing, China (n = 414)

Indicators	Standardized factor loadings ( $\beta$ )	Factor loadings			$R^2$	Factor scores regressions
		b	SE	<i>t</i>		
GENE	0.69**	0.26	0.02	13.26	0.47	0.64
DELI	0.56**	0.32	0.03	10.40	0.31	0.25
HEAL	0.71**	0.40	0.03	14.13	0.50	0.57
WORK	0.71**	0.49	0.03	14.25	0.51	0.49
RELI	0.50**	0.26	0.03	9.34	0.25	0.25
Model fit indices $\chi^2$ (3, N = 414) = 4.61, $\chi^2/df$ = 1.54, $p$ = 0.20, GFI = 1.00, AGFI = 0.98, CFI = 1.00, SRMR = 0.00, RMSEA = 0.04						

Note: \*\*  $p < .01$ .



Chi-Square=4.61, df=3, P-value=0.20261, RMSEA=0.036

**Figure 3** Empirically validated measurement model of undergraduate students' self-discipline in Beijing, China



#### 5.4 A comparison of the levels of undergraduate students' self-discipline under different university authorities in Beijing, China

The findings indicated that there was not a statistically significant difference of undergraduate students' self-discipline under different university authorities in Beijing, China ( $F(2, 411) = 2.82, p = .06$ ). The undergraduate students' self-discipline under different university authorities in Beijing, China was not different, Type I (The university that is directly under the Ministry of Education (MoE)) ( $M=3.13$ ); Type II (The university that is under Beijing City) ( $M=3.25$ ); Type III (The university that is under the State of Council) ( $M=3.36$ ).

**Table 4** A comparison of the undergraduate students' self-discipline under different university authorities in Beijing, China ( $n = 414$ )

University authority	n	Mean	S.D.	Levene's Test for Equality of Variance	p	F	p
University authority				1.48	0.23	2.82	0.06
-Type I (The university that is directly under the Ministry of Education (MoE))	139	3.31	0.40				
-Type II (The university that is under Beijing city)	139	3.25	0.37				
-Type III (The university that is under the State of Council)	136	3.36	0.42				

## 6. DISCUSSION

### 6.1 A study of level of undergraduate students' self-discipline in Beijing, China

The research findings revealed that overall level of undergraduate students' self-discipline in Beijing, China was at a moderate level. At the same time, each of the factor was separately considered, it was also found that the factor of general capacity for self-discipline, the factor of deliberate action, and the factor of work ethics were at moderate level, while the factor of healthy habits and the factor of reliability were at high level. The findings were corresponded with Zheng (2005) on a study of undergraduate students' self-discipline under the exertion of credit system in Sichuan, China. The results revealed that undergraduate students' self-discipline was at a moderate level. This was congruent with Ma (2007), who studied the strategies of students' self-discipline in Inner Mongolia, China. This study revealed that the level of students' self-discipline was at moderate level and the factor of healthy habits and the factor of reliability were at high level. The findings were also supported by (Yu, 2008) who studied the moral and disciplinary education of college students in the cyber environment in China stated that the level of undergraduate students' self-discipline was at a moderate level. The findings were also congruent with Fu (2014) in a study of the survey and the thinking of undergraduate students' self-discipline in Changsha, China in which the results showed that the level of college students' self-discipline was at a moderate level, the level of the factor of deliberate action was also at a moderate level.

### 6.2 The factors of undergraduate students' self-discipline in Beijing, China

The measurement model of undergraduate students' self-discipline in Beijing, China fitted the data well. All observed variables yielded significant factor loadings on undergraduate students' self-discipline. CFA (confirmatory factor analysis) findings revealed that there were two highest factor loadings of undergraduate students' self-discipline in Beijing, China. The highest factor loadings were healthy habits and work ethics. The findings were consistent with Unger (2016) that the five-factor structure of student self-discipline showed a reasonable fit and can be replicated with Chinese college students.

### 6.3 A comparison of the levels of undergraduate students' self-discipline under different university authorities in Beijing, China

There was not a statistically significant difference of undergraduate students' self-discipline under different university authorities in Beijing, China. Therefore, the research hypothesis was rejected. The research findings contracted with the study of Wang (2012) that there was a difference on the level of students' self-discipline between each type of schools. The most probable reason could be because different university authorities followed the same policy of management and administration. It also could be that the uniform educational policy was implemented by different types of university authority.

## 7. SUGGESTIONS

With regard to the research findings on the level of undergraduate students' self-discipline in Beijing, China, it was found that there was not a statistically significant difference of undergraduate students' self-discipline under different university authorities in Beijing, China. It can be recommended that the findings can be used as a choice for the reserchers or scholars to connect the quantitative results to design a qualitative data collection. For example, to conduct qualitative study to propose guidelines for the development of student affairs administration to enhance undergraduate students' self-discipline in Beijing, China, the reserchers or scholars should be recruited the key-informants from all types of university authorities.

In this study, the researcher focused on comparing the the levels of undergraduate students' self-discipline under different university authorities in Beijing, China by using one-way ANOVA analysis. It would be interesting to validate the measurement model of undergraduate students' self-discipline in Beijing, China under different university authority (Ministry of Education, Beijing city, and The State of Council) by using multiple group analysis such as multi-sample confirmatory factor analysis (MCFA). As the model's validation, a multi-group analysis between groups of invariance has been conducted with the aim of evaluating whether the structures of the measurement model are equivalent in both groups.

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**THE EFFECTIVENESS OF QUESTIONING TECHNIQUE ON STUDENTS IN  
THE SUBJECT OF BSC 364 INTERNATIONAL BUSINESS,  
SRIPATUM INTERNATIONAL COLLEGE**

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**ABSTRACT**

The aim of this classroom action research is to investigate the effectiveness of questioning technique on students in the subject of BSC 364 International Marketing. The population of this study was seven students of International Program who took the subject for semester 2, 2015 academic year. The pre- and post-tests were administered for assessing the effectiveness of the questioning technique. The analysis techniques used were the growth score and the relative gain score. The growth score was the result of post- minuses pre-test scores, whereas the relative gain scores showed the percentage of development level where the ‘hit ceiling effect’ was taken into account.

The results of this study disclosed significant information regarding the improvement of teaching technique beyond expectation. Besides the remarkable improvement shown by high relative gain scores, the effectiveness of questioning techniques was expressed through the classroom climate. With the questioning technique, students had higher attention, more focus and showed greater engagement in the class. The interaction between lecturer and students and among students directly promoted the learning outcome. The finding revealed that the use of pre-and post-tests were not only for assessing student performance, but it was a powerful tool to promote students’ engagement and enhance a students’ critical thinking and learning process.

**KEYWORDS :** Classroom questioning, Socratic questioning, Learning outcome, Growth score, Relative gain score.

## 1. BACKGROUND AND STATEMENT OF THE PROBLEM

Sripatum International College (SIC) has been established for more than a decade. Recently the nationality of students is mixed mainly between Thais and Chinese at 50 and 40 percent respectively. Even though SIC provides an international atmosphere, students like to form a group with people who have the same nationality background. International students mainly rent accommodation near the university. Many of them stay in dormitories provided by SPU. Some share the room for their convenience, feeling of security, and reducing expenses. Not only for the living style, but they have similar lifestyle due to the same background. Not surprisingly, they always hang out and speak their own language. These situations are similar to Thai student taking International program. In addition, Thai students who have Chinese background are mostly good at speaking Chinese. When Chinese and Thai students join the same class, Thai with Chinese-background students feel more comfortable to communicate in Chinese rather than English whereas other Thai either stay quiet or speak Thai among their group. This discourages the chance to improve and learn English. Consequently, students do not have enough confidence to participate in class discussion which in turn limits their ability to learn.

BSC364 International Marketing is one of the core subjects of the Bachelor of Arts in International Business Communication. This subject is in the third-year study plan which implies that students should have learnt other fundamental subjects prior to the study of BSC364 International Marketing. Prior knowledge from the fundamental subjects is an essential part of International Marketing. It is suspected that students have often been overwhelmed with a tank of previous knowledge; their knowledge is scattered and unorganized. It is also possible that students have a fade memory of these subjects. These lead to a difficulty to understand the concept of International Marketing which needs those knowledge as a foundation.

To improve the learning outcome, lecturers attempt to promote student's preparation for class by requesting their students to complete assigned reading prior to the subsequent lecture. The expectation is to have students gaining and being familiar with the concept that leads to a better understanding in the class and enhances students' participation and discussion. This tactic is well recommended by research and demonstrates the greater achievement (Mcdougall & Granby, 1996). Unfortunately, the tactic does not ensure adequate levels of student preparation which in turn means the lecturer's expectation is unlikely to be fulfilled. Consequently, often only students who completed the assigned-reading volunteer to answer when a lecturer asks questions in class, whereas those who didn't complete the assigned reading often avoid eye contact and class discussion.

Lecture-based learning is commonly applied in teaching higher education. A substantial number of relevant studies support the use of the traditional method; lecturing, as it directly contributes to student learning process (Allen, 2007; Price & Nelson, 20013; Etemadzadeh, Seifi & Far, 2013). Nevertheless, the pure lecture-based learning approach is in doubt of its effectiveness (Mckeachie & Syinicki 2014). This approach is marked as a banking method in which students passively sit in the class, deposit their knowledge from lecturing, and withdraw this knowledge during examination (Sharan, 1994). Lecture-based learning has several advantages

including the disseminated information quickly to a large group of students, the provision of conceptual framework for student's further reading, and the effectiveness in improving student learning as they can 'bank' the content information received during the lecture (Boyce, 2004).

Despite its perceived benefits, it has been criticized as a passive activity. Students lack the interaction between the lecturer and other classmates while being passive listeners (Allen, 2007). The passive activity does not support students to develop essential skills they need for the future professional careers such as critical thinking, co-operative learning, communication, and self-expression (Allen, 2007; Owens & Wex, 2010). Moreover, when students fail to catch up lecturing, they would be easily distracted by playing with their smart phones instead of asking the lecturer for catching up where they lost. This results in less attention and engagement to the remaining lecture.

These problems; fade memories of prior knowledge, the limitation of English proficiency, and lost attention and engagement, were what the researcher encountered on the first few classes of teaching BSC 364 International Marketing.

Questioning technique is one of the constructivist approaches of learning. It refers to question management for students that invites them to express their understanding (Sardareh, Saad, Othman & Che Me, 2014). It is expected to provide solutions by motivating students' engagement, filling up the fade memories of prior knowledge, and improving the English skills (Adedoyin, 2010). Questioning technique turns the passive activity resulting from the lecture-based learning into active activity that fulfils a fruitful effectiveness of students in studying (Cotton, 2001) of BSC 364 International Marketing.

## 2. PURPOSE OF THE STUDY

The purpose of the present study is to investigate the potential of an alternative instructional tactic namely 'questioning technique'. It is expected that the questioning technique demonstrates the improvement of students' learning and the quality of undergraduate instruction.

## 3. CONCEPTUAL FRAMEWORK



## 4. RESEARCH METHODOLOGY

### 4.1 Research paradigm and research design

The positivist paradigm is adopted and the deductive approach is applied to gathering data, measuring, and testing hypothesis (Collis & Hussey, 2013). This study is an experimental research. To be exact, it is a pretest-

posttest design where participants are tested before and after the experimental manipulation and it has a quasi-experimental nature which means participants are not randomly assigned.

#### **4.2. Research population**

The population of this research was the 7 students who enrolled in BSC 364 International Marketing in Semester 2, 2015 academic year, Sripatum International College.

#### **4.3. Variables of study**

Independent Variable: Questioning technique

Dependent Variable: The effectiveness of student learning outcome as a result of the questioning technique

#### **4.4. Research instruments**

A pre-test was used as the first instrument of this study. The aim of the pre-test was to determine students' background knowledge or existing knowledge on the course topic prior to the teaching. In the pre-test, the students were given a test consisting of 10 True/Fault questions and 20 multiple-choice questions with 5 options; A, B, C, D and E. Students were expected to complete the test within 30 minutes. The set of questions were selected from the test bank of Global Marketing, 8th Edition, on Chapter 11 'Pricing decisions in Global Marketing' provided by Pearson Education Limited 2015; ensuring the validity and reliability. Furthermore, the content of instrument was also validated by Dr. Yuanfeng Cai, a full-time lecturer who has expertise in marketing field. The selected questions reflect cognitive process based on the revised Bloom's taxonomy including remember, understand, and apply to serve the aim.

A post-test was used as the second instrument. In fact, the post-test was the same set as the pre-test one. This was because the aim of this study is to investigate the effectiveness of questioning techniques used in the classroom. The post-test was administered directly after the lecture was done in order to check the impact of teaching techniques.

#### **4.5. Procedure of the study and teaching process**

As the literature suggests that lecture-based learning has some drawbacks in terms of its passive nature, questioning technique with a combination of Socratic questioning (Etemadzadeh et al., 2012) and Bloom's Taxonomy Theory (Bloom, 1956) was used to turn the passive into active ones. The level of questions asked influences the level of thinking skill. The low-level questions were asked to promote ground knowledge of the concepts and principles, whereas the high-level questions were designed to promote critical thinking skill (Duron, Limbach & Waugh, 2006). More specifically, the low-level questions were asked at the end of every sub-topic. Later, at the end of the lecture, high-level questions were asked to enhance cognitive process such as self-reflection and revision.

The chapter 10 'Price Decisions in Global Marketing' was chosen not only because it is one of the important topics in the International Marketing, but also pricing is one of the four marketing mix which is a core concept of marketing principle.

To investigate the effectiveness of questioning technique, the teaching strategy needed to be well-planned. The researcher, who is the lecturer of this subject, made altogether 57 PowerPoint presentation slides that broke into 7 topics, teaching on the 22nd March 2016 for week 10th. Most of the main topics have sub-topics depending on the content. The sequence of each slide is well designed. The first slide was the learning objectives, followed by the second slide that showed topics going to be lectured; this will be called a '**main topic page**' onwards. To introduce each topic, the main topic page will be presented once again, but this time it will be with the bold and the highlight in red for identifying what of the topics going to pursue; called an '**introducing topic page**'. The following of the 'introducing topic page'; a '**sub-topic page**' will show the topic going to pursue with its sub topics. The purpose of the sub-topics page was to inform students of the scope of the topic before the lecture was carried on.

Generally, the classroom questions were commenced after each topic was lectured. However, it was an intended strategy for making the questions session flexible upon the content. Some sub-topic was supplied with questions for a better understanding and review.

During the questioning session, the question was distributed to every student. The Socratic questions were applied to promote a deeper thought and used as a throwing ball from one student to another. Examples of questions were: 'Why do you say that?', 'Can/Did anyone see this in another way?', 'Why was that question important?', 'Can you elaborate your reasons?', 'Would you extend the answer from what 'A' has said?' and 'Does anyone want to add up what 'B' has said?' Note that students were named A, B, C, D, E, F, and G for anonymity. The teaching was run on till the end. Then the high-level questions were presented and discussed at the end of the lecture.

With the use of four teaching strategies; 1) questioning techniques responding to the desired purpose (low- and high levels) based on the revised Bloom's taxonomy, 2) the use of the Socratic questions, 3) the use of the teaching technique (a well-planned PowerPoint presentation) and 4) the use of teaching tips as suggested by McKeachie and Syinicki (2014), the effectiveness of learning was expected.

#### **4.6. Data analysis strategy**

To analyse data, it was designed into 2 steps. Firstly, the descriptive analysis was used to show the basic characteristics of the data in the study. As the observed data do not come from a random sample but instead represent a complete set of population, there is no sampling error. Likewise, inferential statistic is not applicable. All of the frequencies are fixed since the entire population is observed.

The second step was to measure the growth score. The growth score is defined as the score resulting from the post-test minus the pre-test scores. However, the growth score does not reflect the real growth as it

does not take magnitude of pre- and post-test into account. In other words, how to interpret when two students had the same growth scores whereas one got low score and another got high score from the pre-tests. Do they have the same development of performance?

To achieve the objective, the relative gain score is used for accompany of the growth score. The relative gain score is measured by the following equation adapted from Archwamety and Tangdhanakanond (2015):

$$\text{RGS} = ((Y-X) / (F - X)) \times 100$$

When RGS is the relative gain score, Y is the post-test score, X is the pre-test score, F is the total score.

There are several benefits of the relative gain score over the growth score. First is the effect of 'hit-ceiling score' where the score of the pre-test was very high and then growth score was less than those who received low score from the pre-test. Second is when students had the same growth score whereas one had high and the other had low score from the pre-test. In both cases, the relative gain score helps to identify the development level in terms of percentage and this helps to clarify the real growth of the development.

## 5. RESULTS OF ANALYSIS

### 5.1. Descriptive analysis

The demographic of the population is based on gender; 3 males accounted for 42.8% and 4 females accounted for 57.2%.

### 5.2. Growth scores and relative gain scores

The scores of both pre- and post-test were informed to the students. The results of scores are shown in Table 1.

**Table 1:** The pre-test, post-test, growth and relative gain scores

Student	Pre-test score (20)	Post-test score (20)	Growth score <sup>1</sup>	Relative gain score <sup>2</sup>	Perceived English competency <sup>3</sup>
A	6	14	8	57%	Excellent
B	5	16	11	73%	Excellent
C	9	15	6	55%	Good
D	6	9	3	21%	Good
E	8	13	5	42%	Fair
F	7	10	3	23%	Poor
G	7	11	4	31%	Poor
<b>Average</b>	<b>6.86</b>	<b>12.57</b>	<b>5.71</b>	<b>43.48%</b>	



Note: 1) Growth score is calculated by the post-test minuses pre-test scores.

2) The relative gain score is calculated by the growth score divided by the result of total score minuses pre-test score. The total score is 20.

3) The perceived English competency is based on the researcher's judgement only.

As shown in Table 1, the relative gain scores demonstrated the improvement level of the students. Three of seven students' scores were excellent with the scores 55% and above. Two of seven students' scores were good with the scores of 31% and 42%. The last two students' scores were fair with the scores of 21% and 23%.

Even though the relative gain scores demonstrated the effectiveness of questioning technique, the post-test scores of all students were less than researcher's expectation. Therefore, corrective action was made straightaway aiming to improve the students' performance. Despite the fact that the aim of this research is to investigate 'the effectiveness of questioning technique on improving students' learning outcome', to find a greater solution for students' improvement on learning outcome cannot be ignored. The corrective action will be discussed in part 6.

## 6. DISCUSSION, LIMITATION AND RECOMMENDATION FOR FUTURE RESEARCH

In terms of technique applications including classroom questions and socratic questions, students showed considerably and positively well-over expected response. That was, the questioning techniques obviously drew attention of the students. Students had high engagement and enjoyed class discussions and questioning sessions. The enjoyment was expressed by their actions such as they liked to raise hands to answer the questions. They liked when the lecturer asked their classmates to show opinion regarding the reasons of why they did or did not agree with their friends' answer. During the time when their friends tried to show opinion, they would tease each other and laugh. They even filmed, for example, when D was trying to explain his thoughts, and later they sent the clip to BSC364 Line group for teasing D. Clearly, the whole class turned from passive into lively and vividly active climate with the use of questioning technique. This is inline with Caram and Davis (2005) who found that the lecturer has influence on student motivation and the use of questions invites curiosity that keep students engaged.

One of the other impressive responds was that when one misunderstood the concept and offered incorrect answer, the other would try to explain the concepts related to the question to that person. They tried to help each other and had fun with their support. The interactions between students and lecturer and among students were extraordinary amplified. While the relative gain scores were tangible evidence of the effectiveness of questioning technique on student's learning outcome, students' engagement and lively classroom climate were intangible evidence of successful teaching method. This is in line with Duron et al. (2006) who state that the more importantly of enjoyable class is that it causes students to think critically.

Although the relative gain scores and lively classroom climate were deemed satisfactory, the lecturer's expectation was higher. The researcher doubted that the English proficiency was another cause that made the post-test scores not high enough. Regardless the causes of why the post-test scores were not as high as expected, the corrective action was made to fill the rooms. It started with the lecturer asked the students if they were interested in reviewing the test and they said they loved to. Then, the questions were asked from the first question of True/Fault part to the last question of multiply-choice part. During the session, the same questioning technique was applied, Socratic questioning in particular. At this time, more constructive argument occurred. Students shared their points of view on each answer whether they were right or wrong. The great benefit here was that the lecturer had a better understanding at what point students got stuck, misunderstood, and misinterpreted the concepts and applications. This was a golden time for lecturer to diagnose, fix, and make the right from wrong. Also, this was a golden time for students to clarify their understanding, which in turn, improved the effectiveness of learning outcome.

None of the research is perfect. The limitation of this study is the size of the population which might lead to the generalizability of the research. However, the benefits of its size offset the limitation significantly. Firstly, it allows the use of questioning technique exceptionally. What cannot do in the big class is to distribute questions throughout every single student, but it does in a small group. Secondly, each question needs to allow waiting time for students to answer. When the initial response is unsatisfactory or incomplete, redirecting the question and probing for more complete responses is needed to increase the quality of responses. These activities take time and it does not have enough time for big class to practice in the same manner. Next, within the small class, the true lively classroom climate enhances students' engagement obviously. In additional, the close attention that lecturer provides to each student cannot happen in a big class. Last, the corrective action for a certain circumstance is hard to achieve if the class is too big. More importantly, it turns out that the corrective action aiming to improve students' learning outcome was the highlight of successful questioning technique used in this current study.

Recommendations for future research are the following:

1. Where the number of students are allowed, it is highly recommended for the researcher to test the effectiveness of questioning technique with at least 2 groups; one with a pure lecture-based teaching method and another with a combination of classroom and socratic questioning techniques. Then the results can be compared.
2. The qualitative method should be integrated to the study. The satisfaction of students should be investigated. To interview students' perceived usefulness of questioning technique will provide a rich interpretation in a more holistic picture.

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## **THE PERCEPTION AND READINESS OF THAI SMES FOR BUSINESS TRANSFORMATION TO THAILAND 4.0**

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### **ABSTRACT**

The objective of this study is to survey the perception and the readiness of Thai SMEs for Business Transformation to Thailand 4.0. A total of 350 usable samplings of entrepreneurs are obtained, and categorized into eight industry sectors, including, manufacture, wholesale, retail, agriculture, food, financial, healthcare, and service. The findings show that Thai SMEs aware of the Thailand 4.0 at the high level, and understand about the Thailand 4.0 economic policy at high level. However, their businesses are not ready to move and adapt the Thailand 4.0 as the implementation plan.

**KEYWORDS:** Thailand 4.0, Business Transformation, Small and Medium Enterprises; SMEs; Digital Business

### **INTRODUCTION**

In order to achieve a competitive advantage, businesses have to develop and integrate the innovation and applying them into business process and business model. The digital and innovation rise to a number of new business models recently from traditional business to modern business in technological and innovative involvement that have made it possible to conduct many types of business at outstanding greater scale and over longer distances. The digital and innovation allows the rapid development of new business models; it can also quickly cause existing businesses to become obsolete. Furthermore, to encourage digital and innovation in various economic activities, the objective of which is to create equilibrium between the environment and society. Therefore, Thai government has established the policy in order to pull itself out of the middle-income trap and deal effectively with disparities and the imbalance between the environment and society, called Thailand 4.0. The policy also seeks to promote creativity, innovation, and the application of technology in various economic

activities, the objective of which is to create equilibrium between the environment and society. Therefore, the research objectives are 1) to study the awareness of Thai SMEs regarding Thailand 4.0 economic policy; 2) to explore the readiness of Thai SMEs regarding Thailand 4.0 economic policy; and 3) to explore the perceived of Thailand 4.0 economic model to the businesses.

## **LITERATURE REVIEWS**

The digital economy provides business an ability of the transformational effects of new way to use the data as in the fields of information and communication. It gives rise to certain form of new business models, which is important to the business to adapt in the new environments. Thailand attempts transforming nations through creativity and innovation, also known as Thailand 4.0. Thailand 4.0 is a new economic policy to develop Thailand into a valued-based economy or digital-based economy.

## **THE REVOLUTION OF THAILAND'S ECONOMIC MODEL**

Competition in the business is typically based on innovation rather than price, resulting in high opportunities in the market; with serving quickly being displaced by more successful innovators. The increasing of the digital technology and innovation have impacts which are the need of having some infrastructure and policy establishment in a country where business is done.

In 2016, The Thai government established the country's strategy "Thailand 4.0" as a new economic model aimed at pulling Thailand out of the middle-income trap, and developing it as a high-income country. It is envisioned to change the country's traditional farming to smart farming, traditional SMEs to smart enterprises, and traditional services to high-value services (Languepin, 2016). Furthermore, Thai government officially established The Digital Economy and Society Ministry in September 2016, replacing the Information and Communication Technology (ICT) Ministry. The new ministry takes responsibilities to plan, promote, develop and implement activities related to a digital society and economy in order to have efficient and comprehensive development and usage of information and communication technology in all sectors. Additionally, Thai government has established the Ministry of Digital Economy to offer citizens and businesses the opportunity to complete a vast array of related transactions through many channels; i.e., Electronic-Procurement (e-Procurement), Electronic-Auction (e-Auction), and Electronic-Taxation system (e-Taxation). Generally, Thailand 4.0 is based on value-based economy, integrated by digital technology and innovation. It became crucial for the new economy era. Digital technologies are used to transform business operations in order to improve effectiveness, efficiency, productivity, and service delivery (Easley and Kleinberg, 2010).

Thailand is similar to other countries that the public and private sectors in Thailand are most likely important revolution, developing from traditional export to labor-intensive, from light manufacturers to capital-intensive, from national heavy manufacturers to value-base innovation (Shafer, 2016).

Thailand 1.0 was based on traditional agriculture, before transitioning to the light industry. It was emphasis was placed on the agricultural sector. Thailand 2.0, which focused on light industries and helped upgrade the country's economy from the low-income to middle-income status. Thailand 3.0, which emphasized heavy industries for continued economic growth. Thailand 4.0 is a new economic model to develop Thailand into a valued-based economy. It is envisioned to change the country's traditional farming to smart farming, traditional SMEs to smart enterprises, and traditional services to high-value services.

### **THE IMPORTANCE OF THAILAND 4.0 MODEL**

During this period, Thailand has become stuck in the middle-income trap and faces disparities and imbalanced development. Hence, one of the purposes of the new economic model (Thailand 4.0) is to pull itself out of the middle-income trap and deal effectively with disparities and the imbalance between the environment and society. According to Ariyapruchya (2016), the World Bank economist believes that Thailand should be able to achieve long-term annual economic growth of 4-5 percent through the Thailand 4.0 model.

Furthermore, the developing must be sustainable growth and development, in order to achieve economic growth and sustainable development without destroying the environment (Royal Thai Government, 2016). Therefore, Thailand 4.0 is mainly focus at least three major changes, which are 1) change production of "commodities" into "innovative products; 2) transform industry-driven activities into those driven by technology, creativity and innovation; and 3) shift from the focus on making products, to providing services (Yoon, 2016).

One of the crucial of Thailand 4.0 model is to help Thai industries in every sectors such as agriculture, SMEs, and services, to adapt to global competitive pressures by increasing the technological base through the development and integration of enabling innovation, and digital technologies. For example, agriculture sector will reconfigure their advantage, which is cost is no longer existed. They need to adapt some part of innovation and technology into their production process by the support of biotechnology and argitech, also called "smart farming." Meaning that farmers should no longer be the poorest segment of the population. They should or might become entrepreneurs instead of being subjected to the vagaries of changing weather and the dictates of merchants and middlemen (Yoon, 2016). Moreover, the increasing recognition of the role of innovation and digital technology, which are enable the interactions among partnership such as consumers, and suppliers as an important co-value creation has derived the implications of these interactions in numerous settings, including online activities. Thailand 4.0 also is considered the backbone of the digital economy. Digital economy is growing rapidly and frequently features comments about brands and products. Moreover, consumers increasingly rely on and are interested in collaborations (Cheong & Morrison, 2008).

## **ELEMENTS OF THAILAND 4.0**

Typically, the Thailand 4.0 involves with three elements, including knowledge based economy, inclusive society, and sustainable growth and development (Royal Thai Government, 2016). These three will initiate to develop manpower, strengthen society, sustain economic growth, ensure a more equitable distribution of wealth and opportunities, and enhance the quality and accessibility of public services.

### ***Knowledge based economy***

In order to enhance the country's standing to become a high income country, the country faces many challenges such as knowledge, research and development, science and technology, creative thinking, and innovation. Thai government plans to increase their research and development investment to 1 percent of gross domestic product, while investing in digital infrastructure (The Nation, 2016).

### ***Inclusive society***

In the second element, Thailand will move toward an inclusive society with equitable access to the fruits of prosperity and development. Moreover, the government places high importance on the freedom, equality and well-being of people, as well as inclusive and equitable access to basic services (Chan-O-Cha, 2016).

### ***Sustainable growth and development***

The third element focuses on sustainable growth and development, in order to achieve economic growth and sustainable development without destroying the environment. Thailand 4.0 model employs technology and innovation as driving forces for sustainable economic development in the agricultural and industrial sectors, among others (Chan-O-Cha, 2016).

## **BUSINESS TRANSFORMATION**

Since the change of technologies and widespread diffusion of the digital technology, it led to innovation in business models, which in turn allows consumers and businesses to connect around the world any time (Harris & Rae, 2009). The digital technology provides business an ability of the transformational effects of new way to use the data as in the fields of information and communication. It gives rise to certain form of new business models, which is important to the business to adapt in the new business environments.

Typically, digital economy specifically helps businesses mitigate the isolation inherent to most online data analysis activities. Furthermore, it is an online community-based e-commerce platform that brings together products from a vast array of stores into one digital platform. The types of business expand to several varieties of e-commerce, app stores, online advertising, cloud computing, participative networked platforms, high speed trading, and online payment services. Moreover, the growing of the digital technology in the business field has heightened demand for new big data being used for business intelligence. The increasing recognition of the role of digital economy, which is enable the interactions among consumers, and suppliers as an important co-value creation has derived the implications of these interactions in numerous settings, including online activities. Digital



economy is growing rapidly and frequently features comments about brands and products. Moreover, consumers increasingly rely on and are interested in collaborations (Cheong & Morrison, 2008). New business models have emerged demonstrating common features – mobility, use of data to generate value and network effects.

Generally speaking, digital transformation challenging for traditional businesses require hardware infrastructure, software infrastructure, service infrastructure, and society and knowledge.

1. Hardware infrastructure refers to information-technology infrastructure that is used to support a digital economy such as high speed broadband Internet, and digital gateways. Mobility is one of the development of a core contributor to value creation and economic growth for companies in the digital economy. Businesses are increasingly able to carry on commercial activities remotely while traveling across borders, removing geographically from both the locations in which the operations are carried out and the locations in which their suppliers or customers are located (Harvard Business Review Analytic Services, 2015).

2. Software infrastructure refers to online channels, online transactions such as verification systems to identify individuals online and cyber-security in order to boost up e-Commerce transactions. The analytic software is used to obtain and analyze. It is the crucial part of the value of the data-driven marketing economy and the revenues generated for the economy needs (OECD, 2013).

3. Service infrastructure would create a platform to support the private sector, while the promotion and innovation part is the developing the digital skills of entrepreneurs to improve their productivity and workflow process efficiency through the supply chain, which will utilize digital tools and go along with banking system, services and manufacturing. Service infrastructure allows businesses gaining an asset in business process based on evolving technology, resulting in innovative new business models, products, and services (Harvard Business Review Analytic Services, 2015).

4. Society and knowledge refers to the universal access ability, which allows people various online channels with an affordable price. Furthermore, social channels are transforming core business processes (Harvard Business Review Analytic Services, 2015). Social media is becoming a core aspect of modern digital marketing strategies, and they see potential for it to radically transform the marketing function. The integration of activities at various levels generates the value that make specific business models profitable (Boonnoon, 2014).

Van, et al (2014) pointed out that the direct impact that digital technology investment had on growth and having the indirect impact on both technology and commerce in term of competitive advantage. The vast progress in digitalizing processes, allowing businesses in transmitting information to decentralize many functions in distant locations based on their advantages. Therefore, digital technologies increase competitive advantage for the economy; this is likely to be global in scale, given that geographical barriers are becoming increasingly irrelevant.

## **DIFFUSION OF TECHNOLOGY**

Rogers (1995) defines diffusion of technology as “the process by which an innovation is communicated through certain channels over time among the members of a social system.” The theory is used to comprehend people’s adopting behavior relating to innovations. The theory plays an important role to increase understanding of innovativeness and innovative decision-making in the adoption context, and how potential adopters perceive the innovation. An adopter forms an attitude toward the innovation, leading to a decision to accept or reject the innovation. Rogers reveals different the attributes of innovation that are associated with adoption of new innovations that the rate of adoption depends on “the relative speed with which an innovation is adopted by members of a social system” (Rogers, 1995: 206). The diffusion of innovation theory is used to understand people’s adopting behavior relating to innovations by emphasizing on the five attributes that affect the innovation adoption decision: relative advantage, compatibility, complexity, trialability, and observability.

## **RESEARCH METHODOLOGY**

The research design is drawn from quantitative research methodology. The survey is used to establish a baseline on current perception and readiness of Thai SMEs for business transformation to Thailand 4.0. The total sample for this study consists of 350 samplings. The survey is expected to be responded by top management level because they are most likely to be the one who involves in business planning, and makes the final decisions about implementation in the business. The participants in this study are voluntary and anonymous. The questionnaire for this study includes a five point Likert scale, multiple choice items, and rank-order assessment. Items on the survey are scored on a five-point Likert scale. The scale ranges from one through five, with a response of one meaning strongly disagree, two meaning disagree, three meaning neutral, four meaning agree, and five meaning strongly agree. Descriptive, frequency, percentage distributions, means are used to describe and report the information collected affecting to individual variables and demographic information.

## **RESULTS**

A total of 350 usable questionnaires are obtained. The results show the distribution of usable responses by types of business; 12% of the businesses sampled are in manufacturing, 12.28% in wholesale, 12.28% in retail, 13.71% in agriculture, 12% in food, 13.71% in financial, 9.42% in healthcare, and 14% in service.

The respondents report the company revenue per year, 24.85% report that the company revenue is less than 1 million baht; 26% report that the company revenue are between 1-5 million baht; 15.43% report the company revenue are between 5.01-10 million baht; 11.14% report that the company revenue are between 10.01-15 million baht; 11.71% report that the company revenue are between 15.01-20 million baht; and 10.85% report that that the company revenue are over 20 million baht.

It also shows the years' business experience in the industry. 6.28% report that they have less than one year's business experience in the industry; 8.85% report that they have 1-5 years' business experience in the industry; 28.85% report that they have 5-10 years' business experience in the industry; 41.14% report that they have 10-15 years' business experience in the industry; and 14.85% report that they have over 15 years' business experience in the industry.

The data reveals the channel to receive the information about Thailand 4.0. The most frequency endorsed responses is: Internet (mean = 4.52), followed by newspaper (mean = 4.47), Television (mean = 4.22), and radio (mean = 3.55).

Table 1 shows the respondents are asked to record their level of understanding about Thailand 4.0 regarding the aspects of knowledge based economy, inclusive society, and sustainable growth and development. The most frequency endorsed responses is knowledge based economy (mean = 3.82), followed by inclusive society (mean = 3.67), and sustainable growth and development (mean = 3.56).

**Table 1** The Level of Understanding about Thailand 4.0

<b>The Level of Understanding about Thailand 4.0</b>	<b>Mean</b>	<b>SD.</b>	<b>Ranking</b>
Knowledge based economy	3.82	0.73	1
Inclusive society	3.67	0.82	2
Sustainable growth and development	3.56	0.77	3
<b>Average</b>	<b>3.68</b>	<b>0.04</b>	

Table 2 shows the respondents are asked to record their perceptions of Thailand 4.0 regarding the aspects of perceived relative advantage, perceived compability, and perceived complexity. The most frequency endorsed responses is perceived compability (mean = 4.12), followed by perceived relative advantage (mean = 4.12), and perceived complexity (mean = 4.09).

**Table 2** The Perceived of Thailand 4.0 to the Business

<b>The Perceived of Thailand 4.0 to the Business</b>	<b>Mean</b>	<b>SD.</b>	<b>Ranking</b>
Perceived relative advantage	4.12	0.64	2
Perceived compability	4.12	0.67	1
Perceived complexity	4.09	0.66	3
<b>Average</b>	<b>4.11</b>	<b>0.01</b>	

Table 3 shows readiness toward Thailand 4.0 regarding the aspects of hardware infrastructure, software infrastructure, service infrastructure, and society and knowledge. The most frequency endorsed responses software infrastructure (mean = 3.28), followed by hardware infrastructure (mean = 3.25), society and knowledge (mean = 3.25) and service infrastructure (mean = 3.15).

**Table 3** The Readiness for Thailand 4.0 in Different Types of Businesses

<b>The Readiness for Thailand 4.0 in Different Types of Businesses</b>	<b>Hardware infrastructure</b>	<b>Software infrastructure</b>	<b>Service infrastructure</b>	<b>Society and knowledge</b>	<b>Average</b>
Manufacturing	3.40	3.42	3.33	3.35	3.38
Wholesale	3.20	3.18	3.11	3.23	3.18
Retail	3.11	3.20	3.00	3.25	3.14
Agriculture	3.22	3.22	3.10	3.10	3.16
Food	3.23	3.23	3.14	3.11	3.18
Financial	3.04	3.08	2.91	3.18	3.05
Healthcare	3.44	3.50	3.35	3.47	3.44
Service	3.14	3.32	3.10	3.14	3.17
<b>Average</b>	<b>3.25</b>	<b>3.28</b>	<b>3.15</b>	<b>3.25</b>	<b>3.23</b>

## DISCUSSIONS

According to the finding, the Thai SMEs show that they understand about the Thailand 4.0 (average mean = 3.68, and they also perceive the benefit of the policy to their business; however, their businesses are not quite ready in the infrastructures, including hardware infrastructure, software infrastructure, service infrastructure, and society and knowledge, which are crucial for traditional businesses to transform to digitalize. Kane *et al.* (2015) also found that digital business found that maturing digital businesses are focused on integrating digital technologies, such as hardware, software, social, mobile, analytics, in the service of transforming how their businesses work. Digital businesses are focused on solving discrete business problems with individual digital technologies. As the result, the data derived the characteristics of companies operating digital business models have as their ultimate effect that they essentially run their business over the digitalize which essentially is a borderless world to reduce their operational cost, to increase the business value, and to improve the service. Knowledge is another critical factor affected the readiness to business transformation. Digital Agenda in the Europe 2020 strategy (2015) found that some parts of the population are still excluded from media

literacy in the digital environment even though the importance of data on the Internet is rapidly growth. Thus, it might possibly affect businesses in facing a crisis of a shortage of employees with digital skills.

## RECOMMENDATIONS

The recommendations for the policy maker; therefore, the government should parallel provide the further and value information about how to develop the business to the digital era along with the promoting Thailand 4.0 policy. For example, the Thailand 4.0 economic model will change the country's traditional farming to smart farming, traditional SMEs to smart enterprises, and traditional services to high-value services, though the government should have the action plan or the implementation plan for the Thai SMEs and all sectors as a transitional road map.

Furthermore, for business sectors, the transformation to digital business need to have a clear understanding of innovation, digital technologies, and economic change in order to develop strategies to innovate new business model and penetrate markets that can be accessed through Thailand 4.0 economic model. However, since the policy seeks to promote creativity, innovation, and the application of technology in various economic activities with the 20-year national strategy and economic reform through the mechanism of public-private-people partnership; thus, the business should be able to create equilibrium between the environment and society aligned to the policy. Whether the business already has a business transformation strategy, is developing one, or is just beginning to concern, the business should be able to adapt to the changes in the playing field and create new opportunities to maintain the industry dominance. Furthermore, once the plan is developed, the business should regularly review and update the plan to keep up with the business's performance and achievement of goals. Additionally, both digital strategy and business strategy should be aligned. The executives should innovate new strategies and business models in order for their business to thrive in the Thailand 4.0 economic policy.

Lastly, the recommendations for all stakeholders; i.e., the government, the educational institutes, and the business sectors, the future labors' skills and capability in digital and technology literacy should be built as a foundation of core skills and capabilities. The potential employees should gain skills and cross-sector experience that complements your capabilities. Digital and technology skills should be considered complementary to proficiency and literacy. Digital literacy is an essential tool that supports other subjects and their tasks and job activities.

In sum, to be ready to transform the traditional business to the new country's economic model, Thai SMEs have to develop strategies and business models and to rethink how the business can thrive will be key to the business capability. Innovation, digital technology, and knowledge based economy will also challenge traditional methods of delivering higher performance. As a result, the transformation from traditional business to "smart business" is creating a potential value and a substantial driver for sustainable growth and development in Thailand 4.0.

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# **FASHION X FACTORS: THE VALUABLE APPROACHES TO A COLLABORATION FOR LUXURY FASHION BRANDS TO APPEAL TO YOUNG CUSTOMERS**

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## **ABSTRACT**

A collaboration has been the phenomenon for fashion brands within the luxury fashion market for many years. Although collaboration between designer such as Karl Lagerfeld, Stella McCartney, Roberto Cavalli and Alexander Wang with the high-street retailer H&M is the most widely known collaboration campaign, there are also other relationships or approaches to a collaboration that have been adopted by luxury fashion brands. The report shows consumer trends in the global luxury market would move from the older to younger customers. Therefore, it should be valuable to the luxury fashion brands to take into account the preferences of those young customers in the design of new fashion products as well as the applied fashion marketing strategies. This paper will examine the valuable approaches to a collaboration to appeal to young customers enabling luxury fashion brands to respond to the evolving young customers within the global luxury market and to take advantage of a collaboration.

**KEYWORDS:** Collaboration, Luxury Fashion Brands, Branding Strategy, Fashion Marketing

## **1. INTRODUCTION**

In the fashion industry, which is characterized by change revolved around season and is highly competitive, it is imperative for fashion brands to consider and implement concepts for fashion marketing at the positive side of high concern for design, profit and customers (Easey, 2009). Consumer trends are constantly evolving; hence, the understanding of the changing trends is essential to fashion marketers and business (Dillon, 2012). By examining the current trends in the global luxury market, the world's leading advisor to the global luxury goods industry, Bane & Company, reports that younger customers are anticipated to comprise three-quarters of the global luxury market by 2020 and will continue to spend on luxury goods including fashion products higher than older customers (Bane & Company, 2016). For this reason, luxury fashion brands should



visualize and implement the strategy to engage with those increasing growth customers within the global luxury market who are young and look for the accessible yet content-rich luxury products and brands.

A well-developed branding strategy would enable a brand to launch successful new products from product development process and one of the strategic branding decisions could be done through co-branding (Marshall & Johnston, 2015). According to Posner (2011), co-branding or what is so called a “collaboration” in marketing fashion brands and products could be the strategic approach to generate new ideas and develop fashion products designed to appeal to the target consumer. By looking into the industry, a collaboration has been employed by many luxury fashion brands in recent years, but the most well-known collaborations that involve luxury fashion brands could be the collaborations between the Swedish high-street retailer H&M with designers from high-end fashion houses (Jackson & Shaw, 2009). In fact, a collaboration could be applied by fashion brands in the different forms of relationships. Since it should be essential to luxury fashion brands to anticipate preferences of increasing young customers, an understanding of the valuable approaches or relationships to a collaboration that would facilitate the luxury fashion brands to appeal to the young customers when they decide on a strategic collaboration could be fruitful to business.

## **2. OBJECTIVES**

- (1) To explore the concept of collaborations in Fashion Marketing.
- (2) To analyze the trends of collaborations adopted by luxury fashion brands.
- (3) To examine the valuable approaches to a collaboration for luxury fashion brands to appeal to young customers.

## **3. THE CONCEPT OF COLLABORATIONS IN FASHION MARKETING**

A collaboration of fashion brands could be the same notion as co-branding in Marketing. Jackson & Shaw (2009) explain that co-branding brings out the strategic link between two brands that believe a team effort develops from a collaboration which enables them to acquire equivalent benefits from the association of their brands. Apart from being determined as strategic branding decision (Marshall & Johnston, 2015), a collaboration could be treated as the strategic approach to create new ideas and develop products designed to appeal to the target consumer and utilized as one of the preeminent sales promotional tools in marketing fashion brands or fashion products employed within the fashion industry as it produces the feeling of limited edition to a customer (Posner, 2011).

There should be the variety of collaborations in fashion marketing that could be explained by forms of relationships. By summarizing the relationships of a collaboration that could be applied into fashion business (Jackson & Shaw, 2009; Posner, 2011; Marshall & Johnston, 2015), there are several approaches to explain the

relationships of fashion collaborations in creating and developing new fashion products, which could be any of the following:

#### **1) Two fashion brands collaborations**

This relationship means the two fashion brands join together to design and launch the new products line or collection. For Example, Moncler Gamme Bleu (Thom Browne x Moncler) and A.P.C. x Carhartt.

#### **2) High-profile designer and high-street retail collaborations**

Collaborations between high-profile designer and high-street retail are the associations between fashion designers from high-end or luxury fashion brands and high-street or mass market fashion retailer to offer the affordable luxury designs. For Example, High-profile designers such as Karl Lagerfeld, Stella McCartney, Viktor & Rolf, Versace, Roberto Cavalli, Isabel Marant and Alexander Wang x H&M, Designers such as Isaac Mizrahi, Anya Hindmarch and Prabal Gurung x the US discount store Target and Mary Katrantzou x Topshop.

#### **3) Fashion brand and celebrity collaborations**

This form of relationship happens when a fashion brand teams up with a celebrity to design and launch a product or fashion line. For Example, Kate Moss for Topshop, Madonna and David Beckham for H&M and M.I.A. x Versus Versace.

#### **4) Fashion designer or celebrity and sport brand collaborations**

This relationship is the link of sport-fashion collaboration which a fashion designer or celebrity participates in the design of fashionable sports collection for a sport brand. For Example, Y-3 (Yohji Yamamoto and Adidas), Stella McCartney for Adidas and model Christy Turlington for Puma.

### **4. THE TRENDS OF COLLABORATIONS ADOPTED BY LUXURY FASHION BRANDS**

From the collaborations between the legendary fashion designers with artists such as Elsa Schiaparelli x Salvador Dali (1930s) and Yves Saint Laurent x Piet Mondrian (1965) into the high-profile designers x H&M collaborations, a collaboration has been utilized by luxury fashion brands for the more marketing and branding purposes than design purpose as in the past.

By analyzing the trends of collaborations within luxury fashion market, the two brands collaboration is yet adopted by some luxury fashion brands as can be seen from the latest collaborations of Charlotte Olympia x Agent Provocateur and Hussein Chalayan x Swarovski (Vogue, 2016a; Vogue, 2015a). The High-profile designer and high-street retail collaboration is still a popular relationship adopted by many luxury fashion brands and designers. In 2016, H&M announced that Kenzo designers Carol Lim and Humberto Leon would be their designer collaborators after the successful Balmain x H&M collection from the previous year (Vogue, 2016b). Christophe Lemaire also joined the collaborations with the Japanese high-street retailer Uniqlo

for the second time (Vogue, 2016c). Interestingly, some luxury fashion designers participated in a collaboration with high-street or mass market brands but changed the traditional ways of offering products only at the high-street brand's stores. The products from Charlotte Olympia x Havaianas capsule collection are available at Charlotte Olympia stores, Charlotte Olympia's website, Havaianas's website and selected retailers (WWD, 2015). Also, Victoria Beckham x Target items will be launched exclusively at Beckham's stores and website (Vogue, 2016d).

A celebrity is still a favorable factor to luxury fashion brands in terms of a collaboration. Versace announced the new sneakers collaboration with a dancer Charle "Lil Buck" Riley (Vogue, 2015b). An American singer Beth Ditto agreed to join the collaboration with the French designer Jean Paul Gaultier (Vogue, 2015c). Apart from the human celebrity, there has evolved the rising new approach to a collaboration with a celebrity when a number of luxury fashion brands announced their collaborations with iconic figures from pop culture cartoons, movies, toys and games. The idea of a collaboration between luxury fashion brands with an iconic figure could date back to the Moschino capsule collections under the supervision of Creative Director Jeremy Scott which featured SpongeBob Squarepants, Barbie, Looney Tune, Powerpuff girls and Super Mario Bros (InStyle, 2015; Marie Claire, 2015; teenVogue, 2015). Barbie came back in the collaboration game with the British luxury shoes designers Sophia Webster in 2015 (The Guardian, 2015) and Charlotte Olympia in 2016 (Vogue, 2016e). Other recent collaborations between luxury fashion brands and iconic figures from pop culture involve Disney characters including Donald Duck x Gucci by Alessandro Michele (Vogue, 2016f), Disney x Coach, featuring Mickey Mouse (Vogue, 2016g) and Kenzo x The Jungle Book (Vogue, 2016h).

When designers such as Yohji Yamamoto, Stella McCartney and Jeremy Scott have continued their collaborations with the sport brand Adidas, Mary Katrantzou also joined the crew (Vogue, 2016i) by repeating her collaboration with Adidas Originals. The two designers from the French luxury fashion houses - Riccardo Tisci from Givenchy and Olivier Rousteing from Balmain revealed to team up with Nike (Vogue, 2016j; Vogue, 2016k).

## **5. THE VALUABLE APPROACHES TO COLLABORATION FOR LUXURY FASHION BRANDS TO APPEAL TO YOUNG CUSTOMERS**

By analyzing the various collaborations of luxury fashion brands, there could be the two approaches to a collaboration that would be valuable to luxury fashion brands in offering a new product or collection to appeal to increasing young customers within the global luxury market.

The first approach should be *the fashion luxury brands x iconic figures from pop culture collaborations*. Since the iconic figures from pop culture are universally known and liked and they could be linked to childhood experiences of customers, especially young customers (Fashionista, 2016), this cute factor approach to a collaboration would allow luxury fashion brands to design a product or collection appealing to young customers

by associating them with the famous pop culture iconic figures. From the interview with Jeremy Scott about his Moschino womenswear collaboration with Barbie for Spring/Summer 2015, he explained that Barbie was selected because she could be connected with every girl (Vogue, 2014). Moreover, this approach might endow luxury fashion brands to enhance brand identity via the collaboration with iconic figures from pop culture as done before by Sophia Webster and Charlotte Olympia when the designers joined the collaboration with Barbie who share the identity with their brands (The Guardian, 2015; Vogue, 2016e). According to former UC Berkeley marketing professor David Aaker, brand identity, or the unique set of brand associations that represent what the brand stands for and promises to customers, is the significant concept for building brand equity, or the added value endowed to products and services (Kotler & Keller, 2006).



Above (Left to right): Look 10 from Moschino x Barbie (Spring/Summer 2015), Barbie Pink Butterfly high heels from Sophia Webster x Barbie (2015), Barbie Clutch from Charlotte Olympia x Barbie (2016).

Sources: [www.vogue.com](http://www.vogue.com) and [www.theguardian.com](http://www.theguardian.com)



Above (Left to Right): Donald Duck x Gucci (Spring/Summer 2017), Kenzo x The Jungle Book (2016), Disney x Coach (2016).

Source: [www.vogue.com](http://www.vogue.com)

The second approach draws the idea from the cases of Charlotte Olympia x Havaianas and Victoria Beckham x Target. This approach is the new way of *High-profile designer x high-street retail collaborations*,

which luxury fashion brands could offer a new affordable high-design product or collection to young customers who seek the high-end products at accessible price, but products must also be available at a luxury brand's stores and/or website in order to elevate brand awareness among new customers and to use a collaboration as sales promotion tool to help gathering sales and profit to a brand.



Above: Flip-flops from Charlotte Olympia x Havaianas (2016), available at Charlotte Olympia's stores and website, Havaianas's website and selected stores.

Source: [us.charlotteolympia.com](http://us.charlotteolympia.com)

## 6. CONCLUSION

A collaboration could be the strategic approach in fashion marketing which facilitates luxury fashion brands to generate new ideas and develop fashion products designed to appeal to the target customer. It could be implemented by various approaches or relationships. Recently, a collaboration has been adopted by luxury fashion brands through two fashion brand collaborations, High-profile designer and high-street retail collaborations, Fashion brand and celebrity collaborations (human celebrity and iconic figures from pop culture) and fashion designer and sport brand collaborations.

There should be the two valuable approaches to a collaboration to luxury fashion brands to appeal to young customers. The first approach could be *the fashion luxury brands x iconic figures from pop culture collaborations* which luxury fashion brands could employ to appeal to young customers by linking the designs with universally-known and liked iconic figures from pop culture to their childhood experiences and to enhance brand identity by selecting the appropriate iconic figures who share something in common with a brand. The second approach could be the new way of *High-profile designer x high-street retail collaborations* which would allow luxury fashion brands to offer young customers with high-design products at accessible price. This approach requires luxury fashion brands to also have products available at their stores as it could create brand awareness and used as a sales promotion tool to help gathering sales to business.

The findings in this paper should be useful to luxury fashion brands to consider the appropriate approaches to a collaboration when they target young customers. It could be applied to both well-established luxury fashion brands and new luxury fashion brands in all countries across the global luxury market including Thailand.

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## **THE ANALYSIS OF ONLINE MARKETING OF THE SMALL TOURISM BUSINESS WITH THE POLICY ON GREEN TOURISM**

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### **ABSTRACT**

During the past decades, the literature on tourism marketing mainly contributes the knowledge to the large businesses in the tourism industry (e.g. hotels, resorts, and airlines). However, studies exploring small tourism business with the policy promoting responsible or green practice are limited. This study has the objectives to 1) analyze the online marketing mix of the green tourism businesses and 2) evaluate the use of Internet adaptation of the businesses. Subjects investigated are travel business members listed on the website of the Thai Ecotourism and Adventure Travel Association (TEATA). Descriptive statistics were used to analyze the data in terms of frequency and percentage. The results showed that many businesses lack a complete set of marketing mix and provided limited or no information on their green practice. Most of them are not utilizing the Internet to its full potential, particularly for the marketing purpose and online transaction. Recommendations are provided to develop the use of marketing mix and Internet adoption.

**KEYWORDS:** marketing mix, green business, Internet, online marketing

### **1. INTRODUCTION**

Due to a growing concern of tourism environment, today there are an increasing number of related activities, projects and businesses on green tourism (or low-impact tourism). **However**, studies related to green tourism businesses are still limited. In particular, scholars should further explore this segment due to their policy



in reducing negative impact to the environment. In general, there is no formal definition of green tourism, and it was never well defined (Buckley, 2009; Font & Tribe, 2001; Font, 2002). Yet, in the tourism literature, the word “green tourism” is often referred to the environmentally friendly tourism activities or the tourism that cares or concerns the environment (Furqan, Mat Som, & Hussin, 2010). A review of literature indicates that green tourism may refer to the tourism activity that generates low impact to the environment (Barber, 2012; Furqan et al., 2010; Tseng & Kuo, 2013). Today, these green tourism businesses are the important part to support the responsible or sustainable tourism in Thailand. In addition, the rapid development of the Internet is having a huge impact on the tourism industry (Kerr, Tsoi, & Burgess, 2009). During the past decade, the Internet has been increasingly important and represented a significant opportunity for businesses to distribute their products and services directly to consumers (Dollin, Burgess, & Cooper, 2002; Kotler et al., 2006; Pena, 2016; Tse, 2013). The information-based resource, ease of use, interactivity and flexibility of the Internet are appealing to travel and tourism industry (Dollin et al., 2002; Pena, 2016). The prevalence of information available through the Internet has raised the possibility of marketing tourism products worldwide (Jani & Hwang, 2016; Kotler et al., 2006; Tse, 2013). The literature indicates that tourism is the most likely industry to generate revenues and sales through internet-based commerce, and as a result, tourism businesses are actively engaging in online marketing and sales (Donohoe & Needham, 2008; Jani & Hwang, 2016; Pena, 2016). Despite the advance of Internet technology has contributed to the growing impacts of online marketing for the tourism industry, **little effort** has explored the Internet marketing in a small business group with the policy to promote green tourism or responsible tourism, particularly in the Thai context. Moreover, most tourism research has focused on large business such as hotels, resorts, and airlines, **fewer studies** have examined and supported the small group business like green or responsible tourism business.

Given the above background, this study therefore has the **research objectives** to 1) analyze the online marketing mix of the green tourism business and 2) evaluate the development of Internet and e-commerce adoption among these businesses by employing the extended Model of Internet Commerce Adoption (eMICA). Understanding how the green tourism businesses market their products through the Internet will **help** them increase their chance of business success. In particular, the successful green tourism business will make for a stronger Thailand’s tourism industry and support the sustainable/responsible tourism of the country. Furthermore, the results of the study will **extend** the existing marketing literature in the segment of green tourism business as well as provides the useful suggestions for the businesses to develop effective online marketing mix and website development.

## 2. LITERATURE REVIEW

### Overview of Green Tourism

Due to the enhanced awareness of the negative impact of tourism on the environment, efforts have been made to develop approaches for making tourism sustainable (Furqan, Mat Som, & Hussin, 2010). During the past two decades, we have seen a growing interest in the relationship between tourism development and environmental quality (Erdogan & Tosun, 2009). With this concern, there is an emergence of sustainable tourism development which later has been further transformed into other forms of sustainable tourism such as conservative tourism, ecotourism, and green tourism. However, green tourism seems to be less defined due to its various focuses and meanings (Furqan et al., 2010; Wong, Wan, & Qi, 2015). Because of its loose term and lack of well-defined meaning, green tourism may be generally used to indicate as the environmental friendly tourism or low-impact tourism. Today, the green tourism concept is highly appealing to tourism enterprises and operators owing to the increasing concern on the environmental issues (Wong et al., 2015). As the meaning of green tourism implies the sense of environmental friendly product, during the past decades, there have been an increasing number of related activities, projects and businesses involving in green tourism (Wong et al., 2015) such as hotels (Green Leaf Program) and travel businesses (Green Globe). Today, there are more than 10,000 certified tourism providers around the world that label or present themselves as the green tourism businesses such as hotels, restaurants transportation, and visitor attractions (Esparon et al., 2014). One of the major benefits for going green is marketing advantage. It is widely acceptable that green practices may help businesses gain their competitive advantage over the competitors due to cost saving and public attention. In the future, there will be more concern and expansion on green tourism businesses due to the increasing environmental awareness and marketing purpose. **However**, little effort has been paid to the Thai green tourism businesses, especially their marketing efforts.

### The Extended Model of Internet Commerce Adoption (eMICA)

This study utilized the extended Model of Internet Commerce Adoption (eMICA) to evaluate the use of websites of green tourism businesses to determine their website development. The evaluation of website development by using the eMICA will provide a roadmap indicating where a business or industry sector is in its development of Internet commerce applications (Doolin et al., 2002). This will help us understand how the Thai tourism businesses have developed the Internet commerce for their online marketing. Burgess and Cooper (2000), who developed the eMICA, explained the idea that commercial website development typically begins simply and evolves over time with the addition of more functionality and complexity as firms gain experience with Internet technologies. Previous studies employed the eMICA model to evaluate the level of website development of tourism businesses to better understand the functionality used in the websites (e.g. Burgess & Cooper, 2000; Doolin et al., 2002). The eMICA model consists of three stages (as shown in Table 1), incorporating three levels

of business process: 1) web-based promotion 2) provision of information and services and 3) transaction processing.

**Table 1:** The Extended Model of Internet Commerce Adoption (eMICA)

Stage of eMICA	Examples of functionality/features
<b>Stage 1: Web-based promotion</b> <b>Layer 1</b> - basic information <b>Layer 2</b> - rich information	-Company name, contact address and details, area of business -E-mail contact, general information about company and activities
<b>Stage 2: Provision of information and services</b> <b>Layer 1</b> - low interactivity <b>Layer 2</b> - medium interactivity <b>Layer 3</b> - high interactivity	-Basic products, links to further information, online enquiry form -Customer support (e.g. FAQs, sitemaps), industry-specific value-added features (e.g. downloadable materials, special offers) -Chat room, discussion forum, multimedia, newsletters or updates by e-mail, online reservations for accommodation or tours
<b>Stage 3: Transaction processing</b>	-Secure online transactions, order status and tracking, interaction with corporate servers

Source: Adopted from Burgess and Cooper (2000)

### 3. METHODOLOGY

The subjects in this study are travel companies who are members of the Thai Ecotourism and Adventure Travel Association (TEATA). The TEATA has a policy to promote green tourism and responsible practices by establishing this association, and welcomes any tourism businesses aiming to be a responsible business. TEATA's website ([www.teata.or.th](http://www.teata.or.th)) generally provides information regarding responsible tourism, ecotourism and less impact activities. With the policy of the TEATA, its members are assumed to concern and support the green or responsible business practice, and worth for further investigation to understand how they do the online marketing. During the survey (November 2016), there was a total of 65 members listed on the website, and all of them were included in the analysis.

Given the first objective, this study examined the online marketing mix in terms of product, price, place, and promotion. The marketing mix was measured if the company provided sufficient information on these components. In addition, the study also examined if the company provided any information about their responsible or low impact practice. While the second objective, the study employed the eMICA model developed by Burgess and Cooper (2000) to evaluate the websites of the travel companies. The model consisted of three stages/levels (as shown in Table 1). Descriptive statistics were used to analyze the data in terms of frequency and percentage. Data were collected by an evaluation form from the website of the TEATA.

#### 4. FINDINGS

**Table 2:** Categories and types of travel companies

Categories	Number of companies (%)
Full-service tour operators (i.e. companies selling a variety of travel and tourism products)	19 (30.0%)
Nature-based tour operators	24 (36.0%)
Resorts (e.g. ecolodges)	13 (20.0%)
Travel related companies (i.e. companies selling outdoor, travel agent, recreational products)	9 (14.0%)
Total	65 (100%)

Table 2 reveals that among 65 travel business members, 19 companies (20%) were full-serviced tour operators offering a variety of travel and tourism products such as sightseeing tours, cultural and heritage tours, and natural tours. Approximately one-thirds (36%) were categorized as nature-based tour operators (24 companies) while 20% (6 companies) are resorts. For the rest (14%) were travel related companies such as companies selling outdoor and recreational products.

**Table 3:** Examination of online marketing mix (4Ps)

Marketing mix	Number of companies (%)
<b>Product</b>	
Product information	65 (100%)
Product update	39 (60.0%)
Product variety	65 (100%)
Product itinerary	30 (45.0%)
Product package	35 (54.0%)
<b>Price</b>	
Prices	47 (72.0%)
Price update/validity	41 (64.0%)
Seasonal prices	24 (36.0%)
Group prices	12 (18.0%)
<b>Place (channel of distribution)</b>	
Full address	65 (100%)

Telephone	65 (100%)
Facsimile	65 (100%)
Email	65 (100%)
Social media channel	28 (43.0%)
Online reservation	21 (32.0%)
Online payment	21 (32.0%)
<b>Promotion</b>	
Discounts	23 (35.0%)
Special offers	28 (43.0%)
Vouchers/coupons	7 (10.0%)
<b>Others</b>	
Language selection	44 (68.0%)
Local travel information/tips	12 (18.0%)
Links to other websites	28 (43.0%)

According to Table 3, it was found that most companies (45% - 100%) have information about their products such as product information, product variety, product itinerary and product packages. However, when considering price, most companies (64% - 72%) generally have product price and price update or validity except seasonal price (36%) and group price (18%). In relation to place (channel of distribution), all companies (100%) have basic or common channels for customer contact or selling their products such as company address, telephone, email and enquiry channel. Yet, other important channels such as social media channel (43%), and online reservation (32%) and online payment (32%) are not fully implemented or utilized. Regarding promotion, less than half of them (10% - 43%) have utilized this component to increase their sales volume. It was also observed that most companies (68%) have language selection between Thai and English while some have local travel information/tips and links to other websites.

**Table 4:** Examination of each marketing mix information

Marketing mix	Product	Price	Place	Promotion
Number of companies providing information on each marketing mix	65 (100%)	47 (72%)	65 (100%)	28 (43%)
Number of companies not providing information on each marketing mix	0 (0%)	18 (28%)	0 (0%)	37 (57%)
Total	65 (100%)	65 (100%)	65 (100%)	65 (100%)

Table 4 presents the examination of each marketing mix provided by tour companies. The result shows that all companies (100%) provide product information and place (channel of contact/distribution) whereas some companies (28%) lack of product price. However, more than half (57%) do not have promotion component.

**Table 5:** Examination information/messages regarding responsible or low impact practice

Information on responsible or low impact practice	Number of companies (%)
Companies providing detailed information regarding responsible or low impact practice	8 (12.0%)
Companies providing limited information regarding responsible or low impact practice	6 (9.0%)
Companies providing no information on responsible or low impact practice	51 (79.0%)
Total	65 (100%)

In relation to the information/messages regarding responsible or low impact practice (Table 5), only 8 companies (12%) were found to provide relatively detail of such information while 6 companies (9%) provided only limited ecotourism information on their websites. However, 51 companies (79%) had no information on responsible or low impact practice from their operations.

**Table 6:** Evaluating travel businesses' website development

Stage of eMICA and level of functionality	Number of websites (%)
<b>Stage 1 - Web-based promotion</b>	
<b>Layer 1:</b> basic information (e.g. company general information, address)	0
<b>Layer 2:</b> rich information (e.g. e-mail contact, information about company activities)	0
<b>Stage 2 – Provision of information and services</b>	
<b>Layer 1:</b> low interactivity (e.g. basic product information, links to further information, online enquiry form, news, itineraries, photo gallery)	26 (40.0%)
<b>Layer 2:</b> medium interactivity (e.g. customer support, FAQs, sitemap, downloadable materials, special offers, guest book, searchable database of accommodation, tour programs, activities, and site search engine)	20 (31.0%)
<b>Layer 3:</b> high interactivity (e.g. online bookings for accommodation, tours, activities, non-secure payment)	10 (15.0%)

<b>Stage 3</b> – transaction processing (e.g. secure online payment, order status tracking)	9 (14.0%)
Total	65 (100%)

Table 6 presents the evaluation of website development of the travel companies. Each website was evaluated and assigned an appropriate stage and layer in the eMICA model. The results indicates that the majority of the TEATA members have developed their websites in Stage 2, particularly in Layer 1 (40.0%), Layer 2 (31.0%) and Layer 3 (15.0%), respectively. However, there were only 9 companies (14.0%) that have developed their website capacities to Stage 3 (transaction processing).

## 5. CONCLUSION AND RECOMMENDATIONS

Based on the findings (Tables 3 and 4), although all companies had “**product**” component; however, many of them may not fully display other items of their products such as product update, product itinerary, and product package. Product is one of the key success factors for Internet marketing, website providing insufficient product related information the customers are looking for (e.g. product update, product itinerary, and product package) may be viewed as poor quality website (Boonthai & Assenov, 2006; Pena, 2016). This may lead to customer disappointment/dissatisfaction and switch them to other websites that provide more or complete information they are looking for (Lai & Shafer, 2005; Shobeiri, 2014). To be competitive and successful in the online travel market, it is essential for the businesses to design and develop effective websites to provide sufficient product related information to attract customers and satisfy their needs and expectations. In addition, one possible marketing strategy is to create product differentiation (Cox & Koelzer, 2004; Kotler et al., 2006; Pena, 2016). Production differentiation is the process of distinguishing the difference of a product or offering from others, to make it more attractive to a particular target market (Jani & Hwang, 2016; Kotler et al., 2006). In relation to “**price**”, the finding indicates that the majority provided product prices (either Thai Baht or US dollar). However, it was also found that many companies did not display or update their prices. Lack of product prices and updated prices may hesitate customers’ decision making. The capacity of the Internet enables company marketers to change and set prices according to company’s pricing strategies (Liu, 2000). With regard to “**place**” (channel of distribution), although all companies provided customers with various channels, they are basic accessibility or contact (i.e. telephone, fax, e-mail) between sellers and buyers. Important channel to widely reach many customers like social media is not well developed. Moreover, many companies did not provide online reservation or payment to secure their business opportunities. With the substantial advantages and low costs of the Internet, the companies should develop the capacity of this online distribution channel by adding/developing online reservation and social media channel to increase business opportunities. For “**promotion**”, the finding discloses that more than half of them lacked of sales promotion component. As noted, each company may have different

sales promotional strategy or policy. Sales promotion is recognized as one of the important elements of marketing success (including online marketing) because it helps stimulate demand and encourage the purchase of goods and services (Kotler et al., 2006; Shobeiri, 2014). The companies may utilize these sales promotions to stimulate their sales volume through the Internet-based marketing, particularly in the low season. Another suggestion is that most companies provided limited or no information regarding responsible or low impact practice (green tourism). Since they are the members of the green tourism association (implying the support on green or responsible tourism/practice, they should not ignore this important message to distinguish themselves from the tradition companies (mass market companies). Currently, the global trend is demanding on the green or responsible tourism business, and there is a huge market opportunity for them to attract the quality tourists as the main targets (Western tourists, highly educated tourists).

According to the finding (Table 6), it appears that most businesses' websites display a slightly lower level of website's functionality and interactivity when compared to other Western studies (Burgess & Cooper, 2000; Doolin et al. 2002; Shobeiri, 2014). The website development of Western studies showed moderate to high levels of websites' features; indicating a relatively advanced stage of adoption of Internet commerce when compared to Thailand case. It is suggested that the companies should focus on interaction with customers by consistently developing their website technologies and functionalities over time. They may use the guidelines provided in Table 1 as the way of development/improvement. Effective website development should not only assess the technical quality of the medium but should also include aspects related to customer satisfaction (Wang & Fesenmaier, 2006; Shobeiri, S. 2014). Regular evaluating and improving website will help business keep and increase their online presence and competitiveness in the market place (Costas & Vasiliki, 2006). Future research may apply a concept of this study to examine online marketing of other tourism business sectors to promote the Thailand's tourism industry.

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## **IMPROVING HUMAN'S JUDGEMENT RATIONALLY IN CONTEMPORARY SOCIETY BY BEHAVIORAL FINANCE**

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### **ABSTRACT**

It's said that the human judgement is rational relatively, but its rationality isn't perfect. It has been pointed out by a study of behavioral economics that biases exist in a finance judgement. Typical biases are bounded rationality and sunk costs effect. The objective of this article is to reduce the financial risk in our contemporary society by improving a human's personal financial literacy. Existence of behavioral biases called "cognitive bias" and "emotional bias" has been pointed out, but there isn't the system to feedback to each person and to improve its biases not only qualitatively but quantitatively. I made an online financial trade game system to measure these biases quantitatively. This system analyzes the player's log and feedback its behavioral biases to the player. A player can know his bias and improve financial behavior by this system. This article explains that an online gaming system will achieve the development of the financial education.

**KEYWORDS:** Behavioral Bias, Behavioral Economics, Behavioral Finance, Financial Education

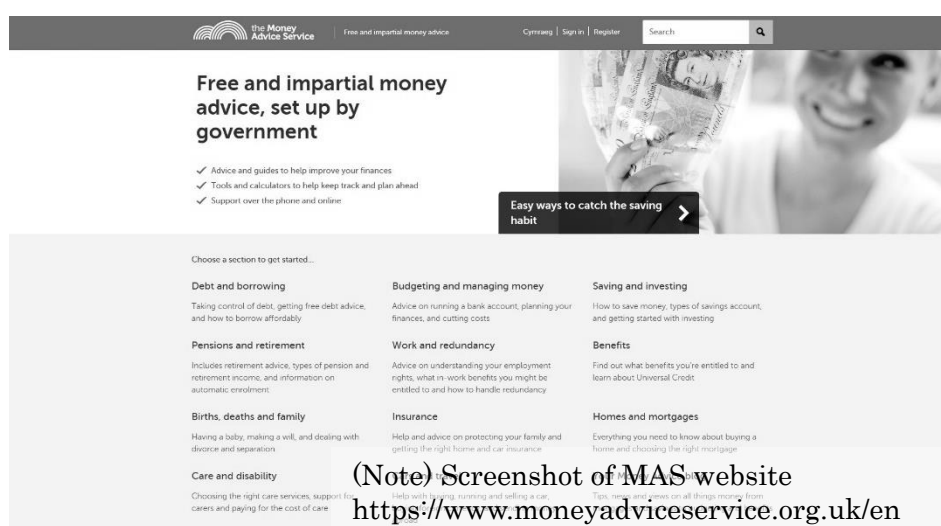
### **INTRODUCTION**

Financial knowledge was recognized as a literacy necessary to person's social life in the mid of 1990s at Europe and USA. policy-making bodies about financial education were established at each country and methods of education were carried out. For example, FSA (Financial Services Authority) in the United Kingdom and JUMP\$TART in the United States of America. "Financial educational conversazione" of Financial Services Agency recognized financial education as a literacy in 2005 in Japan. And the same year, the Cabinet Office "workshop about financial education" defined what financial education is.

Active argument has started about introduction of financial education to a school education since 2006 in Japan. Yamane (2006) clarified financial education, moral education and money education for financial education research. Inose (2007) gave the educational definitions for bringing a student's financial literacy up.

The studies of financial education are included the following 12 contents which MAS (the Money Advice Service in UK) illustrated (Figure 1).

- 1 . Debt and borrowing
- 2 . Budgeting and managing money
- 3 . Saving and investing
- 4 . Pensions and retirement
- 5 . Work and redundancy
- 6 . Benefits
- 7 . Births, deaths and family
- 8 . Insurance
- 9 . Homes and mortgages
- 1 0 . Care and disability
- 1 1 . Cars and travel
- 1 2 . Your Money Advice blog



**Figure 1** Contents of Financial Literacy MAS enumerated

In order that the citizen can access the information he'd like to know quickly, MAS offers more subdivided information by clicking each of the 12 contents. In other words, financial information is already made as one stop service by this site and those are offered mostly. Financial Public Relations Central Committee (FPRCC, Bank of Japan) make the United Kingdom policy a reference and is developing financial education in Japan. Financial Public Relations Central Committee indicates an instruction plan example of financial education in an elementary school, a junior high school and a high school as well as offers financial information to a citizen through its website (Figure 2).



Figure 2 Financial Public Relations Central Committee website

In 2011, OECD (Organization for Economic Cooperation and Development) published paper which applies behavioral economics to financial education. OECD adopted a financial education policy based on thinking of behavioral economics as well as an offer of financial knowledge. It's behavioral economics thinking that even if he knows right financial knowledge, a person doesn't always behave as it.

Financial education is separated into 2 contents, knowledge and experience, and there are 4 stages. Financial education based on behavioral economics aims at the 3rd stage and the 4th stage (Figure 3).

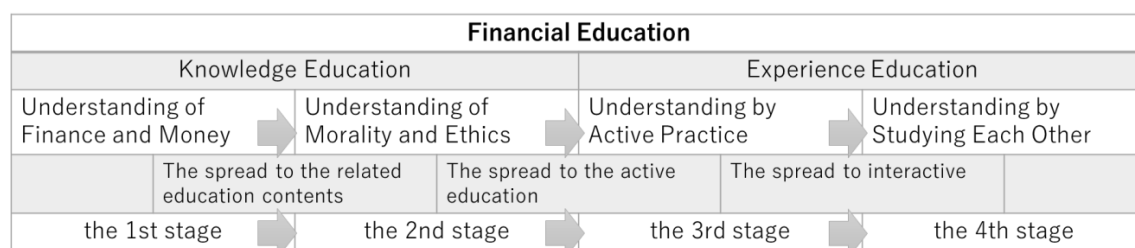


Figure 3 4 Stages of the Financial Education

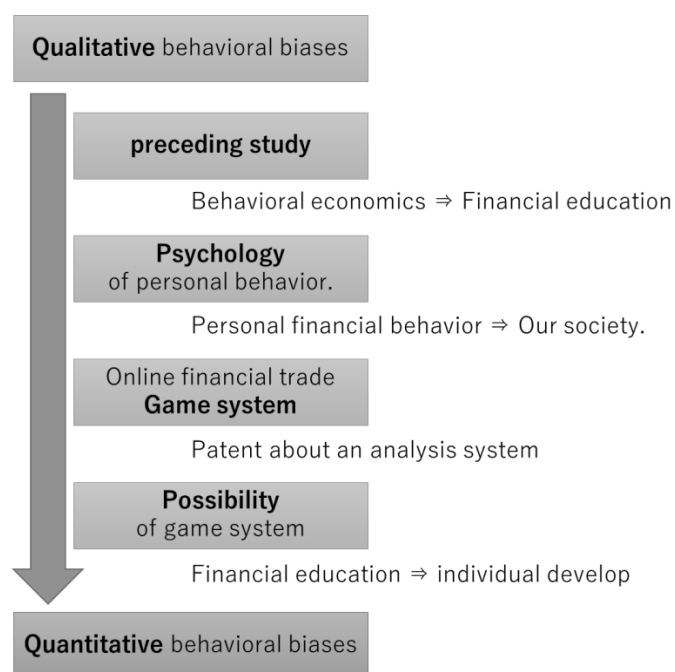
A shift to the 3rd and 4<sup>th</sup> stages is expected in Japan, but the problem that it's lack of educators. In order to implement these contents of the financial education to individual's financial literacy, innovation of a finance education method is needed in Japan.

## RESEARCH & DEVELOPEMENT

To specify behavioral biases quantitatively, the following research methods will be conducted. Firstly, the preceding study about behavioral economics and financial education is reviewed. Financial education in the United Kingdom is the most advanced activities. The United Kingdom is going to apply behavioral economics to financial education at present.

Then, it's illustrated from knowledge of behavioral economics what kind of personal financial behavior gives influence to our society. All financial movements are results of the human's behavior. Personal behavior has been also a trigger of enterprise's financial disgraceful affairs. It's necessary to analyze the psychology in the background of personal behavior.

Next, the existence of a behavior biases has been pointed out, but it's difficult to measure them quantitatively. So, I acquired a patent about an analysis system in Japan and the online financial trade game system was made by its technology.



**Figure 4** Research and Development for Financial Education

Finally, a possibility of the online financial trade game system is considered. Leading the knowledge of conclusion idea for applicability of the online game system makes the technique of the financial education suitable for an individual develop (Figure 4).

## RESULT (DEVELOPED SYSTEM)

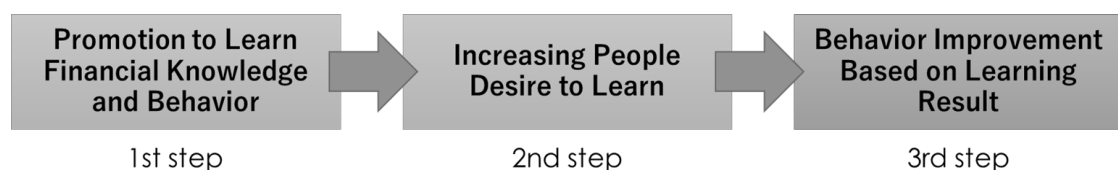
The person's main finance behavior in knowledge of the behavioral economics is as follows.

- (1) Bounded Rationality (including Sunk Cost Effect)  
Simon, Shafir, Tversky, Diamond etc. showed.
- (2) Loss Avoidance (including Prospect Theory)  
Kahneman, Tversky etc. showed.

OECD gathered the feature seen by Consumer's main behavior bias as follows from a study of behavioral economics in the past.

- (1) Processing of the infoglut  
If humans have too much information, they can't right judge.
- (2) Keeping bias  
Many people choose postponement action.
- (3) Overconfident inclination  
For example, some people have overestimation of their own investment ability.
- (4) Loss avoidance inclination  
Many people can't decide their loss, so its loss become bigger. They have surplus reaction to the loss avoidance.
- (5) Framing effect  
Humans are effected by the number they saw.

In order to change human's behavior, OECD regards the consumer's learning process as 3 steps which are promotion to learn, increasing a desire and behavior improvement (Figure 5).



**Figure 5** Consumer's Learning Process

The educational method or system are needed to carry out the 3<sup>rd</sup> step of Figure 5. Solving this problem, I made an online financial trade game system to measure player's behavioral bias quantitatively (Figure 6).

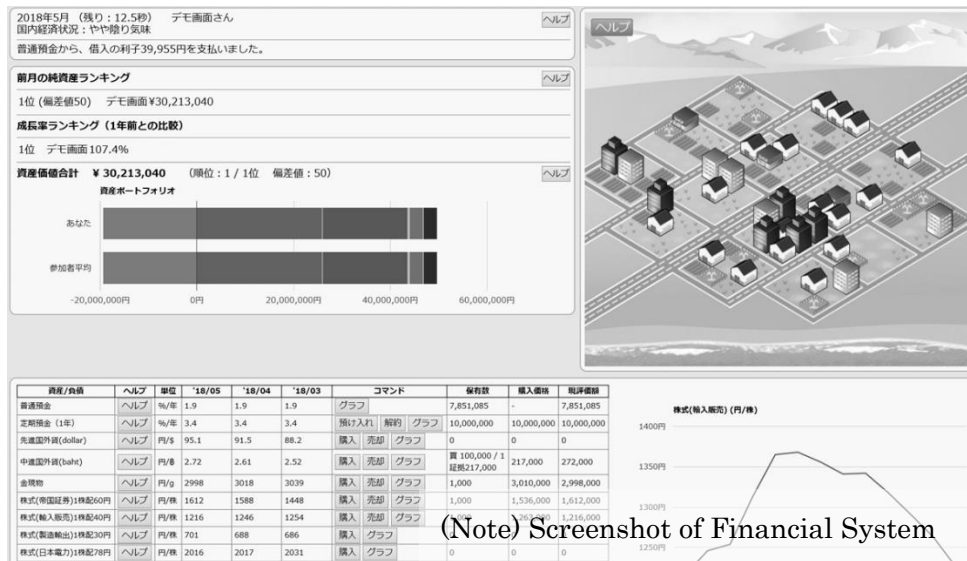


Figure 6 Main Flame of the online financial trade game system

This system is based on my Japanese patent about an analysis system and analyzes the player's log and feedback its behavioral biases to the player. A player can know his bias and improve financial behavior by this system (Figure 7).

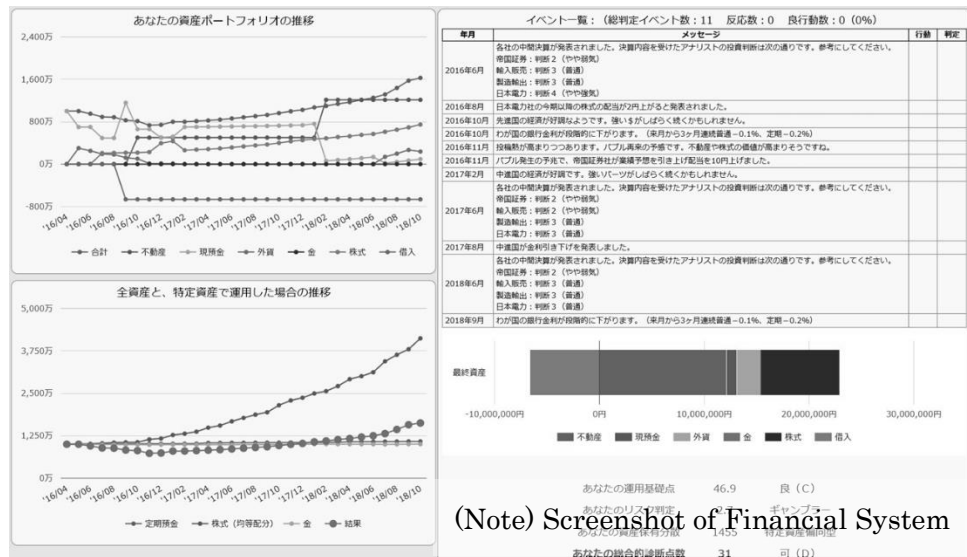


Figure 7 Feedback of the player's results

Evaluation consists of the following 4 items.

1. Asset management basic point
2. Risk check
3. Property possession index point



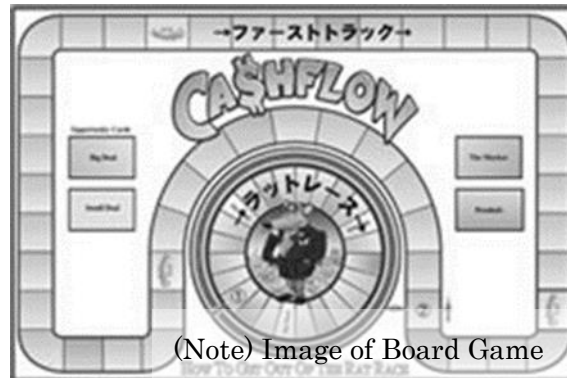
#### 4. Efficient behavior percentage

Player's behavior bias is pointed out by this evaluation quantitatively, and the player's behavior can be confirmed objectively by checking the chart of his log as shown in figure 7. 1 turn is about 30 seconds in this game. Players have to judge financial transactions against the random event. Players can know the limit of their rationality by checking the log. Persons are affected in the amount of a loss, and can't judge any more rationally. This is called "Sunk Cost Effect", and this effect can also be confirmed from their log.

## CONCLUSIONS

The disgraceful affair was happened by one Japanese bank in New York in 1995. One bank clerk made loss at 1,100,000,000 dollars for 12 years. The Japanese bank had to pay a huge fine and withdrew from the United States. This event surprised the world. The clerk of this bank had the psychological condition indicated by behavioral economics according to his notes. Personal behavior influences the whole society in this contemporary society.

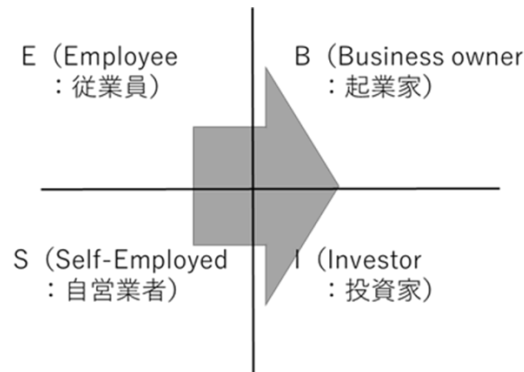
Advance of financial education is needed to avoid financial risk of the whole society. Though a text of much financial education existed up to now, person's behavior wasn't changing. The education system to which person's behavior is changed is desired.



(Note) Image of Board Game

**Figure 8** Finance board game Kiyosaki made

Kiyosaki & Letcher (2000a) proposed the behavioral improvement for which a board game was used. They insisted on the way to escape from the rat race worked for money (Figure 8). They separated the income in 4 quadrants of Employee, Self-Employed, Business owner and Investor. And they recommended the behavioral modification which moves from the left quadrant to the right one (Figure 9).



**Figure 9** Quadrants of Income

A game make financial education advance. It is the feedback system to give financial knowledge efficiently to each person.

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**THE INFLUENCE OF CUSTOMERS' PARTICIPATION IN  
CAUSE – RELATED MARKETING CAMPAIGN, THEIR INFORMATION  
PROCESSING, SELF – PERCEIVED CORPORATE REPUTATION,  
AND PURCHASING DECISION: A CASE STUDY OF APPLE INC.  
ON (PRODUCT) RED CAMPAIGN IN BANGKOK METROPOLITAN**

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**ABSTRACT**

The main objective of this study was to investigate the relationships between customers' participation in cause – related marketing campaign (“PRODUCT RED” CAMPAIGN) organized by Apple Inc. and their information processing, self – perceived corporate reputation and their purchasing decision. Two hundred participants responded the survey and they were selected using convenience sampling. The data was collected by Thai and foreign participants living in Thailand. The mean, standard deviation, and percentage were tabulated and analyzed by using MANOVA, Spearman's Correlation, and Regression with the significance level of .05. The findings revealed the following results:

1. Customers' participation in cause – related marketing campaign organized by Apple did not significantly influence customers' information processing, which composed of central and peripheral route processing. In addition, the results showed that customers' participation in cause – related marketing campaign organized by Apple did not significantly influence self – perceived corporate reputation, which composed of trustworthiness, reliability, credibility, and responsibility in the markets.

2. Customers' information processing in central route was positively correlated with their self – perceived corporate reputation, which composed of trustworthiness, reliability, credibility, and responsibility in the markets. Moreover, the results showed that customers' information processing in peripheral route was positively correlated with their self – perceived corporate reputation, which composed trustworthiness, reliability, credibility, and responsibility in the markets.

3. Customers' information processing in central and peripheral route significantly influenced their decision to purchase Apple's products. On the other hand, customers' decision to purchase Apple's products was significantly influenced by customers' information processing in central route and peripheral route.

**KEYWORDS:** cause – related marketing, information processing, self – perceived corporate reputation, purchasing decision, communication campaign

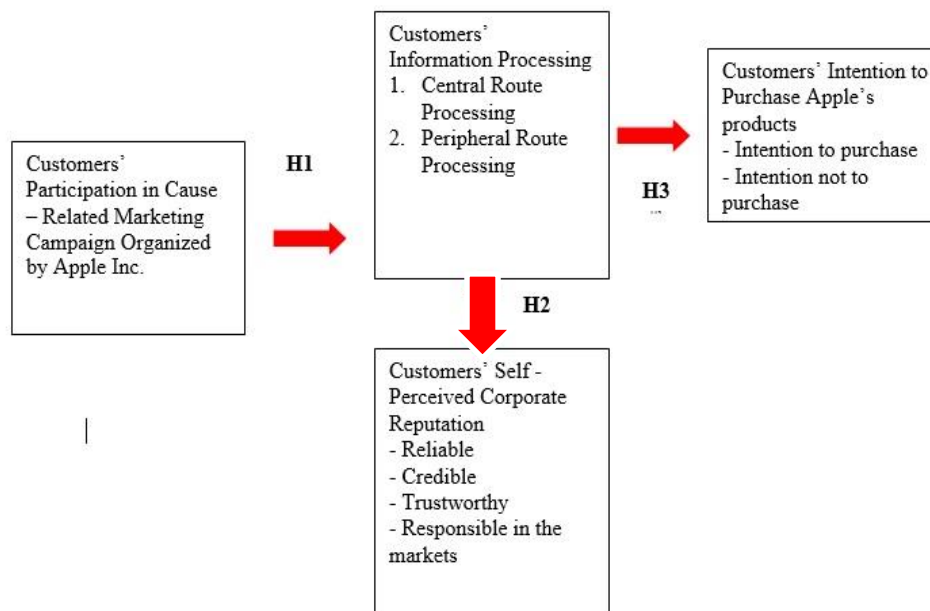
## 1. RATIONALE AND PROBLEM STATEMENT

Currently, due to the high competition in the global market, the organizations have increasingly considered corporate social responsibility (CSR) as a major tool to improve their business competence in the global market and compete with other competitors. Regarding corporate social responsibility initiatives, Kotler and Lee (2005) has identified CSR into six CSR initiatives, including cause promotion, cause – related marketing, corporate – social marketing, corporate philanthropy, community volunteering, and social responsible business practice. In addition, Creyer (1997) and Morwitz (1996) cited in Babu & Mohiuddin (2008) that the customers were able to use their purchasing ability to support and diminish the company image and reputation based on corporate social responsibility they perceive. This study emphasized on cause – related marketing, which was a well – known term used to identify one of the CSR initiatives; however, the other terms were also used to identify other CSR initiatives as mentioned previously. Kotler and Lee (2005) stated that cause – related marketing was an organization commitment to contribute and donate some part of its revenues to a cause based on product sales with the business partner collaboration. This strategic plan was considered as a mission statement of the organizations, and it concentrated on customer engagement since the customer was one of the most influential stakeholders in the organizations. Elaboration Likelihood Model (ELM), which focus on the process of elaborated attitude change and persuasion developed by Petty & Cacioppo (1986) was a theoretical framework to examine how CSR initiatives affect their information process and how their information processing as posited by ELM and how their information processing might influence the customers' intention to purchase APPLE. The author used a case study of Apple Inc., in cooperation with (RED)<sup>TM</sup> on “(PRODUCT) RED” campaign, which donated a part of their gross profits of product sales to the Global Fund in order to support AIDS programs in Africa. As Berger, Cunningham, and Kozinets (1996) suggested in Mardian (2002), there have been a few researches using Elaboration Likelihood Model (ELM) to investigate that cause – related marketing used by the organizations was effective in terms of increasing sales volume and customers' purchasing decision. Therefore, the author selected a case study of cause – related marketing campaign organized by Apple Inc. to study the influence of customers' participation in cause – related marketing campaign on their information processing, corporate reputation, and purchasing intention.

## 2. OBJECTIVES OF STUDY

- (1) To examine the relationship between customers' participation in cause – related marketing campaign organized by Apple Inc. and their information processing.
- (2) To examine the relationship between customers' information processing and their self – perceived corporate reputation.
- (3) To predict how customers' information processing influence their intention to purchase Apple's products.

## 3. THEORETICAL FRAMEWORK



**Figure 1** Theoretical Framework

## 4. METHODOLOGY

### 4.1 Research Methodology

The research focused on the relationship among customer's participation in cause – related marketing campaign, information processing, self – perceived corporate reputation, and purchasing intention of Apple's products. This study would extend the research of four scales. The first one examined the customer's participation in cause – related marketing campaign named "(PRODUCT) RED". The second one was the Cognitive Elaboration Scale developed by Perse (1990b) to explain customer's mental involvement and processing on media messages from cause – related marketing campaign. In addition, the scale indicated the mental involvement with the media message and participation in information processing. The third scale was the Reputation Quotient (RQ)

by Fombrun, (2000b). Groenland, (2002) asserted in Michelotti (2008) that the RQ scale was based on the Fortune's reputation survey, reputation rankings, literature review, and proprietary image research. The last one was the scale for studying consumer's purchasing decision, which was adapted from the research conducted by Qamar & Lodhi (2013). The adapted instruments were closed – ended and the statements were analyzed based on five – point Likert scale.

#### **4.2 Population and Sampling Method**

To conduct the research, the data was collected from 200 Thai and foreign participants, which did not include 50 participants of the pre – test who experienced purchasing the products from cause – related marketing campaign organized by Apple Inc. In addition, convenience sampling was used as a technique for collecting data. The survey research was designed in five parts; the first part, the participants were asked about demographic information, including gender, age, education, occupation, monthly income, and work experience. For the second to fifth part, the participants were asked about the variables of the research. The questionnaire was a tool to measure the variables by using three – point likert scale to evaluate the respondents' level of participation and exposure to cause – related marketing campaign organized by Apple Inc., and five – point likert scale to evaluate the respondents' level of agreement or disagreement with the information processing, corporate reputation, and purchasing intention of Apple's products based on the perception of Apple's cause – related marketing campaign.

#### **4.3 Dependent variables and Independent variables**

1. Hypothesis 1: Customers' participation in cause – related marketing campaign organized by Apple Inc. significantly influences customers' information processing, which are central and peripheral route processing and self – perceived corporate reputation, which composed of trustworthiness, reliability, credibility, and responsibility in the markets.

**Independent variables:** Customers' participation in cause – related marketing campaign organized by Apple Inc.

**Dependent variables:** Customers' information processing

2. Hypothesis 2: Customers' information processing is positively correlated with their self – perceived corporate reputation, which composed of trustworthiness, reliability, credibility, and responsibility in the markets.

**Independent variables:** Customers' information processing

**Dependent variables:** Customers' self – perceived corporate reputation

3. Hypothesis 3: Customers' information processing is a significant predictor of their intention to purchase Apple's products.

**Independent variables:** Customers' information processing

**Dependent variables:** Customers' intention to purchase Apple's products

#### 4.4 Instruments

The survey was characterized by nominal and 5-Likert scale in 5 sections, including sample's demographic data (7 nominal question), participation in cause – related marketing campaign ( 1 nominal question) , level of information processing (9 interval questions), self – perceived corporate reputation in respect to trustworthiness, reliability, credibility, and responsibility in the markets (27 interval questions) and their intention to purchase decision (10 interval questions). The survey was tested, having Alpha Cobach Coefficient of Perse (1990b) of more than 0.70, which is considered acceptable reliability.

#### 4.5 Data Collection Procedure

The questionnaires were developed originally in English. However, due to the fact that the target audiences of this study were Thai people who used Apple's products, the questionnaires were translated and edited to Thai by 2 separate professional translators. In order to ensure that all of the errors were detected and corrected, back translation process (to English) was also executed in this case. After the questionnaires had been ready to be distributed to the target audience, the completed questionnaires were printed into digital survey form via Google to be convenient when the questionnaires would be distributed by sending the questionnaire link through email.

#### 4.6 Data Analysis

The mean, standard deviation, and percentage were tabulated and analyzed by using MANOVA, Spearman's Correlation, and Regression with the significance level of .05.

**Table 1:** Data Analysis for Customers' Participation and Exposure to Cause – Related Marketing Campaign Named “(PRODUCT) RED” Campaign

Level of Participation in CRM	Meaning	Frequency	%
1. Have attended this cause – related marketing campaign	Have attended	17	8.5
2. Have heard and exposed to this cause – related marketing campaign from the media, but never attended	Have heard or Exposed but Never Attend	134	67
3. Have never heard or exposed to the media and have never attended this cause – related marketing campaign	Never heard and never being exposed	49	24.5
<b>Total</b>		<b>200</b>	<b>100</b>

Table 1 shows that 67% of the sample have heard and were exposed “(PRODUCT) RED” Campaign (N = 134) and 24.5 % have never heard nor exposed to the media and have never attend this cause-related marketing campaign (N= 49). However, only 8.5% have attended this cause-related marketing campaign (N= 17).

**Table 2:** Data Analysis for Information Processing towards Apple Inc. based on Participation in Apple's Cause – Related Marketing Campaign

Item	Mean	Std. Deviation	Level
<b>Sample's Information Processing (Central Processing and Peripheral Processing)</b>			
Information processing after participation /exposure to CSR campaign (Centrally and Peripherally)	3.22	0.813	Neutral
General Perception toward Apple's product after participation/ exposure to CSR campaign	3.12	1.000	Neutral
<b>Total of Information Processing</b>	<b>3.18</b>	<b>0.896</b>	<b>Neutral</b>

Table 2 showed that the sample's informational processing (central and peripheral information processing) processed information in the neutral level (Mean = 3.18) after CSR participation or exposure. The sample process centrally and peripherally at the neutral level (Mean = 3.22) and has neutral perception toward Apple's product (Mean = 3.12).

**Table 3:** Data Analysis for Perceived Corporate Reputation towards Apple Inc. based on Participation in Apple's Cause – Related Marketing Campaign

Item	Mean	Std. Deviation	Level
<b>Components of Self – Perceived Corporate Reputation of sample</b>			
Reliability	3.47	0.908	Neutral
Credibility	3.27	0.876	Neutral
Trustworthiness	3.49	0.874	Neutral
Responsibility in the markets	3.21	0.773	Neutral
<b>Total of Perceived Corporate Reputation</b>	<b>3.38</b>	<b>0.852</b>	<b>Neutral</b>

Table 3 showed that the sample perceived the corporate reputation toward Apple's product in the neutral level (Mean = 3.38), while ranking trustworthiness (Mean = 3.49), reliability (Mean = 3.47), credibility (Mean = 3.27) responsibility in the markets (Mean = 3.21), respectively.



**Table 4:** Data Analysis for Intention to Purchase Apple Inc. Products based on Participation in Apple's Cause – Related Marketing Campaign

Item	Mean	Std. Deviation	Level
Purchasing Intention	3.18	0.937	Neutral
<b>Total of Purchasing Intention</b>	<b>3.18</b>	<b>0.937</b>	<b>Neutral</b>

Table 4 showed that sample has the intention to purchase Apple's product in the neutral level (Mean = 3.18).

## 5. FINDINGS

Hypothesis 1: MANOVA results that analyze the influence of customers' participation in cause – related marketing campaign organized by Apple Inc. towards customers' information processing, which are central and peripheral route processing and self – perceived corporate reputation, which composed of trustworthiness, reliability, credibility, and responsibility in the markets.

The Multivariate Analysis of Variance (MANOVA) revealed that customers' participation in cause – related marketing campaign organized by Apple does not significantly influence customers' information processing, which were central ( $F = 0.081, p > 0.05$ ) and peripheral route processing ( $F = 0.139, p > 0.05$ ). In addition, the results showed that customers' participation in cause – related marketing campaign organized by Apple did not significantly influence self – perceived corporate reputation, which composed of trustworthiness ( $F = 0.356, p > 0.05$ ), reliability ( $F = 0.277, p > 0.05$ ), credibility ( $F = 0.920, p > 0.05$ ), and responsibility in the market ( $F = 0.688, p > 0.05$ ) at the statistical significance of 0.05. According to the results, hypothesis 1 was not supported.

Hypothesis 2: Correlation analysis between customers' information processing and their self – perceived corporate reputation, which composed of trustworthiness, reliability, credibility, and responsibility in the markets

Spearman's correlation analysis found that customers' information processing in central route was positively correlated with their self – perceived corporate reputation, which composed of trustworthiness ( $r = 0.35^*, p < 0.05$ ), reliability ( $r = 0.34^*, p < 0.05$ ), credibility ( $r = 0.366^*, p < 0.05$ ), and responsibility in the market ( $r = 0.414^*, p < 0.05$ ). Also, the results showed that customers' information processing in peripheral route was positively correlated with their self – perceived corporate reputation, which composed of trustworthiness ( $r = 0.355^*, p < 0.05$ ), reliability ( $r = 0.4^*, p < 0.05$ ), credibility ( $r = 0.464^*, p < 0.05$ ), and responsibility in the market ( $r = 0.301^*, p < 0.05$ ) at the statistical significance of 0.05. According to the results, hypothesis 2 was supported.

Hypothesis 3: Regression results that analyze the predictors of customers' intention to purchase Apple's products

The Regression analysis revealed that all independent variables, which were customers' information processing in central and peripheral route significantly predicted their intention to purchase Apple's products ( $F = 27.592$ ). Customers' intention to purchase apple's products was significantly influenced by customers' information processing in central route ( $\beta = 0.299^*$ ) and peripheral route ( $\beta = 0.248^*$ ) at the statistical significance of  $p < 0.05$ . Therefore, the findings showed that, based on the Beta ( $\beta$ ) examination, customers' information processing in central route ( $\beta = 0.299^*$ ) had a higher influence than customers' information processing in peripheral route ( $\beta = 0.248^*$ ). According to the results, hypothesis 3 was supported.

## 6. DISCUSSION

The findings on hypothesis 1 suggested that customers' participation in cause – related marketing campaign had no influence on customers' information processing, which were central and peripheral route processing and self – perceived corporate reputation, which composed of trustworthiness, reliability, credibility, and responsibility in the markets. The result was in accordance with the fact that cause – related marketing was one of the campaigns and advertisements, which were only composed of peripheral cues; therefore, the customers would unconsciously consider only peripheral factors (logos, symbols, music, or even a price) as stated by Jaspers (2011). In some cases, cause – related marketing campaign might be perceived by the customers that it was one of the advertising or marketing campaigns that focused on selling the products. Moreover, the organization might have no transparency in terms of the campaign purposes and information to the customers. Hence, it was not effective in terms of information processing and self – perceived corporate reputation. Also, Apple might not work well in terms of promoting and PR the campaign, so it did not convince the customers to perceive the campaign in the right direction.

Findings of hypothesis 2 indicated that the significant variable that influenced customers' self – perceived corporate reputations was customers' information processing. It obviously explained that customers' information processing in central route was positively correlated with their self – perceived corporate reputation, which the aspects of this variable composed of trustworthiness, reliability, credibility, and responsibility in the markets. In addition, the results revealed that customers' information processing in peripheral route was positively correlated with their self – perceived corporate reputation, which the aspects of this variable composed of trustworthiness, reliability, credibility, and responsibility in the markets.

As supported by Bromley (2000 as cited in Rankila, 2011), information processing have 3 levels that influenced human perception about corporate reputation, including primary level (based on personal experience), secondary level (based on others say about product and/or company), and tertiary (based on mass media information). Moreover, Carroll (2013) shared her thoughts about corporate reputation that the challenge of the

organizations to improve their reputation was being supposed to seek the way to avoid the information processing defaults and encouraged their stakeholders to review positive information. Therefore, based on the research evidence given, it summarized that information processing had the positive relationship and significant influence on human perception towards corporate reputations in all aspects.

Findings of Hypothesis 3 revealed that the significant variable that influenced customers' intention to purchase Apple's products is customers' information processing in both central and peripheral route. This significant variable influenced their intention to purchase Apple's products. On the other hand, customers' intention to purchase apple's products was significantly influenced by their information processing in central route and peripheral route at the statistical significance. Moreover, customers' information processing that had significant influence on their intention to purchase Apple's products is elaborated by the Elaboration – Likelihood Model (ELM), developed by Petty & Cacioppo. This model was used to explain the customers' information processing towards their purchasing intention to the products from cause – related marketing (CRM) campaign (persuasive/marketing message). Rucker & Petty (2006) Zuckerman & Chaiken (1998) explained about the model in Jaspers (2011) that a person was able to form and change an attitude by processing information in two manners. Firstly, a person had motivation to process information and cognitive resources and the result came from careful and thoughtful consideration of the information (central route). Secondly, a person did not have motivation to process information and cognitive resources and the result was simple in persuasive context that made change without considering the information (peripheral route). In this model, Petty & Cacioppo (1986) revealed that the persuasion would be occurred on the central route when elaboration likelihood was high. The findings underscored that the implication of customer's information processing especially on central and peripheral information processing on their perceived corporate reputation and their intention to purchase Apple's product. This study suggested that Apple should promote more exposure and participation of CSR initiatives tailored toward prospect and current customers in order to influence their information processing and their corporate reputation, which might lead to higher intention to purchase.

## **7. RECOMMENDATIONS**

### **7.1 Recommendation for Application**

- The organization was supposed to develop the campaign by using other types of corporate social responsibility initiatives to plan and create the effective campaign.
- The organization was to create an effective campaign that was able to influence customers' information processing in central route.
- The practitioners could apply this research for creating an effective communication campaign, which was to enhance overall beneficial results.

## 7.2 Recommendation for Future Research

- Further studies were recommended to examine more aspects of corporate reputations and purchasing intention towards Apple's products.
- The study might explore the persuasive message design and development that was used by CRM and other CSR initiatives to guide customers' perception and attitude.

## 8. ACKNOWLEDGEMENTS

I would like to express my gratitude to my family for their support given to me throughout the project. Without this important person, Asst. Prof. Dr. Pacharaporn Kesaporn, who was my IS advisor and gave me valuable advices and assistances, the persons who participated in the survey and for all of beloved ones.

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## **AN ANALYSIS OF FIGURATIVE LANGUAGE USED IN MOTTOS**

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### **ABSTRACT**

This research aims to (1) to investigate figurative language used in mottos and (2) to analyze and interpret the meaning of figurative language in 75 selected mottos. The study focuses on figurative language used in mottos taken from the Internet. 11 kinds of figurative language (alliteration, anaphora, assonance, hyperbole, metaphor, parallelism, personification, repetition, rhyme, simile, and symbolism) have been selected for analysis. The findings reveal that the type of figurative language that is most frequently used is repetition (45.63 %), followed by rhyme (17.47 %), metaphor (7.77 %), parallelism (7.77 %), simile (6.79 %), alliteration (3.89 %), anaphora (3.89 %), hyperbole (2.91 %), personification (2.91%), symbolism (0.97 %) and assonance (0 %), respectively.

**KEYWORDS :** Figurative Language, Mottos

### **BACKGROUND OF THE STUDY**

All features of language are studied in linguistics. Linguistics, as we know, has four main branches of study: phonology, morphology, syntax and semantics. Semantics focuses on the meaning of words, phrases, and sentences. Meanings of linguistic expressions can be divided into two classes: literal and non-literal meaning. Literal meaning denotes the speaker meaning according to common or dictionary usage, while non-literal meaning (figurative expression) connotes additional layers of meaning. When people's eyes or ears receive a message, the mind must interpret the data to convert it into meaning. This set of memories will give prominence to the most common or literal meanings, but also suggest reasons for attributing different meaning (Palmer, 1976: 1).

Figurative language has also been a focus in the field of cognitive linguistics, which has made great strides in relating the language faculty to general cognitive processes. Cognitive linguistics recognizes that word meaning is not "fixed" but is rather a function of perspective. In this view, the linguistic faculty is similar to general-purpose knowledge representation and perception, and compositionality can only be maintained if context is taken into consideration (Talmy 1988).

Figurative language has been widely examined by linguists in the study of literature in recent years, because it has the essence of the style and beauty. Figurative language is language which does not express real/literal meaning and has more than one meaning.

According to Perrine (1997: 6), literature is a kind of art, usually written, that offers pleasure and illumination. A literary work is imaginative work that uses literary language and ambiguous words. Most of literary works use figurative language and ambiguities to stimulate a certain image. It affects the language beauty of a work in both oral and written discourse. Therefore, many literary works usually contain figurative language such as advertisements, slogans, quotes, novels, prose, poems, songs, and short stories. It is effective to use non-literal meaning in literary works to beautify the language, to make it sound elegant, and give the magnificent word to attract attention of the readers or audience.

According to Perrine (1977: 61), figurative language is a figure of speech, a way of adding extra dimensions to language. It is used by poets because figurative language can say the words that they want to say with interesting expressions, implicitly and attractively rather than say it directly and flat. Furthermore, figurative language makes a sentence such as slogan, quotes, and mottos become more imaginative, attractive and add the intensity of the composer's feeling for their work to convey their attitude.

For example, simile: a simile is like a metaphor and often uses the words like or as. One example of a simile would be to say, "Jamie runs as fast as the wind".

A motto is a succinct statement of beliefs or ideals and may either be a sentence or a short phrase. An individual may have a personal motto, and an organization or business may have one that doubles as an advertising slogan. Nations can have them, as can politicians, who often express them through memorable slogans. Their purpose is to remind stakeholders of the foundational beliefs that underpin an effort. A personal motto may either be part of a public family tradition, as with inscriptions that accompany a family's coat of arms, or an individual and private choice. It provides the author with a means of conveying or creating an image, idea, or point by using descriptive and symbolic words.

Motto becomes a part of human life and stick in the mind. It is interesting and easy to find. It can be found on television, radio, in public places, and so on etc. The reader or hearer can have different interpretation for each motto depending on their background or their knowledge. The author describes something through the use of unusual comparison to effect, interest, and to make the message clearer by using a figure of speech. It produces meaning that is interesting but difficult to be interpreted in a literary sense. Figurative language cannot be separated from a writer's way or technique to express, reflect, and describe. It is important for the reader or hearer to understand about figurative language to comprehend mottos (Hermanto, 2006: 2-3).

Figurative language which is used for effect and emphasis creates images in the mind of the readers' mind and urges them to search for the hidden meaning of the text. A motto with figurative expressions could confound the readers when they attempt to determine what its real or intended meaning. Based on the reasons given above, it is interesting to analyze the use of figurative language in mottos.

Based on the information above, the researcher is interested in doing this research which deals with types and meanings of figurative language that are used in mottos. The researcher analyzes figurative language in 75 mottos taken from the internet. This study focuses on a pragmatic analysis, particularly on an illocutionary act, of 11 types of figurative language: alliteration, anaphora, assonance, hyperbole, metaphor, parallelism, personification, repetition, rhyme, simile, and symbolism. The researcher hopes that this research will be useful as additional references and enrichment in studying language in use.

### **OBJECTIVES OF THE STUDY**

1. To examine figurative language used in mottos from the internet.
2. To classify the types of figurative language used in 75 selected mottos
3. To analyze and interpret the meaning of figurative language in 75 selected mottos.

### **SCOPE OF THE STUDY**

The study focuses on analyzing and classifying the types of figurative language used in 75 mottos taken from the internet. The classification will be based on 11 types of figurative language (alliteration, anaphora, assonance, hyperbole, metaphor, parallelism, personification, repetition, rhyme, simile, and symbolism).

### **SIGNIFICANCE OF THE STUDY**

In order to understand a connotative meaning or non-literal meaning of a motto which contains elements of figurative language, people need to understand figurative expressions and be able to identify the form these expressions are expressed. The findings of this study will give additional information for teachers and researchers interested in semantics.

1. The results of the study can be useful for additional information that can be applied by teachers and researcher in semantics, especially figurative language.
2. The students; it would provide better and clearer understanding on the types of figurative expressions. Furthermore, it will be very useful for students who are interested in studying pragmatics and semantics in enriching their knowledge (increasing their language proficiency).



## PROCEDURE OF THE STUDY

The following steps were taken to collect the data:

1. The data were collected from 100 mottos from internet. This qualitative study employed a method of content analysis with descriptive and interpretative methods of data analysis of the figurative language and its role in selected mottos. 11 figures of speech were chosen for analysis as follows: alliteration, anaphora, assonance, hyperbole, metaphor, parallelism, personification, repetition, rhyme, simile, and symbolism.

2. Based on the theoretical framework regarding figurative language. The second part of the study aimed to investigate types of figurative language existing in selected mottos. The meanings of the text conveyed through figurative language were interpreted and how figurative language plays a role in mottos were explained.

3. Investigate how figurative language in mottos conveys meanings to a reader or hearer. The methodology used in this part was content analysis to identify, describe, interpret and conceptualize the meanings conveyed by the figurative features found in the works.

4. The types of figurative language were identified and eleven existing categories of figurative language were used as the framework in this analysis. Types of figurative language most frequently used in mottos were identified.

5. The researcher categorized figure of speech into each type and analyzed the data to find out the frequencies of the figurative language in the songs. Then, the researcher presented the results. Finally, the researcher made a conclusion, discussion, and recommendations.

## CONCLUSION

This study focuses on analyzing and classifying the types of figurative language used in 75 mottos taken from the internet. The classification will be based on 11 types of figurative language (alliteration, anaphora, assonance, hyperbole, metaphor, parallelism, personification, repetition, rhyme, simile, and symbolism). The motto under analysis includes love mottos, life mottos, friendship mottos, team mottos, political mottos, religious mottos, movie mottos, business mottos, and leadership mottos. The following stylistic devices have been found and analyzed: alliteration, anaphora, assonance, hyperbole, metaphor, parallelism, personification, repetition, rhyme, simile, and symbolism. The stylistic analysis of data shows that figurative language is used to evoke imagery, beautify the sentences, and express meanings beyond the definition of word.

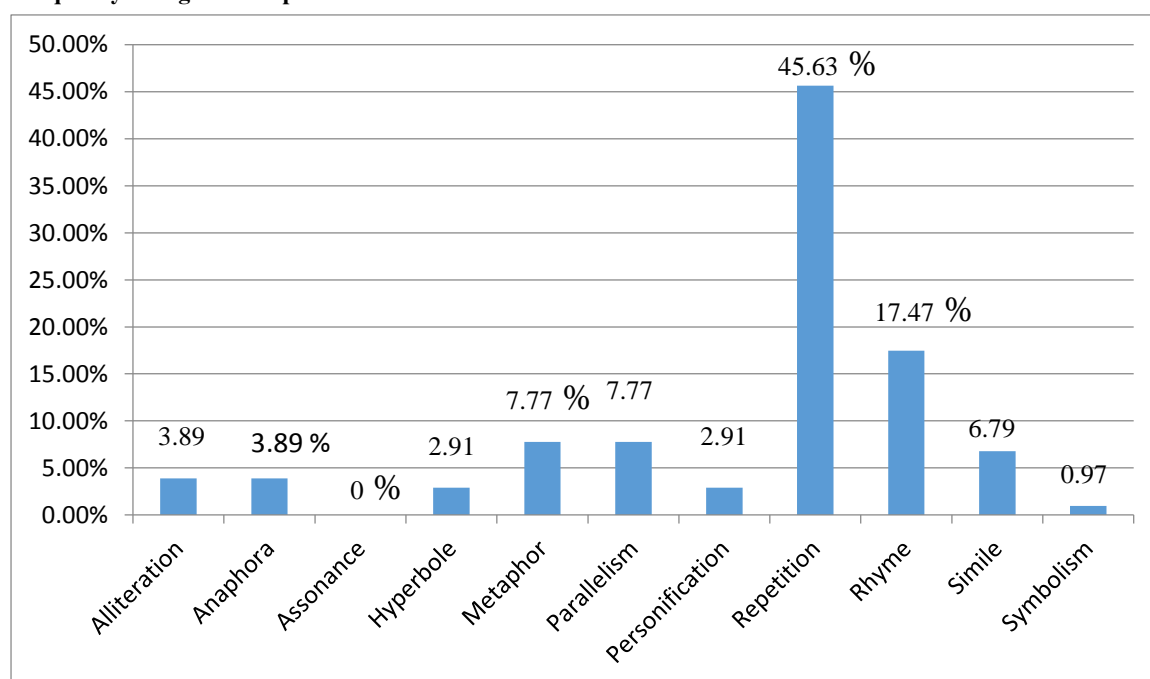
The analysis of figurative language used in 75 mottos reveals that repetition is found the most (45.63 %) followed by rhyme (17.47 %), metaphor (7.77 %), parallelism (7.77 %), simile (6.79 %), alliteration (3.89 %), anaphora (3.89 %), hyperbole (2.91 %), personification (2.91%), symbolism (0.97 %) and assonance (0 %).

The results of analysis of figurative language are presented in the Table I below.

**Table 1:** Type of figurative language and frequency of the figures of speech in 75 mottoes

Figures of Speech	Frequency	Percentage
Repetition	47	45.63 %
Rhyme	18	17.47 %
Metaphor	8	7.77 %
Parallelism	8	7.77 %
Simile	7	6.79 %
Alliteration	4	3.88 %
Anaphora	4	3.88 %
Hyperbole	3	2.91 %
Personification	3	2.91 %
Symbolism	1	0.97 %
Assonance	0	0 %
Total	103	100 %

The table above presents the percentage of figurative language found in 75 mottoes. Of 11 types of figure of speech, repetition (45.63 %) was used the most frequently while assonance and symbolism are not found to be in use (0 %). The frequency of different types of figures of speech is given in the graph below.

**Frequency of Figures of Speech**

## DISCUSSION

A motto is a short sentence or phrase that carries an important meaning. Some mottoes refer to politics, religion, or another belief. Sometimes people write their motto on a large banner or sign so that others could see it. Hence, mottoes are similar to proverbs, slogans, and catchphrases.

The result of this study reveal that mottos use techniques of repetition, rhyme, metaphor, simile, parallelism, anaphora, hyperbole, personification, and alliteration to make the phrase interesting for hearers and readers because figures of speech create meanings that go beyond literal meanings and provoke imagination.

In her study Nurita (2013) carried out a stylistic-pragmatic analysis of figurative language in Harper's Bazaar Magazine advertisements. In Harper's Bazaar Magazine advertisements, the author provided a brief description and discussion of the speech acts related to the use of figurative language. The results of the study reveal that metaphor is the most frequently used stylistic device used in magazine. The research findings show that there are six types of figurative language that appear in magazine: metaphor, hyperbole, personification, simile, metonymy, and synecdoche. In addition, Ervina (2014) analyzed figurative language used in Rick Riordan's novel entitled – "The Heroes of Olympics, Book Three: The Mark of Athena". The results show that there are 93 sentences that have figurative language. The research found the following figures of speech: simile, personification, hyperbole, metaphor, and metonymy respectively. It has been found that the dominant type of figurative language is simile. The author uses simile to explain circumstances, to describe the characters, to express emotion of the characters, and to make his writing more vivid and entertaining.

The results of related studies shed light on the role and function of figurative language that is most frequently used for enhancing the meaning of their sentences, creating a strong emotion, as well as evoke or indicate strong feelings, comparing two unlike things by claiming that one thing is another and creating exaggeration. In contrast, the results of this study may not directly relate to previous research both Nurita (2013) and Ervina (2014) because the mottos use repetition and rhyme.

Repetition is most frequently used in mottos because it provides fresh or unique new ways of explaining things. However, assonance and symbolism are not used because the writer does not use them to understand the second meaning and help them understand new concepts. The analysis of figurative language used in 75 mottos with interpretation of the meanings depends on different types of figurative language and purposes of texts.

## RECOMMENDATIONS

1. It is recommended that future research explore figurative language used in other genres of writing such as novels and poetry as well as mass media, for example billboards, newspapers, and advertisements

2. This research focuses on eleven types of figurative language: alliteration, anaphora, assonance, hyperbole, metaphor, parallelism, personification, repetition, rhyme, simile, and symbolism. Further research

(researcher) is needed to identify other types of figurative language such as irony, metonymy, and onomatopoeia in order to observe their different usage.

3. For English teachers, this study can be a source of authentic materials that could be used and analyzed in the class room. Many studies have shown that figurative language comes naturally to children and that it helps them understand new ideas. Therefore, when authors use examples of figurative language, they are trying to provide fresh or unique new ways of explaining things.

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## INELASTIC FOUNDATION FOR SEISMIC DESIGN OF BUILDINGS

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### ABSTRACT

This paper presents a study of seismic capacity of inelastic foundation. A four-storey reinforced concrete school building was selected. The foundation was designed as the ductile foundation with tie beam for transferring the forces between foundations. The analysis of the super-structure and foundation was conducted by using Pushover Analysis and Nonlinear Time History Analysis. It was found that the super-structure and foundation has an over-strength factor of 3.72 which is close to the value that is specified in the seismic design codes. The tie beam has plastic hinge formation at the end of beam between each foundation. The safety factors of foundation in terms of compression and tension in the piles, overturning moment and sliding shear of foundation are equal to 1.34, 5.88, 1.86, and 1.53, respectively. This is verified that the behavior of foundation is inelastic conforming to the design and the safety factors yield satisfactory results.

**KEYWORDS:** Inelastic foundation, Seismic design, Seismic capacity, Nonlinear static procedure, Nonlinear time history analysis.

### 1. INTRODUCTION

Seismic design concept of structures relies on the use of inelastic behavior of structure. The lateral force applied to the structure is based on the reduction of the force for elastic behavior by using a response modification factor (ASCE 7-10). This concept allows the super-structure to deform beyond elastic limit and it allows for yielding in the plastic hinge region of beams. For this ductile super-structure, the hysteretic energy is absorbed and dissipated under inelastic behavior of cyclic loading. When the applied force is transferred to the foundation, which is known as sub-structure, the foundation shall be resisted the same lateral force and it may be absorbed some hysteretic energy as well as the super-structure.

The seismic design of foundation may be considered into two types (Paulay and Priestley, 1992). Firstly, elastic foundation which is referred to the foundation that is designed based on the force corresponding to the elastic behavior. Secondly, inelastic foundation which is referred to the foundation that is designed based on the force corresponding to the inelastic behavior. For the design of these foundations, most current seismic

design codes (ASCE7-10, IBC 2015, DPT Standard 1302-2009, AIJ 2005, Eurocode 8-2002) do not specify the procedure to calculate the lateral force and the load combinations for these foundations.

For inelastic foundation, Eurocode 8 (2002) has suggested for the case of foundation elements are to be designed for dissipating hysteretic energy, these elements shall follow the detail requirements, the same as the superstructure for the selected ductility class. However, for tie-beams and foundation beams, the design shear forces need to be derived on the basis of capacity design considerations. The design procedure of tie-beam is also suggested by several codes (Eurocode 8, ASCE 7-10, ACI 318-14). In addition, current codes and design guidelines (ASCE 7-10, ATC-40, NEHRP-2012) provide the procedure to include the effects of soil-structure interaction (SSI) for the analysis and evaluate the structure. This is to introduce the flexible foundation effect by using the stiffness and strength of the geotechnical components of the foundation in the structural analysis model. The effects of soil-structure interaction on buildings located on the soft soil sites have been studied, especially for Bangkok clay (Nakpant S. and Panyakapo P., 2008). It was found that the SSI effects cause reduction of stiffness of structure and hence reduce the base shear demand up to 30-45%. Although the modelling of flexible foundation is complicate when it is compared with the procedure recommended by ASCE 7-10, which employ a reduction of base shear due to SSI effect, the implementation of SSI effect provides more accurate prediction of inter-story drift than the case of fixed base. However, previous studies have not investigated the seismic performance of inelastic foundation, particularly when tie-beam is introduced as a part of foundation elements.

## **2. RESEARCH OBJECTIVES**

(1) To investigate the seismic performance of structure and foundation which have been designed for inelastic foundation with soil-structure interaction (SSI) effects by using Nonlinear Static Procedure (Pushover Analysis).

(2) To evaluate the safety of the designed structure and foundation which have been designed for inelastic foundation by using Nonlinear Time History Analyses with seven pairs of earthquake ground motions.

## **3. BASIC CONCEPT**

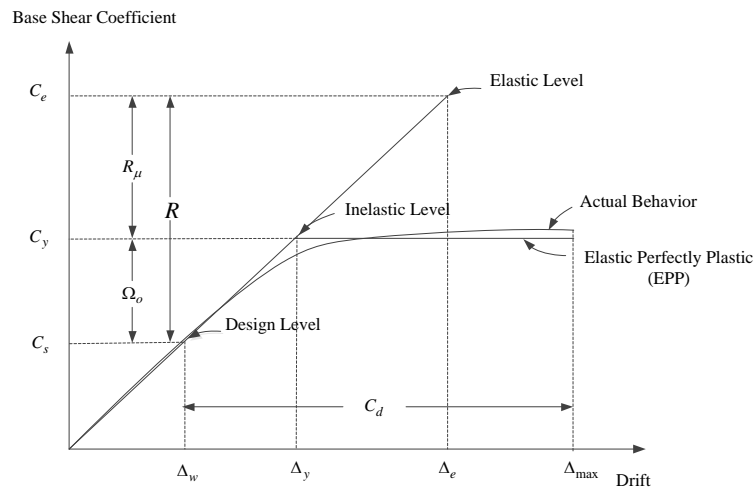
To investigate the seismic performance of inelastic foundation, the basic concept of inelastic behavior of foundation should be introduced. The concept of structural response modification factors (Uang, 1991; ATC-19, 1995) is applied for the seismic design of inelastic foundation.

### **3.1 Response Modification Factor for Inelastic Foundation**

When a building structure, which is composed of super-structure and foundation, is subjected to earthquake loading, the relationship of base shear and roof drift of structure may be represented by an Elastic Perfectly Plastic (EPP) model which is a simplified model of the actual inelastic behavior of structure and

foundation, as shown in Fig. 1. The base shear that is corresponding to the elastic level is considered as the tangent straight line of the inelastic curve to the drift  $\Delta_e$  where the area under the elastic behavior is equal to the area under the inelastic behavior according to the equal energy concept (Newmark and Hall, 1973). The base shear for the inelastic level at the yield point  $C_y$  is considered by reducing from the force corresponding to the elastic level  $C_e$  with the Ductility Reduction Factor ( $R_\mu$  Factor). The base shear for seismic design of foundation  $C_s$  is considered by reducing from the inelastic level  $C_y$  with the Over-strength Factor ( $\Omega_o$  Factor). The combination of  $R_\mu$  and  $\Omega_o$  factors is the response modification factor (R Factor).

Since the base shear for the inelastic design level  $C_s$  is much lower than the elastic design level  $C_e$ , therefore, the base shear design of inelastic foundation is more economic than that of elastic foundation. However, the designer must clearly define the areas of yielding or plastic hinge regions where energy dissipation is to take place in the components of foundation.



**Figure 1** Inelastic behavior for foundation design

### 3.2 Design Loads for Inelastic Foundation

The procedure to calculate the base shear for inelastic foundation design employs the above concept of response modification factor (R Factor). The base shear ( $V$ ) is calculated as follows:

$$V = \frac{C_e}{R} W = C_s W \quad (1)$$

where,  $W$  is the effective weight of structure. In the design of foundation, the base shear for inelastic foundation ( $V$ ) is employed in the calculation of the seismic load effect ( $E$ ) imposed on the foundation.

According to DPT1302-2009 and ASCE 7-10, the load combinations for strength design for the case of separating forces acting into each direction of building can be computed as follows:

$$U = 1.2D + 1.0L + 1.0E \quad (2a)$$

$$U = 0.9D + 1.0E \quad (2b)$$

For the case of combining forces of two perpendicular directions of building,

$$U = 1.2D + 1.0L + 0.3E_x + 1.0E_y \quad (3a)$$

$$U = 1.2D + 1.0L + 1.0E_x + 0.3E_y \quad (3b)$$

$$U = 0.9D + 0.3E_x + 1.0E_y \quad (3c)$$

$$U = 0.9D + 1.0E_x + 0.3E_y \quad (3d)$$

where  $U, D, L$  are the effects of the ultimate load, dead load and live loads, respectively,  $E_x, E_y$  are the seismic load effects in the  $x$  and  $y$  axis, respectively.

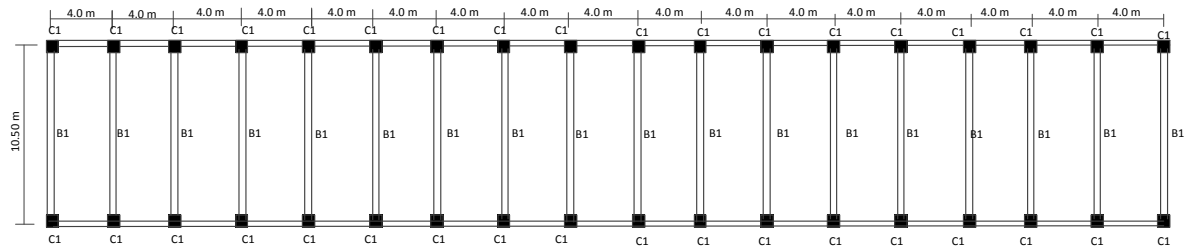
In the design of inelastic foundation, the plastic hinge region for energy dissipation shall be clearly defined. However, this system may experience cracks, which may be large if some yielding occurred, and spalling of concrete may be difficult to detect. Therefore, the members of foundation which are difficult to access shall be avoided for cracking. An efficient method of absorbing large moments as well as energy dissipation in the plastic hinges is the use of tie beam between footings. The tie beams may be designed at the level of ground floor beam to transmit the forces and allowing plastic hinge to occur at the end of beams in the beam-column joint regions for energy dissipation. Special details of reinforcement for capacity design shall be provided for ductile requirement. This is to protect against brittle failure of tie beam by using the specification of design, the same as ductile beams.

#### 4. ANALYSIS OF SEISMIC PERFORMANCE OF INELASTIC FOUNDATION

##### 4.1 Modeling of Structure and Foundation

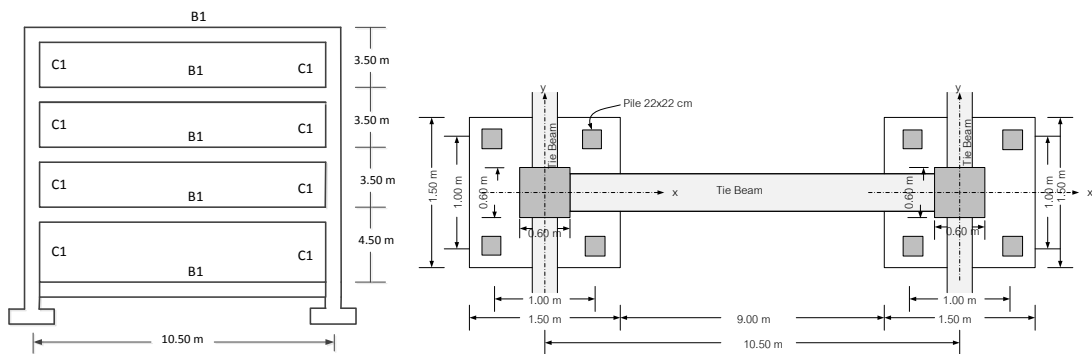
In the study of seismic performance of inelastic foundation, a four-storey building that is the standard school building of the Ministry of Education in Thailand was selected as the case study, as shown in Fig.2. The structure has been designed as ductile/special reinforced concrete moment resisting frame (SMRF). The base shear was calculated by the equivalent static force procedure according to the DPT 1302-2009. The seismic zone in the northern part of Thailand which has experienced moderate earthquakes was employed. The beams and columns have been designed for strong columns and weak beams concept according to ACI 318-15. The sizes of column C1 and beam B1 are 60x60 cm and 25x80 cm, respectively. Special reinforcement details for ductile reinforced concrete moment resisting frame were provided. The foundation was supported by 22x22 cm concrete piles with 14 m length for the safe load of 300 kN. The pile capacity may be increased by 33% above the static load for the combination of gravity load and earthquake load according to ASCE/SEI 43-05.





**Figure 2** Layout floor plan of the school building

For foundation design, the base shear was calculated by the equivalent static force procedure for inelastic foundation with  $R$  factor equals to 8 according to equation 1. This factor is the same value as the super-structure. For the load combination acting to the structure and foundation, the case of combining forces of two perpendicular directions of building was employed according to equations 3a-3d. The footing size of 1.50x1.50 m was supported by four numbers of 22x22 cm piles. The tie beam was connected between each footing at the level of ground floor beam as shown in Fig 3. The cross section of tie beam was  $1/20$  of the clear spacing of pile cap (ACI 318-14). The reinforcement of tie beam was designed to resist the bending moment transferred between each pile cap. In addition, the tie force in tension or compression was designed according to DPT 1302-2009 and ASCE 7-10, which is equal to 10% of the product of the design spectral acceleration and the ultimate column load. Reinforcement details for the tie beam were also provided for ductile requirement, the same as the super-structure. Therefore, the tie beam was designed as a member of the foundation system.



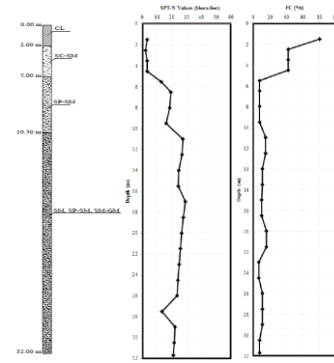
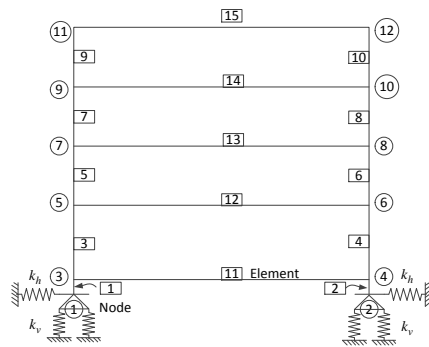
**Figure 3** Cross section of the structure and foundation plan

In the analysis of seismic performance, the structure and foundation system were modeled by using Ruaumoko (Carr, 2006) as shown in Fig. 4. The inelastic behavior of beam and column members was modeled according to the Giberson one-component concept (Sharpe, 1974), which has a plastic hinge possible at one or both ends of the elastic central length of the member. The hysteretic behavior of beam and column is Modified Takeda model (Otani, 1974). The stiffness degradation for unloading and reloading branches are  $\alpha = 0.4$  and  $\beta = 0.1$  according to Sezen and Chowdhury (2009). For the foundation model, the inelastic behavior of tie beam

was modeled to absorb and dissipate energy the same as the beam of the super-structure. The pile was modeled for the horizontal and the vertical stiffness by using the model proposed by Wolf (1994), as shown in equations 5 and 6. The boring log data in this study was collected from Chiangrai province area according to Mase et al. (2015), as shown in Fig.5.

$$K_h = 2r_0 E_s \left( \frac{E_p}{E_s} \right)^{0.21} \quad (5)$$

$$K_v = 3.8r_0 E_s \left( \frac{\ell}{2r_0} \right)^{0.67} \quad (6)$$



**Figure 4** Modelling of structure and foundation system **Figure 5** Boring log data in this study (Mase et al. 2015)

Where  $K_h, K_v$  are the horizontal and the vertical stiffness of pile, respectively;  $E_s, E_p$  are the modulus of elasticity of soil and pile, respectively;  $r_o, \ell$  are the radius and length of pile, respectively. The modulus of elasticity of soil was considered as the normal soil for the northern part of Thailand.

#### 4.2 Ground Motion Records

For the ground motions, these were collected from a moderately strong magnitude and near-fault earthquakes with a magnitude between  $6.1(M_L)$  and  $7.1(M_s)$ , and epicentral distance less than 40 km, as shown in Table 1. They represent for earthquake events that may occur in the northern part of Thailand. These ground motions were scaled to the Maximum Considered Earthquake (MCE) response spectrum, which corresponds to a 2% probability of exceedance in 50 years according to DPT 1302 - 2009. The resulting scaled spectrum corresponds to the normal soil profile (Soil Type D) according to DPT 1302 -2009.

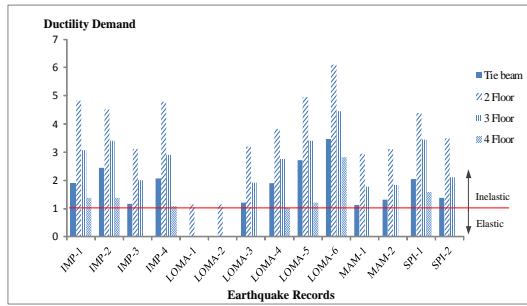
**Table 1 Earthquake ground motion records**

No	Record	Earthquake	Magnitude	Epicentral Distance (km.)	PGA (g)	Scale Factor
1	IMP-1	Imperial Valley	6.3 ( $M_L$ )	8	0.348	1.27
2	IMP-2	1940			0.214	1.81
3	IMP-3	Imperial Valley	6.6 ( $M_L$ )	26.5	0.169	2.64
4	IMP-4	1979			0.157	2.00
5	LOMA-1	Loma Prieta	7.1 ( $M_S$ )	11.2	0.411	0.89
6	LOMA-2	1989			0.473	0.72
7	LOMA-3	Loma Prieta	7.1 ( $M_S$ )	21.4	0.244	1.72
8	LOMA-4	1989			0.240	1.77
9	LOMA-5	Loma Prieta	7.1 ( $M_S$ )	28.2	0.247	1.74
10	LOMA-6	1989			0.215	1.62
11	MAM-1	Mammoth Lake	6.1 ( $M_L$ )	15.5	0.430	1.72
12	MAM-2	1980			0.271	2.05
13	SPI-1	Spitak, Armenia	7.0 ( $M_S$ )	30	0.199	2.31
14	SPI-2	1988			0.175	2.68

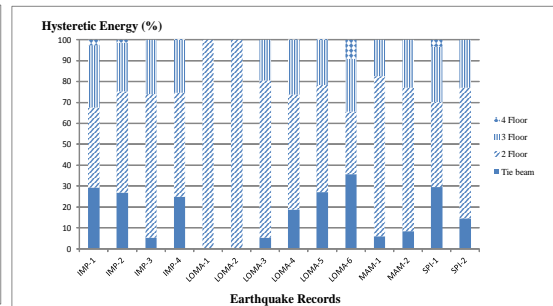
## 5. ANALYSIS RESULTS

### 5.1 Inelastic Behavior under Earthquake Loading

The nonlinear time history analyses were performed for 7 pairs of earthquake ground motion records. It was found that the plastic hinges occurred at both ends of beams for the tie beam between footings, as well as the beams in the 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> floors. The inelastic behavior can be presented in terms of ductility demand in the tie beam and the super-structure, as shown in Figure 6. When the ductility demand is equal to or less than 1.0, it is defined as elastic behavior. On the contrary, when the ductility demand is greater than 1.0, it is defined as inelastic behavior. From Figure 6, the tie beam experienced inelastic behavior for almost ground motions, except for LOMA-1, LOMA-2. The ductility demands for the tie beam are well above 1.0. The mean of ductility demands for the tie beam between footings, and the beams in the 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> floors are 1.89, 3.68, 2.76, and 1.49, respectively. Therefore, the foundation behavior is inelastic as well as the super-structure, which is consistent with the assumption of foundation design.

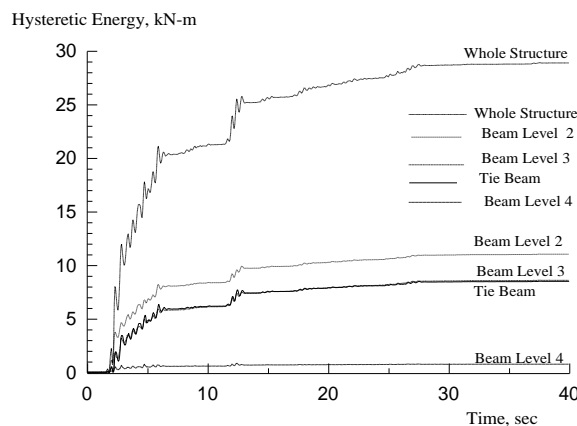


**Figure 6** Ductility demand in the tie beam and super-structure



**Figure 7** Hysteretic energy under cyclic loading

The hysteretic energy that was absorbed and dissipated in the plastic hinge regions was computed to determine the effect of cyclic loading under inelastic behavior. The results are presented in the percentage of total hysteretic energy, as shown in Figure 7. The mean of hysteretic energy for the tie beam between footings, and the beams in the 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> floors are 19.43%, 61.72%, 23.87%, and 2.53%, respectively. It was found that the tie beam between footings provided a considerable proportion of hysteretic energy. To investigate the energy dissipation in the tie beam and the super-structure in details, the analysis result of IMP-1 was selected to present in terms of hysteretic energy time history, as shown in Figure 8. At the end of time history analysis, the energy dissipation for the tie beam between footings, and the beams in the 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> floors are 8.53, 11.00, 8.58, and 0.74 kN-m, respectively. When it was compared with the total energy dissipation of the whole structure (28.85 kN-m), the tie beam between footings provided up to 30% of the whole structure. Therefore, the tie beam between footings plays an important role on the foundation design for hysteretic energy dissipation.



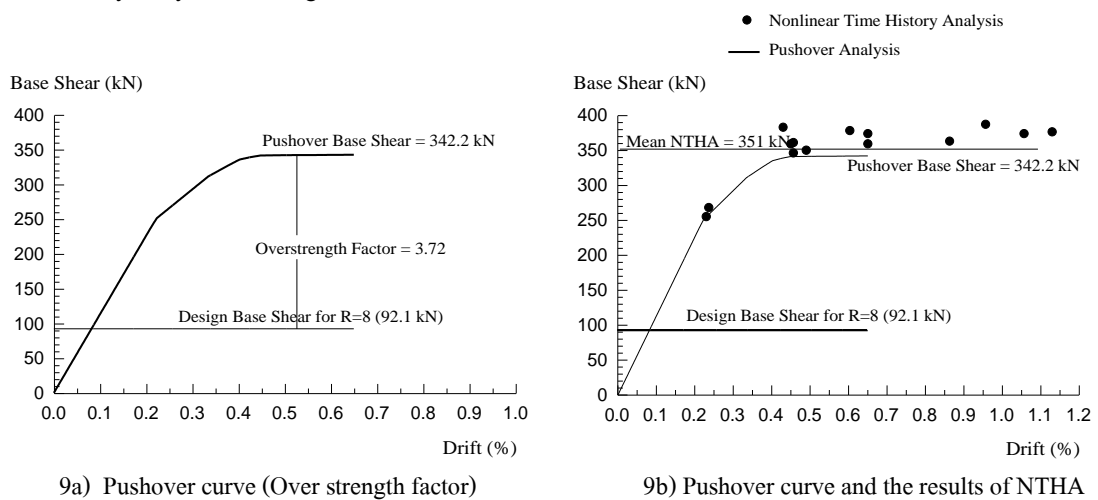
**Figure 8** Hysteretic energy in the super-structure and foundation for IMP-1

## 5.2 Seismic Capacity of Inelastic Structure and Foundation

To evaluate the seismic capacity of the structure and foundation, nonlinear static procedure (Pushover Analysis) was conducted. The pushover curve is presented in Figure 9a. The base shear of pushover curve was compared with the base shear that has been employed for the design of structure and foundation. The seismic

capacity based on the ultimate base shear (342.2 kN) was much greater than the design base shear (92.1 kN). The over-strength factor  $\Omega_o$  of 3.72 was obtained from the ratio of the ultimate base shear and the design base shear. This value is about 24% greater than the over-strength factor ( $\Omega_o = 3.0$ ) as suggested by DPT 1302-2009 and ASCE7-10.

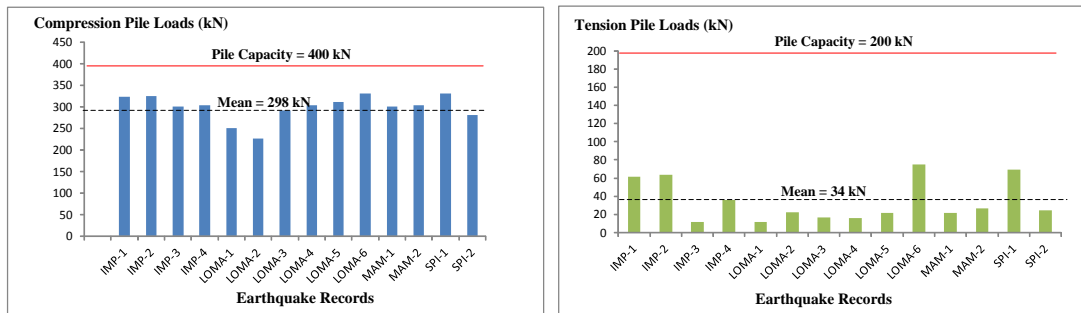
The pushover curve was also compared with the results of nonlinear time history analysis with 7 pairs of ground motion records, as shown in Figure 9b. The ultimate base shear (342.2 kN) was relatively close to the mean value (351.0 kN) obtained from the nonlinear time history analyses. The results indicate that the seismic capacity based on the pushover analysis is acceptable because it is consistent with the mean value of nonlinear time history analysis according to DPT 1302 -2009 and ASCE7-10.



**Figure 9** Pushover Analysis and Nonlinear Time History Analysis (NTHA)

### 5.3 Safety Evaluation of Inelastic Foundation

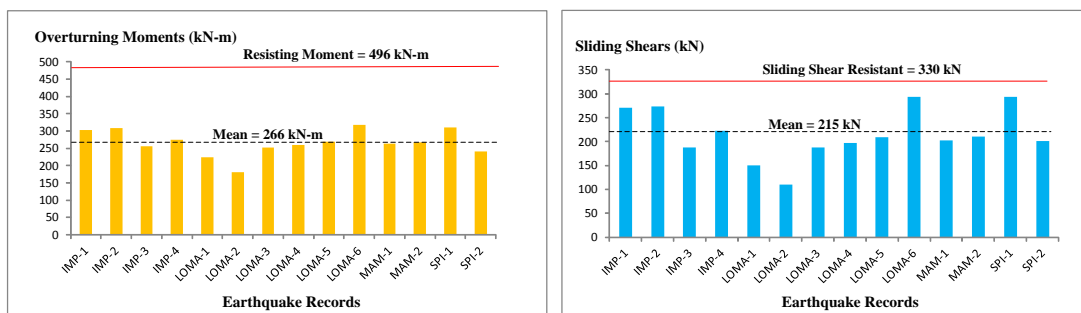
To evaluate the safety of the inelastic foundation under earthquake loading, the results of nonlinear time history analyses are presented in terms of compression and tension pile loads, as shown in Figure 10a-10b. The mean values of compression and tension pile loads are 298 and 34 kN, respectively. When they are compared with the compression and tension pile capacities of 400 and 200 kN, respectively, the safety factors of the compression and tension pile are 1.34 and 5.88, respectively. The overturning moment and sliding shear for nonlinear time history analyses are also presented in Figure 11a-11b. The mean values of overturning moment and sliding shear are 266 kN-m and 215 kN, respectively. When they are compared with the resisting moment and the sliding shear resistant of 496 kN-m and 330 kN, respectively, the safety factors of the overturning moment and sliding shear are 1.86 and 1.53, respectively. Therefore, the seismic design of inelastic foundation is considered sufficiently safe in design practice.



10a) Compression pile loads

10b) Tension pile loads

**Figure 10** Pile loads and capacity for Nonlinear Time History Analysis (NTHA)



11a) Overturning moments

11b) Sliding shears

**Figure 11** Overturning moments, sliding shears and capacity for Nonlinear Time History Analysis (NTHA)

## 6. CONCLUSIONS

Base on the above results, the investigation of seismic design of inelastic foundation provides valuable informations for design practice, which can be summarized as follows:

a) The seismic design of inelastic foundation with the tie beam between footings shows inelastic behavior as well as the super-structure, which is consistent with the assumption of foundation design. The tie beam between footings is an important element for hysteretic energy dissipation for foundation.

b) The seismic design of inelastic foundation that employs the response modification factor with the same value as the super-structure provides an over-strength factor of 3.72. This value is sufficiently safe according to the current seismic design codes. The safety factors of the inelastic foundation under earthquake loading in terms of the compression and tension pile loads including the overturning moment and sliding shear provide considerable safety margins which are sufficiently safe in design practice.

c) However, this study is limited to the results of 4-storey school building; further study is required to investigate another building types and structural systems which may affect the seismic design of inelastic foundation. A comparison with fixed-base system will be included in the further study.

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## **DEVELOPMENT OF CENTRALIZED MONITORING AND AUTOMATED NOTIFICATION SYSTEM FOR IP NETWORK (SYSMON)**

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### **ABSTRACT**

Monitoring and alert systems are essential for detecting anomaly in a network that supports internet services. In the past, each device had been monitoring separately without alert mechanism. SYSMON was designed and developed by applying the SNMP and Rsync protocols to actively fetch information from each device every 300 seconds to figure out for any abnormalities. SYSMON performance was examined by a series of defects test set which covering four unusual circumstances in the network. The test result indicated 100% detect anomalies and alert within a given time of 300 seconds. The overall evaluation of SYSMON usability, evaluated by ten network administrators, is ranked in good level. The centralized monitoring system, SYSMON, was confirmed in facilitating those network administrators.

**KEYWORDS: Monitoring, Alert, SNMP, Notification, Rsync**

### **1. INTRODUCTION**

Nowadays, the efficient monitoring system is essential for network management system since it ensures that all devices in the network have been functioning properly over time and notify the network administrators when an unexpected event happens. The appropriate characteristics of network management software include flexibility, comprehensive functionality, user-friendly and notification form that fit the organization needs. Extended the capability of Cacti (Berry et al., 2015) (Amornrattanapaichit et al., 2011) by include email as the notification features by using NetBeans in Windows XP where data collection is done by SNMP (Simple Network Management Protocol). NetHAM (Monsakul and Chuaypitak, 2013), the monitoring tool that extended implementation of Nagios (The Industry Standard In IT Infrastructure Monitoring, 2016) had been adopted to have SMS as an addition notification channel to monitor network status. The statistical data obtained from the

service of NetHAM are recorded and displayed by graphs. Some researches mentioned that the original Cacti and Nagios still had weaknesses, so they had to implement add-on features that can fit their organization's use.

IPSTAR (THAICOM PLC, 2015) is a promising broadband satellite operator that provides two-way satellite services over Internet Protocol (IP) platform. The gateway earth station called IPSTAR Gateway is comprised of various kinds of devices that are functioning all the time to ensure that the affordable satellite broadband services can meet the demand of businesses. Formerly when the system had faced with an unexpected event, the existing monitoring tools did not have any mechanisms to notify the network administrator automatically. Therefore, the network administrators would better keep watching the monitors and examine the abnormal cases manually. Moreover, the existing monitoring tools were originated from each device's vendors. So that, the network administrators had to monitor those network devices separately.

Due to the above reasons, IPSTAR Gateway needs a more efficient tool that is able to provide centralized monitoring function among its network equipment. Therefore, this work is conducted under three main purposes. First purpose is to develop a Centralized Monitoring and Automatic Alert Notification System (SYSMON) which is designed as the web-based system that provide notification sounds to alert the users and allow the users to acknowledge such alert remotely. Second purpose is to examine the performance of SYSMON under a series of defects test set which covering unusual circumstances in the IPSTAR Gateway. Third purpose is to evaluate SYSMON usability by perform questionnaires surveying on IPSTAR Gateway's network administrators.

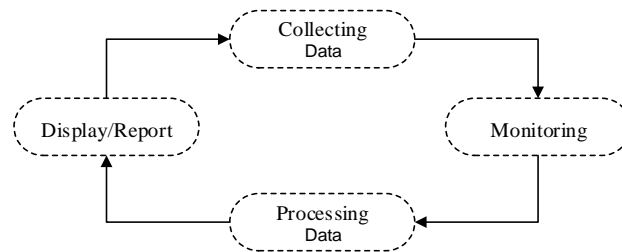
Actually, SYSMON is implemented based on Cacti to retrieve data from standard device that support SNMP protocol by standard template. However, for IPSTAR's proprietary devices, which Cacti standard template is not supported, Rsync has been adopted to collect data. Moreover, the SYSMON allows users to adjust the threshold in order to optimize the system performance while other open source applications (Berry et al., 2015) (The Industry Standard In IT Infrastructure Monitoring, 2016) does not provides this feature.

The paper is organized as follows. Section 2 explains about the network monitoring process and the related methods and tools details. The design of SYSMON will be presented in Section 3. Section 4 and 5 will discuss about SYSMON performance testing and SYSMON usability evaluations, respectively. The conclusion of this research is provided in Section 6.

## **2. NETWORK MONITORING PROCESS**

Network monitoring process concept proposed by McCabe (McCabe, 1998) consists of 4 steps as shown in Figure 1. First, the data such as timestamp and traffic utilization is collected from network devices. In the second step, those collected data is deployed to verify and investigate devices status. For the third step, those data gained from the first and the second steps is processed in order to examine the network status. Finally, the information obtained from the third step will be recorded and expressed in an appropriate format such as

document report or graph. In addition, above mentioned processes will recur continuously respectively depend on user design.



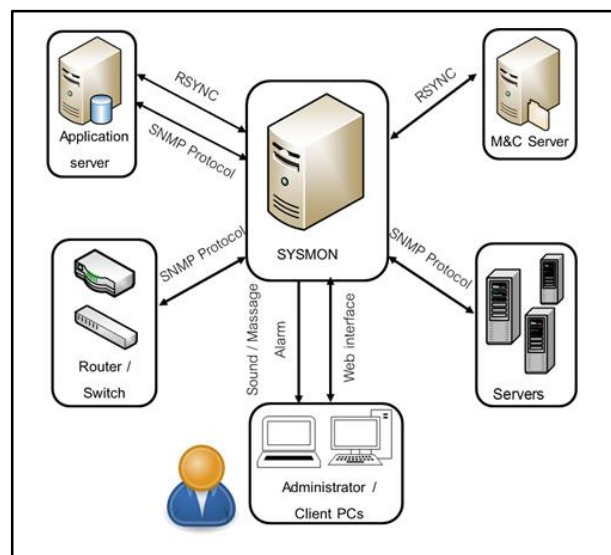
**Figure 1:** Four steps of the network monitoring process

For the data collecting step, the two popular methods, SNMP (Simple Network Management Protocol) and Rsync (Remote Sync) are used. In (Kaushik, 2010) SNMP had been applied in with the open source platform and evaluated the performance of monitoring solution. Its conclusions showed that open source systems were sometimes more powerful than the commercial products as well as cost efficient for business operations. Rsync is a most commonly used command for copying and synchronizing files and directories remotely as well as locally in Linux/Unix systems. By using Rsync command, the data can be copied and synchronized remotely and locally across directories, across disks and networks. Therefore it helps in performing data backups and mirroring between two Linux machines. Moreover, Rsync is applied to perform file transferring securely between Linux and Windows over HTTPS (Tanpure et al., 2015). In several researches, the monitoring systems are developed for various platforms server such as Windows, Solaris (Buyya, 2000) or Linux, the developer prefers PHP language as a programming language by using MySQL as the database while SNMP Protocol is quite popular mechanism for collecting the information from network equipment. This is because they are freeware. For alert/notification mechanisms, several researches adopt SMS (Monsakul and Chuaypitak, 2013) and E-mail (Amornrattanapaichit et al., 2011) as the notification channel. However, SMS and E-mail have disadvantage in case that the message might not deliver to users properly or users might be unable to get SMS and E-mail due to internet network and cell phone access limited. Thus, SMS and E-mail might not be appropriate notification channels when the prompt respond from users is required. For SYSMON alert module, sound alert is selected as the notification mechanism since IPSTAR needs the high level of operator's awareness and require action taking after alert immediately.

### 3. SYSMON DESIGN

IPSTAR is a broadband satellite operator that provides two-way satellite services over Internet Protocol (IP) platform. The monitoring system that can ensure the proper functions of network equipment is immensely important for IPSTAR business. The major equipment types of IPSTAR gateway earth station include specific

standard network equipment, radio frequency equipment (RF), and proprietary IPSTAR equipment. At the beginning of IPSTAR service, each type of equipment had been monitoring separately i.e., network equipment status was monitored by HP Open view (Hewlett-Packard Company, 2001), RF equipment was monitored by M&C program (Andrew Corporation, 2004) and IPSTAR's user connection status as well as proprietary IPSTAR equipment status were monitored by NMForm (THAICOM PLC, 2008). We found several disadvantages of such separately monitoring manner. For example, the system was lacking of automatic alert notification, the remote command capability could not be performed, monitoring such equipment at the same time was quite complicate, more than one network administrators were required to support when the system face with unexpected problems. To solve such problems, SYSMON is initiated. SYSMON is designed as web application for centralized monitoring and providing automated notification. Since SYSMON is a web system, it is accessible anytime, anywhere via an internet connection.



**Figure 2:** Four steps of the network monitoring process

The diagram in Figure 2 demonstrates four main network devices that SYSMON have to communicate with based on LAN connection. The first one is application server which mostly connected to IPSTAR proprietary equipment. The second device is M&C server which communicates with RF equipment. The third type of device is router and switch equipment. And the last ones are other servers in IPSTAR gateway. SYSMON is implemented as a web server which is running on CentOS (Membrey et al., 2009). It is also installed together with phpMyAdmin (Welling and Thomson, 2008) and Apache (Abhari et al., 2007).

SYSMON performs collecting data actively by sending packet to network devices and retrieve accurate information of each device time by time. Two popular methods are applied to gather the necessary data. For the first method, SNMP protocol is used to retrieve MIB information from network devices. The MIB information

contains information about volume of data traffic, the amount of resources being used for each network devices i.e. disk space usage. The second method uses Rsync command to fetch the events occurs in a particular server which formatted as log file. The log files obtained from application server contain the information about user connection in IPSTAR system. While the log files obtained from M&C server are about RF equipment status. SYSMON then processes those data retrieved to indicate normal or abnormal circumstances in IPSTAR system. Once, SYSMON detected the abnormal events, the alert message will be shown on display screen with the sound alarm to notify gateway operators. The alarm will stop after the gateway operator acknowledges it by clicking the button on SYSMON screen. After that, the alert information will be recorded in SYSMON's database for further purpose

#### **4. SYSMON PERFORMANCE TESTING**

According to the IPSTAR specialists' suggestions, the monitoring system should detect the abnormality within 5 minutes after it occurs. Thus, SYSMON is set the time to collect the data every five minutes or 300 seconds by using crontab command (Chen, 2011). The important information that needs to be monitored closely includes the amount and status of users' connections, the volume of data traffic, the amount of network resources' usage and the High Power Amplifier (HPA) transmit power. The HPA is a device that accepts a varying input signal to produce an output signal that varies in the same way as the input but has larger amplitude. Normally we try to operate the HPA at the proper level which is provided by satellite engineers. When an unusual event is detected, the alarm must be active promptly.

As the results, IPSTAR specialists determine 4 aspects of the IPSTAR system abnormality. For the first aspect, the abnormality is caused by the amount of user connections relatively decrease less than 15% comparing to the amount of user connections of the last 300 seconds. The second abnormality focuses on the volume of data traffic usage. If such volume is relatively decreased less than 12% comparing to the volume of data traffic usage of the last 300 seconds, the system is assumed there might have something wrong. The third abnormality of the system is when the amount of disk space usage is higher than 80 % of the total disk capacity. And the forth aspect of system abnormality is when HPA forward power is higher than 50 Watts.

To evaluate SYSMON performance, IPSTAR specialists determine the performance of SYSMON based on the amount of time that SYSMON is able to detect system anomaly of four types of system abnormality circumstances within 5 minutes (300 second). Therefore, 10 testing environments for each type of system abnormality circumstances have been prepared yields 40 testing environments in total. Each testing environment is fed to SYSMON and start tracking the time. Tracking time will be stop when the SYSMON detects the anomaly and starts sound alarm. Since SYSMON will fetch the data from the devices every 300 seconds, it is possible that the test items might be put to the system at any time of the 300-second-rounded-time. Here, three examples are shown: - A) the test item is put to the system at the beginning of the round (at time of 30th second), the tracking

time will be start at the 30th second and wait for 270 seconds to be fetch by SYSMON. Therefore the amount of time that SYSMON can detect the anomaly will greater than 270 seconds. B) The test item is put to the system at the middle of the round (at time of 160th second), which leads the amount of time that SYSMON use to detect the anomaly greater than 140 second. And C) The test item is put to the system at almost the end of the round (at time of 280th second) which causes the amount of time that SYSMON use to detect the anomaly will be greater than only 20 seconds. The amount of time showed in Table 1 illustrates the total of time which includes waiting time the test item will be fetched in the next round plus the exact time SYSMON use to detect it after getting such information.

**Table 1:** Four aspects of IPSTAR abnormality and the amount of time (in seconds) SYSMON uses to detect the system anomaly (10 testing per aspect).

Aspect	Abnormality Details	The amount of time that SYSMON can detect the system anomaly of the given 10 testing environments (seconds)										Average time (seconds)
		#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	
1	The amount of users' connections relatively decrease less than 15% comparing to the amount of users' connections of the last 300 second	162	168	125	55	180	211	125	179	115	230	155.0
2	The volume of data traffic usage relatively decrease less than 12% comparing to the volume of data traffic usage of the last 300 second	168	172	123	241	130	205	178	144	181	62	160.4
3	The amount of disk space usage is higher than 80 % of the total disk capacity	242	186	174	166	74	100	156	149	113	160	152.0

4	HPA forward power is higher than 50 Watts	138	166	125	113	212	178	188	164	105	233	162.2
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The testing results which present the amount of time (in seconds) SYSMON uses to detect the system anomaly of 40 testing environment are shown in Table 1. We found that SYSMON have 100% ability to detect anomalies and alert within a given time of 300 seconds with the average detection time of 155.0, 160.4, 152.0 and 162.2 seconds for aspect 1, 2, 3 and 4 respectively.

## 6. SYSMON USABILITY EVALUATIONS

The IPSTAR operators involve in evaluating the usability of SYSMON. The questionnaire surveying is conducted to collect the user satisfactions and user feedbacks in four aspects of system usability which are 1) system security 2) system ease of use 3) system reliability and 4) system functionality. The user satisfaction score is scaled as 5 scale based on Likert scale concept (Joshi et al., 2015). The scales vary as 5, 4, 3, 2, and 1 which are strongly satisfied, satisfied, undecided, unsatisfied, and strongly unsatisfied, respectively. The analysis result obtained from 10 IPSTAR operators' point of view can be expressed in average satisfaction score as shown in Table 2. The results indicate that the IPSTAR operators are satisfied with SYSMON in every aspects of usability.

**Table 2:** The average satisfaction score (with its standard deviation) of the SYSMON usability evaluation.

Four aspect for evaluating usability	Average score	Meaning
1. System security	3.53 (SD = 0.75)	Satisfied
2. System ease of use	4.25 (SD = 0.57)	Satisfied
3. System reliability	4.02 (SD = 0.74)	Satisfied
4. System functionality	3.80 (SD = 0.21)	Satisfied

## 7. CONCLUSION

There were many methods and tools for monitoring the network status. In this paper we proposed SYSMON, the monitoring tool for IPSTAR system. SYSMON was designed and developed to track the status of the network system in order to perform an early warning before the system became critical from any failures, defects or problems. This system had been designed as web application the proposed of accessibility. The necessary information was collected by applying SNMP protocol to the network devices and used Rsync method to fetch log files in IPSTAR servers. Such information was processed to indicate normal or abnormal

circumstances in IPSTAR system. Once an unusual event was detected, SYSMON showed warning message on screen as well as alerted the operators by sounds.

SYSMON performance had been evaluated by examining the system based on defects test sets covering four unusual circumstances that might be found in the network system. The test results indicated 100% ability to detect anomalies and alert within a given time of 300 seconds. The SYSMON usability had also been evaluated by ten network administrator. The average satisfaction score obtained from questionnaire surveying about the SYSMON usability in four aspects were ranked in good level. For future work, SYSMON should be improved to be able to notify using other channels. Moreover, further function, such as automated hardware or software resetting need to be considered.

## 8. ACKNOWLEDGEMENT

I would like to thank the IPSTAR Gateway's network administrators involved in the survey for this research.

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