A STUDY TO UNDERSTAND THE FACTORS THAT AFFECT ENTERPRISE IN THAILAND TO MOVE TO CLOUD COMPUTING

BY

MR CHAKRIT VISALTANACHOTI

AN INDEPENDENT STUDY SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF SCIENCE PROGRAM IN MARKETING
(INTERNATIONAL PROGRAM)
FACULTY OF COMMERCE AND ACCOUNTANCY
THAMMASAT UNIVERSITY
ACADEMIC YEAR 2015

A STUDY TO UNDERSTAND THE FACTORS THAT AFFECT ENTERPRISE IN THAILAND TO MOVE TO CLOUD COMPUTING

BY

MR CHAKRIT VISALTANACHOTI

AN INDEPENDENT STUDY SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE PROGRAM IN MARKETING (INTERNATIONAL PROGRAM)

FACULTY OF COMMERCE AND ACCOUNTANCY

THAMMASAT UNIVERSITY

ACADEMIC YEAR 2015

THAMMASAT UNIVERSITY
FACULTY OF COMMERCE AND ACCOUNTANCY

INDEPENDENT STUDY

BY

MR. CHAKRIT VISALTANACHOTI

ENTITLED

A STUDY TO UNDERSTAND THE FACTORS THAT AFFECT ENTERPRISE IN THAILAND TO MOVE TO CLOUD COMPUTING

was approved as partial fulfillment of the requirements for
the degree of Master of Science Program in Marketing (International Program)

on 6 JUN 2016

Chairman _____
(Professor James G. Hutton, Ph.D.)

Member and Advisor _____
(Professor Kenneth E. Miller, Ph.D.)

Dean _____
(Professor Siriluck Rotchanakitumnuai, Ph.D.)

Independent Study Title	A STUDY TO UNDERSTAND THE FACTORS THAT AFFECT ENTERPRISE IN THAILAND TO MOVE TO CLOUD COMPUTING
Author	Mr. Chakrit Visaltanachoti
Degree	Master of Science Program in Marketing (International Program)
Major Field/Faculty/University	Faculty of Commerce and Accountancy Thammasat University
Independent Study Advisor	Professor Kenneth E.Miller, Ph.D.
Academic Years	2015

ABSTRACT

Cloud Computing is a new trend in both globally and domestically. Thailand market is also considered as a fast growing country in this field. The study in domestic Cloud Computing area is required to help stakeholder understand about current situation and key to help the market grow faster. This study was conducted on the purpose to focus on firm in Thailand and especially in Bangkok area.

From literature review and in-depth interview, major findings were summarized into 3 topics area, Awareness, Evaluation Criteria and Challenges. And questionnaire was designed based on information from those 3 topics area.

Result from this study found that there is awareness on Thailand market on Cloud Computing technology and many of them feel they need to be trained on Cloud Computing. The study can identify “Security”, “SLA (Service Level Agreement)” and “Continuity of the system” are top three criteria for organization to choose Cloud Computing service provider. And top three challenges that stop or delay enterprise market in Thailand for moving to Cloud Computing are their concern about “If their Cloud system got hacked, it would be effect on their company reputation” “Consistency of their system” “Continuity of their system” And for top three perceived benefit that enterprise market in Thailand could get from using Cloud

Computing are “More flexibility”, “More profitable due to cost saving” and “More productivity”

In Chapter 4, there are details breakdown by size of organization, so Cloud Computing service provider can use this information to segment the Cloud Computing for Thailand market.

Keywords: Cloud Computing, Enterprise, Thailand

ACKNOWLEDGEMENTS

I am sincerely and heartily grateful to my advisor, Professor Dr. Kenneth E.Miller. I sincerely, for the support and guidance he provided to me throughout the period of the independent study course. I also would like to express my sincerely gratitude to Assistant Professor Pannapachr Itthiopassagul, MIM Director, for her dedication in arranging every possible learning opportunities for all of MIM student. And also I would like to thank you all MIM staff who work very hard behind the scene to support all the class and provide pleasant learning experiences.

Last but not least, I would not be able to complete this project without support from my family. I would like to thank you my wife, Phanida Nimsaila, for her support and encouragement. And also my 2 kids, Nuttawut Visaltanachoti and Korn Visaltanachoti, for their understanding of how important I have to provide my time for MIM program and for this independent study.

Mr. Chakrit Visaltanachoti

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1
INTRODUCTION

1.1 Problem Statement

We are now in the world of computing where computer are everywhere. Computers are important and are involved in almost everything, not just to compute number as originally invented. As more and more jobs that computers are involved in, then, bigger and bigger computing power is required. Almost every organizations have to invest a lot in computing infrastructure. That is become a huge cost for organization.

Current computing technology has grown up very fast. New generation computer can run much faster and faster everyday. But a lot of the applications did not grow as fast as the growth of computing technology. There are a lot of organizations that cannot fully utilize their computing capacity.

Virtualization technology was invented to help solve excess capacity problems. Virtualization creates a virtual machine and allow application to run on virtual machine the same way as they are running on physical machines. In order to fix the excess capacity, more than one virtual machine can be ran on the same physical machine. And this will help organization to save cost on their computing infrastructure.

Cloud Computing was invented on top of virtualization technology to help organization saving in the area of capital investment as well as power saving. A Cloud Computing service provider will build their computing infrastructure and rent out their capacity for other organizations to run their application on this shared infrastructure without having to own their computing infrastructure. Cloud Computing helps organization to save cost on shared resources concept.

Cloud Computing is a recent trend worldwide, and aims to increase productivity while decreasing cost. Cloud Computing technology can provide flexibility to allow the firm to utilize on shared infrastructure and scale on demand and pay as you grow.

Cloud Computing is a very new concept for Thailand market. According to the Nation newspaper in 2014, Thailand has low readiness in Cloud Computing. There are 28% of organizations in Thailand use private cloud. However, according to the report from website www.asiacloudcomputing.org in 2014, Thailand is one of the fastest mover in Asia in Cloud Readiness Index, the rank move up by 4 ranks. This information showed that organization in Thailand had awareness of the Cloud Computing concept.

This study was conducted to help understand where the firms in Thailand are in the area of Cloud Computing. The study would also help answer some of the important questions that all parties in the industry would like to understand including

1. What is awareness level of firms in Thailand toward Cloud Computing?
2. What are the key criteria for firm to evaluate cloud provider.
3. What are the key challenges that firm is worried about concerning Cloud Computing

Results from this study will help Cloud Computing service providers to understand what their customers are looking for, so they can build their infrastructure based on what customer are looking for. At the same time, the organization, which is interested to move toward Cloud Computing, but does not know where to start, can also learn from the result from this study about criteria and evaluation methodology that other organizations used to evaluate and choose Cloud Computing service providers.

Not only the key criteria, but also the challenge that other people foresee to happen when they adapt Cloud Computing, all parties can benefit from the results of this study to understand the challenge. They should evaluate on the challenge that could happening as well, and also prepare to handle with challenges.

1.2 Research Objectives

This study is an Industry analysis study with the purpose to study 2 objectives.

1. A first objective is to understand the keys criteria that organization in Thailand concern for Cloud Computing.
2. A second is to evaluate on Thai market awareness and readiness for Cloud Computing.

CHAPTER 2
REVIEW OF LITERATURE

Computer technology has become important technology for almost every business. Banking is the first industry to heavily invest in Information Technology since 1970s (*Sainz, C. & Alonso, J. & Tuesta, D. & Fernandez, S.*, 2014). But for Cloud Computing technology, Banking industry become reluctant to to make a quick move to Cloud Computing (*Sainz, C. & Alonso, J. & Tuesta, D. & Fernandez, S.*, 2014) due to regulations and standardization. Only recently has Cloud Computing been standardized (Lee, K. & Lee, S. & Yang, H. 2014) and that opens up a huge opportunity for banking industry to move toward Cloud Computing technology, as the needs to use mainframe system in many areas could be overcame with use of Cloud Computing services in an inexpensive manner (Manoj, 2014).

SMEs are another sector that has a limited budget for IT investment (Mohlameeane, M. & Ruxwana, N., 2014). SMEs have specific problems in that most technologies were not adopted due to the lack of initial investment, knowledge and perceptions of their potential and value. Technology to help cost reduction like Cloud Computing could open up opportunity for SMEs to be able to reach out for technology in a cheaper way, on a pay as you go basis. Flexible business plan based on provisioning plan for allocation resources in cloud also allow SMEs to choose the plan that suit best on their requirement. (Umamageswari, S. & Babu, M., 2014)

Cloud Computing is a disruptive technology (Walker, D., 2014). Cloud Computing technology helps organizations on cost saving while at the same time helps the organization to yield better productivity (Flack, C. & Dembla, P., 2014), flexibility, scalability and open up new opportunities (Walker, D., 2014).

Amazon, a cloud provider, is the first mover to provide Cloud Computing services offered to public. Their target customer can be both individual and corporate. The customer can pay, on a rental basis, as much as they use, rather than pay the whole amount and own the whole system, regardless of how much they use the system. The Cloud Computing service provider will create computing infrastructure and provide resource on their cloud computing system to their customer over the

Internet. Customer will be able to access their computer from anywhere regardless of place and equipment. Benefit to customer will be

1. Cost saving on asset, due to customer just pay as minimum as they use and can stop cost right away when they stop using it.
2. Cost saving on operation, customer have no need to pay any other cost such as, operation cost, maintenance cost, electricity cost, etc. Cloud provider also save operation cost through sharing model.
3. Scalability, customer can pay more and gain more source immediately without any delay for planning, purchasing and installing time.
4. Flexibility, when there is low in demand, customer can just stop paying and return resources to provider, no need to keep maintaining the extra capacity.

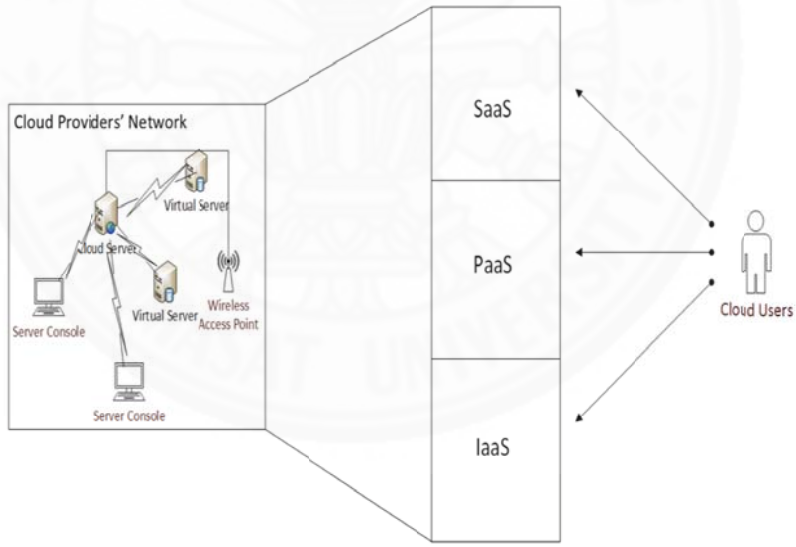

Figure 1 Cloud Topology

However, as cloud users use resources on Cloud Computing from remotely, outside of the cloud infrastructure area, many customers still reluctant to turn to use cloud computing because of many reasons, for example, the concept is too new, not

sure about security (*Ahmed, M. & Hossain M.*, 2014), compliance, rules and regulations, data privacy, data confidentiality (Martínez, D., 2013), etc.

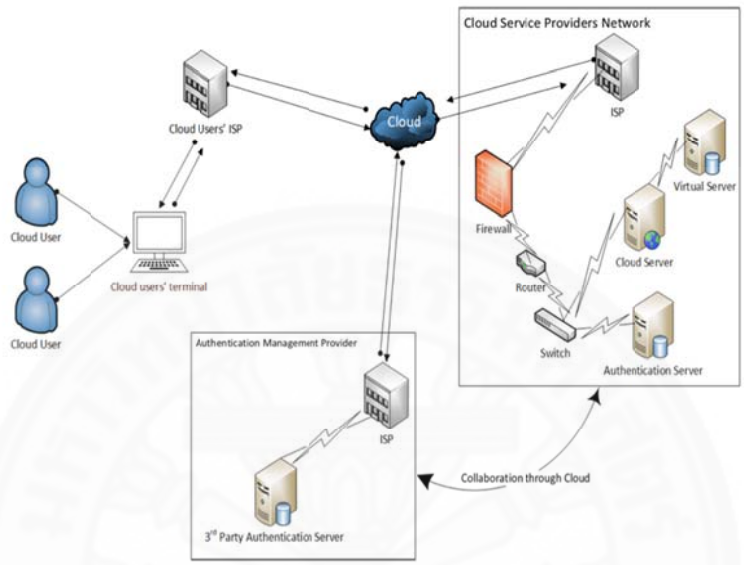

Figure 2 Cloud Security

There are others area for organization to consider when making decision to adopt new innovation. Diffusion of Innovation (DOI) theory and Technology, Organization and Environment (TOE) are the two theories that mostly used to study about technology adoption especially at firm level (Oliveira T. & Martins M. , 2000). From the Iacovou et al. (1995) model, there are three main influences that make firm adopt new technology which are: perceived benefit of innovation, organizational readiness such as financial resources, IT resources and external pressure such as competitive pressure and trading partner pressure.

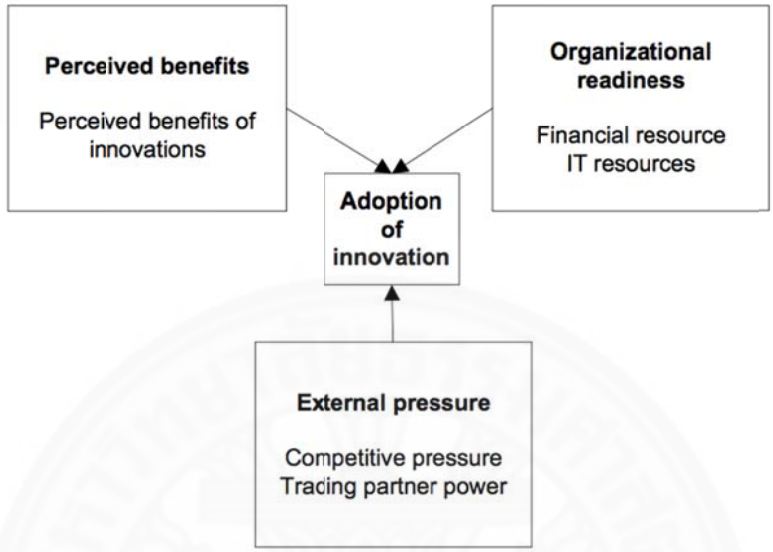

Figure 3 Iacovou et al. (1995) model

Other concerns for the firm toward adoption of innovation could be the need to reorganize the whole operation (Hall B. & Khan B.,2003), the need of complex new skill, the innovation would be time consuming process (Brynjolfsson E., 2000). And the interesting finding is that firm with bigger size or bigger market share are more likely to undertake innovation (Brynjolfsson E., 2000).

CHAPTER 3
RESEARCH METHODOLOGY

3.1 Research Methodology

In this study, both exploratory research and descriptive research are conducted in order to achieve the 2 objectives.

Exploratory Research: Two qualitative methods has been conducted including secondary research for general information and In-depth Interview to verify and to identify some country specific issue. The statement below describes result from exploratory research method:

1. Be able to identify question to measure Cloud Computing awareness of the firm in Thailand (Objective 2)
2. Be able to identify criteria items that firm in Thailand use to evaluate the Cloud provider. (Objective 1)
3. Be able to identify challenge items that firm in Thailand are worrying about (Objective 1)

Descriptive Research: Questionnaire survey has been conducted to evaluate on key items on each topics. The statement below describes result from descriptive research method:

1. Be able to understand awareness toward Cloud Computing of firm in Thailand. (Objective 2)
2. Be able to identify key criteria for firm in Thailand to evaluate cloud provider. (Objective 1)
3. Be able to identify key challenge that firm in Thailand are worrying about. (Objective 1)

3.2 Identification of the key research variables

The key variables identified from secondary research can be grouped in to 3 areas to cover on

1. Awareness
2. Evaluation criteria
3. Challenges

3.3 Questionnaire Design

Questionnaire was divided into 3 topics, the objective was to test on 3 topics area

1. Awareness of the firm toward Cloud Computing concept
2. Criteria that the firm use to evaluate Cloud Computing project
3. Challenge that the firm are worry about Cloud Computing

The questionnaire did not collect personal information of the respondent, as the objective was to only evaluate from company perspective, not from individual perspective.

Description of the 3 parts are the following:

1. "Awareness of the firm toward Cloud Computing concept". On this topic we would have questions to test on Cloud Computing awareness. And the other objective is to validate if they understand Cloud Computing correctly. Customer who answered this topic could be both customer who use Cloud Computing and customer who did not use Cloud Computing.
    - 1.1. "I think I know Cloud Computing well"
    - 1.2. "I think I need to be trained on Cloud Computing"
    - 1.3. "I am currently using Cloud Computing personally"
    - 1.4. "Our company is currently using Cloud Computing"
    - 1.5. "I think Cloud Computing will help us save cost"
    - 1.6. "I think Cloud Computing will help us provide better security"
    - 1.7. "I don't know where to start"
    - 1.8. "I don't know who provide Cloud Computing"
2. "Criteria that the firm used to evaluate Cloud Computing project." This topic help understand about firm interest and criteria that firm used to evaluate the Cloud project. The question used would be "If your company would like to evaluate Cloud Computing Service Provider, what is the criteria that you will use to

evaluate". Customer who answered this topic could be both customer who use Cloud Computing and customer who did not use Cloud Computing.

2.1. "Cost"
2.2. "Upfront capital investment"
2.3. "Availability"
2.4. "Continuity"
2.5. "Consistency"
2.6. "SLA (Service Level Agreement)"
2.7. "Security"
2.8. "Flexibility of accessing to our system"
2.9. "Flexibility of expanding the infrastructure"
2.10. "Flexibility of updating the data"
2.11. "Location"
2.12. "Supporting team"
2.13. "Brand of Cloud Provider"
2.14. "Brand of Equipment that Cloud Provider are using"
2.15. "System/Software that Cloud Provider are using"
2.16. "Domestic Internet bandwidth of Cloud provider"
2.17. "International Internet bandwidth of Cloud Provider"
2.18. "Number of customer that currently are using that Cloud Provider"

3. "Criteria that the firm used to evaluate Cloud Computing project."
   3.1. "Our eco-systems are also using Cloud Computing"
   3.2. "Our competitors are also using Cloud Computing"
   3.3. "Our customers are also using Cloud Computing"
4. "Challenge that stop you from using Cloud Computing" This topic help understand about what would be barrier for firm to deviate away from using Cloud Computing. However, customer who had worry could be both customer who use Cloud Computing and customer who did not use Cloud Computing.
   4.1. "I am worry about data leaked"
   4.2. "I am worry about data loss"
   4.3. "I am worry about data privacy"
   4.4. "I am worry about data backup system"

4.5. “I am worry if our cloud got hacked it will be effect on our company reputation”

4.6. “I am worry if our cloud got hacked we might not be able to get back our system”

4.7. “I am worry about virus”

4.8. “I am worry about availability of our system”

4.9. “I am worry about continuity of our system”

4.10. “I am worry about consistency of our system”

4.11. “I am worry about reliability of Internet connection”

4.12. “I am worry about Internet bandwidth might not enough”

4.13. “I am worry about cost of Internet bandwidth”

4.14. “I am worry about failure recovery time”

4.15. “I am worry about our change in operation”

4.16. “I am worry about department will be downsizing after using Cloud Computing”

4.17. “I am worry about lacking of supporting resources”

4.18. “I am worry about Interoperability among our internal system and Cloud provider system”

4.19. “I am worry that Cloud Computing technology will change too fast”

4.20. “I am worry that our company will have to upgrade our system to work with Cloud Computing”

5. “In your point of view what should be benefit for your company when using Cloud Computing” This topic will help understand on customer perceived value in moving into Cloud Computing. So Cloud Computing service provider can use this information to point out to their potential customer about value of Cloud Computing using their services.

5.1. “More profitable due to cost saving”

5.2. “More productivity”

5.3. “More customer”

5.4. “More flexibility”

5.5. “Modernized image”

5.6. “Green Image”

5.7. “Globalization Image”

5.8. “Tax benefit”

5.9. “Competitive advantage”

5.10. “Less complicate IT system”

5.11. “Better security”

5.12. “Better availability”

3.4 Target Population

Target population for this study which should be cover both qualitative and quantitative method could be described as followed:

In-depth Interview: Objective of In-depth interview is to identify key variable on awareness, criteria and challenges. Target population for In-depth Interview are people in management level of IT department of the firm that are fully aware of Cloud Computing and also currently use Cloud Computing. And also cover management level of IT department of the firm that did not use Cloud Computing at the moment.

Questionnaire Survey: To evaluate on each criteria, target population could be both in management level and in all other level, but the target population should be working in IT department.

Data from questionnaire survey was collected from at least 30 firms and divide target population into 4 groups, first group is small size company in Thailand that have number of staffs less than 50 staff. Second group is medium size company in Thailand that have number of staffs more than 50 staff but less than 100 staff. Third group is medium size company in Thailand that have number of staffs more than 100 staff but less than 200 staff. Last group is large size company in Thailand that have number of staffs more than 200 staff. These 4 groups of company will be representation of firm in Thailand across all industry. The selection criteria is to select by the possibility that they are able to use Cloud Computing. Although Amazon Web Service, leader in cloud computing, can be accessed from anywhere, but the majority numbers of other cloud provider only have their infrastructure located in Bangkok

area, so target population for this study will be scope on the firm located in Bangkok area.

3.5 Data Collection Plan

Qualitative Method: Literature Review has been reviewed to be able to understand the technology and the industry, as well as, to be able to identify some common criteria and challenges that the firm worldwide also experiencing. In-depth Interview has been conducted and interviewed in order to verify if the evaluation criteria and challenges were similar with the worldwide firm and also to identify some other country specific issues. However more interviewing might be conducted if we need to revise on some others key variable as well as revise on the questionnaire design.

Quantitative Method: Questionnaire Survey was distributed in both electronic format via survey on website and in hardcopy format. Both format has been send out to target population during January 4, 2016 – January 15, 2016. Target population of respondents are 20 respondents from firm located in Bangkok area, Thailand. 10 respondents should came from the firm with number of staffs less than 100 and 10 other respondents should came from the firm with number of staffs more than 100.

3.6 Data Analysis Plan

Qualitative Data Analysis: Result from the In-depth Interview can be classified into 3 areas, which are awareness, evaluation criteria and challenges.

Quantitative Data Analysis: Data has been analyzed using Statistical package application (SPSS). The analysis will focus on frequency, mean and standard-deviation to select top 3 criteria. After that top 3 criteria will be used to test with Two-way MANOVA to find out relationship in independent variables and effect on dependent variables.

3.7 Reporting of Findings

Finding summary from literature review: Literature Review was conducted from more than 10 research papers from variety sources such as academic researches, industry researches, commercial researches, and commercial product vendors. Many literature reviews show the similar result that customers are worried about security, data privacy and data loss

Finding summary from in-depth interview: In-depth interviews with 3 interviewees who live in Bangkok and work in IT department for a medium size company. This objective is to explore general information and decision criteria before designing the questionnaire.

Finding summary from in-depth interview are:

1. Interviewees are worried about security of their information.
2. Interviewees feel that they might not have not sufficient knowledge about cloud computing and do not sure if they are ready to move toward cloud computing or not.

CHAPTER 4
RESULTS AND DISCUSSION

4.1 Descriptive Statistics with Mean and Frequency distribution

We first identify objective 2 “to evaluate on Thai market awareness and readiness for Cloud Computing” using descriptive statistics with frequency distribution.

Result from Table 4.1 on the question “I think I know Cloud Computing well” 19 persons out of 31 persons (61.3%) response with agree and totally agree. Indicate that 61.3% of respondent know Cloud Computing well.

Q1-01 “I think I know Cloud Computing well”		Frequency	Percent	Valid Percent	Culumative Percent
Valid	2	3	9.7	9.7	9.7
	3	9	29.0	29.0	38.7
	4	15	48.4	48.4	87.1
	5	4	12.9	12.9	100.0
	Total	31	100.0	100.0	

Table 4.1 Frequency distribution for Q1-01 “I think I know Cloud Computing well”

Result from Table 4.2 on the question “I think I need to be trained on Cloud Computing” 24 persons out of 31 persons (77.4%) response with agree and totally agree. Indicate that 77.4% of respondent aware of Cloud Computing technology. So they feel they need to be trained on Cloud Computing

Q1-02 “I think I need to be trained on Cloud Computing”		Frequency	Percent	Valid Percent	Culumative Percent
Valid	2	1	3.2	3.2	3.2
	3	6	19.4	19.4	22.6
	4	16	51.6	51.6	74.2
	5	8	25.8	25.8	100.0

Total	31	100.0	100.0	

Table 4.2 Frequency distribution for Q1-02 “I think I need to be trained on Cloud Computing”

Result from Table 4.3 on the question “I am currently using Cloud Computing personally” 18 persons out of 31 persons (58%) response with agree and totally agree. Indicate that 58% of respondent aware and actually using Cloud Computing personally.

Q1-03 “I am currently using Cloud Computing personally”	Frequency	Percent	Valid Percent	Culumative Percent
Valid 1	3	9.7	9.7	9.7
2	4	12.9	12.9	22.6
3	6	19.4	19.4	41.9
4	14	45.2	45.2	87.1
5	4	12.9	12.9	100.0
Total	31	100.0	100.0	

Table 4.3 Frequency distribution for Q1-03 “I am currently using Cloud Computing personally”

Result from Table 4.4 on the question “Our company is currently using Cloud Computing” 19 persons out of 31 persons (61.3%) response with agree and totally agree. Indicate that 61.3% of respondent aware and actually using Cloud Computing in business.

Q1-04 “Our company is currently using Cloud Computing”	Frequency	Percent	Valid Percent	Culumative Percent
Valid 1	1	3.2	3.2	3.2
2	4	12.9	12.9	16.1
3	7	22.6	22.6	38.7
4	10	32.3	32.3	71.0
5	9	29.0	29.0	100.0
Total	31	100.0	100.0	

Table 4.4 Frequency distribution for Q1-04 “Our company is currently using Cloud Computing”

Result from Table 4.5 on the question “I think Cloud Computing will help us save cost” 29 persons out of 31 persons (93.55%) response with agree and totally agree. Indicate that 93.55% of respondent know Cloud Computing well.

Q1-05 “I think Cloud Computing will help us save cost”		Frequency	Percent	Valid Percent	Culumative Percent
Valid	3	2	6.5	6.5	6.5
	4	20	64.5	64.5	71.0
	5	9	29.0	29.0	100.0
	Total	31	100.0	100.0	

Table 4.5 Frequency distribution for Q1-05 “I think Cloud Computing will help us save cost”

Result from Table 4.6 on the question “I don’t know where to start” is a cross check question and 24 persons out of 31 persons (77.4%) response are neutral or not agree, Indicate that 77.4% of respondent know Cloud Computing well.

Q1-07 “I don’t know where to start”		Frequency	Percent	Valid Percent	Culumative Percent
Valid	1	4	12.9	12.9	12.9
	2	12	38.7	38.7	51.6
	3	8	25.8	25.8	77.4
	4	3	9.7	9.7	87.1
	5	4	12.9	12.9	100.0
	Total	31	100.0	100.0	

Table 4.6 Frequency distribution for Q1-07 “I don’t know where to start”

Result from Table 4.7 on the question “I don’t know who provide Cloud Computing” is a cross check question and 23 persons out of 31 persons (74.2%) response are neutral or not agree, Indicate that 74.2% of respondent know Cloud Computing well.

Q1-08 “I don’t know who provide Cloud Computing”		Frequency	Percent	Valid Percent	Culumative Percent
Valid	1	7	22.6	22.6	9.7
	2	12	38.7	38.7	38.7
	3	4	12.9	12.9	87.1
	4	5	16.1	16.1	100.0
	5	3	9.7	9.7	
	Total	31	100.0	100.0	

Table 4.7 Frequency distribution for Q1-08 “I don’t know who provide Cloud Computing”

Result from Table 4.1 – 4.7 confirm that people in IT industry in Thailand are aware and ready for cloud computing technology and 58% and 61.3% of them are actually using Cloud Computing both for personal and for business.

Result from Table 4.8 compare important on each criteria for Question 2 about “How important of each of the following criteria to evaluate and select Cloud Computing Service Provider”. And the result ordered by highest means are:

1. Q2.7 “Security” with mean = 4.55
2. Q2.6 “SLA (Service Level Agreement)” with mean = 4.42
3. Q2.4 “Continuity” with mean = 4.39
4. Q2.3 “Availability” with mean = 4.32
5. Q2.5 “Consistency” with mean = 4.26
6. Q2.9 “Flexibility of expanding the infrastructure” with mean = 4.26
7. Q2.10 “Flexibility of updating the data” with mean = 4.19

	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217
ean	.9	.94	.32	.39	.26	.42	.55	.10	.26	.19	.10	.00	.55	.16	.68	.16	.00
	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
td. Deviation	908	892	832	844	815	765	768	944	773	833	.165	816	925	.128	871	735	894

Table 4.8 Compare mean for Question 2 “How important of each of the following criteria to evaluate and select Cloud Computing Service Provider?”

Result from Table 4.9 show frequency distribution for 20 answers from Question 4 about “Challenge that stop you from using Cloud Computing”. And the result show highest frequencies are:

1. Q4.5 “I am worry about if our cloud got hacked, it will be effect on our company reputation” with frequencies = 25
2. Q4.10 “I am worry about consistency of our system” with frequencies = 24
3. Q4.9 “I am worry about continuity of our system” with frequencies = 23
4. Q4.3 “I am worry about data privacy” with frequencies = 252
5. Q4.14 “I am worry about failure recovery time” with frequencies = 22
6. Q4.17 “I am worry about lacking of supporting resources” with frequencies = 22
7. Q4.1 “I am worry about data leaked” with frequencies = 21

	Disagree	Agree	Order
Q4-01 “I am worry about data leaked”	10	21	7
Q4-02 “I am worry about data loss”	18	13	
Q4-03 “I am worry about data privacy”	9	22	4
Q4-04 “I am worry about data backup system”	13	18	
Q4-05 “I am worry if our cloud got hacked it will be effect on our company reputation”	6	25	1
Q4-06 “I am worry if our cloud got hacked we might not able to get back our system”	12	19	
Q4-07 “I am worry about virus”	14	7	
Q4-08 “I am worry about availability of our system”	11	20	
Q4-09 “I am worry about continuity of our system”	8	23	3
Q4-10 “I am worry about consistency of our system”	7	24	2
Q4-11 “I am worry about reliability of Internet connection”	15	16	
Q4-12 “I am worry about Internet bandwidth might not enough”	14	17	

Q4-13 “I am worry about cost of Internet bandwidth”	14	17	
Q4-14 “I am worry about failure recovery time”	9	22	4
Q4-15 “I am worry about our change in operation”	14	17	
Q4-16 “I am worry about department will be downsizing after using Cloud Computing”	24	7	
Q4-17 “I am worry about lacking of supporting resources”	9	22	4
Q4-18 “I am worry about Interoperability among our internal system and Cloud provider system”	13	18	
Q4-19 “I am worry that Cloud Computing technology will change too fast”	22	9	
Q4-20 “I am worry that our company will have to upgrade our system to work with Cloud Computing”	20	11	

Table 4.9 Frequency distribution for Question 4 “Challenge that stop you from using Cloud Computing”

Result from Table 4.10 show frequency distribution for 12 answers from Question 5 about “In your point of view, what should be benefit for your company when using Cloud Computing”. And the result show highest frequencies are:

1. Q5.4 “More flexibility” with frequencies = 27
2. Q5.1 “More profitable due to cost saving” with frequencies = 25
3. Q5.2 “More productivity” with frequencies = 25
4. Q5.5 “Modernized image” with frequencies = 25
5. Q5.9 “Competitive advantage” with frequencies = 25
6. Q5.12 “Better availability” with frequencies = 24
7. Q5.10 “Less complicate IT system” with frequencies = 22

	Disagree	Agree	Order
Q5-01 “More profitable due to cost saving”	6	25	2
Q5-02 “More productivity”	6	25	2
Q5-03 “More customer”	17	14	
Q5-04 “More flexibility”	4	27	1

Q5-05 “Modernized image”	6	25	2
Q5-06 “Green Image”	15	16	
Q5-07 “Globalization image”	10	21	
Q5-08 “Tax Benefit”	25	6	
Q5-09 “Competitive advantage”	6	25	2
Q5-10 “Less complicate IT system”	9	22	7
Q5-11 “Better security”	15	16	
Q5-12 “Better availability”	7	24	6

Table 4.10 Frequency distribution for Question 5 “In your point of view what should be benefit for your company when using Cloud Computing”

4.2 Inferential Statistics: Multivariate with Two-way MANOVA

After we got list of top answers from mean and frequency distribution statistics for each questions. We select top 3 answers from 3 Questions

Question 2 we select answer 2.7, 2.6 and 2.4 as dependent variables for question 2

Question 4 we select answer 4.5, 4.10 and 4.9 as dependent variables for question 4

Question 5 we select answer 5.4, 5.1 and 5.2 as dependent variables for question 5

For each question we will have independent variable such as “Gender”, “Age”, “Department”, “Position” and “Staff”.

Two-Way MANOVA Statistics (2-way MANOVA) was selected to test to understand if there is an interaction between the two independent variables on the two or more dependent variables.

The Two-way MANOVA statistics has been run 60 times. Each time a pair of independent variables (ie Age-Department, Age-Position, Age-Gender, Age-Staff) will be match and ran Two-way MANOVA. There was total of 20 pairs for each questions. And total of 60 pairs for 3 questions has been tested.

Two major assumption of Two-way MANOVA statistics, Box’s M Test of Equality of Covariance Matrices and Bartlett’s Test of Sphericity, has been tested for each pair.

There are 3 pairs that passed basic assumption test for Two-way MANOVA statistics. Question 2 has 1 pair (Position – Gender). Question 4 has 2 pairs (Age-Gender and Position-Gender) Question 5 has 0 pair.

Question 2: "Criteria that organization used to evaluate Cloud Computing project"

Check assumption on Box-M: from table 4.11 we found Box-M is not significant Sig .081 > alpha .05 hence we can continue to check Bartlett's Test of Sphericity

Box's M	11.726
F	1.874
Df1	6
Df2	44527.987
Sig.	.081

Table 4:11 Box's Test of Equality of Covariance Matrices for Question 2 (Position-Gender)

Check assumption on Box-M: from table 4.12 we found Bartlett's is significant Sig .000 < alpha .05 hence assumption was hold, we can continue to use Two-way MANOVA to test hypothesis for Question 2 (Position-Gender)

Likelihood Ratio	.000
Approx. Chi-Square	137.792
Df	5
Sig.	.000

Table 4.12 Bartlett's Test of Sphericity for Question 2 (Position-Gender)

From table 4.13 For Position*Gender has Wilks' Lambda F=1.465, p-value = .230 > alpha .05 We have to accept alternative hypothesis that there is no interaction effect between Position and Gender for answer in question 2.

For each independent variable, variable “Position” has Wilks’ Lambda F=.529, p-value=.664 > alpha .05 We have to accept alternative hypothesis that there is no different in Position that effect for answer in question 2.

For variable “Gender” has Wilks’ Lambda F=1.665, p-value=.180 > alpha .05 We have to accept alternative hypothesis that there is no different in Gender that effect for answer in question 2.

Effect		Value	F	Hypotheses df	Error df	Sig.
Intercept	Pillai’s Trace	.945	494.409	3.000	87.00	.000
	Wilks’ Lambda	.055	494.409	3.000	87.00	.000
	Hotelling’s Trace	17.049	494.409	3.000	87.00	.000
	Roy’s Largest Root	17.049	494.409	3.000	87.00	.000
Position	Pillai’s Trace	.018	.529	3.000	87.00	.664
	Wilks’ Lambda	.982	.529	3.000	87.00	.664
	Hotelling’s Trace	.018	.529	3.000	87.00	.664
	Roy’s Largest Root	.018	.529	3.000	87.00	.664
Gender	Pillai’s Trace	.048	1.665	3.000	87.00	.180
	Wilks’ Lambda	.946	1.665	3.000	87.00	.180
	Hotelling’s Trace	.057	1.665	3.000	87.00	.180
	Roy’s Largest Root	.057	1.665	3.000	87.00	.180
Position* Gender	Pillai’s Trace	.048	1.465	3.000	87.00	.230
	Wilks’ Lambda	.952	1.465	3.000	87.00	.230
	Hotelling’s Trace	.051	1.465	3.000	87.00	.230
	Roy’s Largest Root	.051	1.465	3.000	87.00	.230

Table 4.13 Multivariate Tests for Question 2 (Position-Gender)

Question 4: first pair (Age-Gender)

Check assumption on Box-M: from table 4.14 we found Box-M is not significant Sig .055 > alpha .05 hence we can continue to check Bartlett’s Test of Sphericity

Box's M	13.469
F	2.057
Df1	6
Df2	3961.603
Sig.	.055

Table 4:14 Box's Test of Equality of Covariance Matrices for Question 4 (Age-Gender)

Checking assumption on Box-M: from table 4.12 we found Bartlett's is significant Sig .035 < alpha .05 hence assumption was hold, we can continue to use Two-way MANOVA to test hypothesis for Question 2 (Position-Gender)

Likelihood Ratio	.001
Approx. Chi-Square	11.956
Df	5
Sig.	.035

Table 4.15 Bartlett's Test of Sphericity for Question 4 (Age-Gender)

From table 4.16 For Position*Gender has Wilks' Lambda F=0.995, p-value = .941 > alpha .05 We have to accept alternative hypothesis that there is no interaction effect between Position and Gender for answer in question 4.

For each independent variable, variable "Age" has Wilks' Lambda F=1.928, p-value=.032 < alpha .05 We cannot reject null hypothesis that there is some different in Position that effect for answer in question 4.

For variable "Gender" has Wilks' Lambda F=2.273, p-value=.086 > alpha .05 We have to accept alternative hypothesis that there is no different in Gender that effect for answer in question 4.

Effect		Value	F	Hypothes es	Error df	Sig.

				df		
Intercept	Pillai's Trace	.943	461.842	3.000	84.00	.000
	Wilks' Lambda	.057	461.842	3.000	84.00	.000
	Hotelling's Trace	16.494	461.842	3.000	84.00	.000
	Roy's Largest Root	16.494	461.842	3.000	84.00	.000
Age	Pillai's Trace	.244	1.900	12.000	258.000	.035
	Wilks' Lambda	.770	1.928	12.000	222.535	.032
	Hotelling's Trace	.282	1.942	12.000	248.000	.030
	Roy's Largest Root	.195	4.191	4.000	86.000	.004
Gender	Pillai's Trace	.075	2.273	3.000	84.000	.086
	Wilks' Lambda	.925	2.273	3.000	84.000	.086
	Hotelling's Trace	.081	2.273	3.000	84.000	.086
	Roy's Largest Root	.081	2.273	3.000	84.000	.086
Age*Gender	Pillai's Trace	.005	.132	3.000	84.000	.941
	Wilks' Lambda	.995	.132	3.000	84.000	.941
	Hotelling's Trace	.005	.132	3.000	84.000	.941
	Roy's Largest Root	.005	.132	3.000	84.000	.941

Table 4.16 Multivariate Tests for Question 4 (Age-Gender)

For independent variable "Age" for question 4, we will have to investigate further with Post Hoc Analysis in Table 4.17. As member in each group of age is not equal, so we select Scheffe. And from Post Hoc Analysis we conclude that

1. For answer 4.5 "I am worry if our cloud got hacked it will be effect on our company reputation". There is no significant different in age group
2. For answer 4.10 "I am worry about consistency of our system". There is no significant different in age group

3. For answer 4.09 “I am worry about continuity of our system”. There is significant different in age group 3 and group 5. Where group 5 (age between 40-45) > group 3 (age between 30-35)

Scheffe

Dependent Variable	(i)Age	(j) Age	Mean Different (i-j)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
V405	2	3	.13	.178	.974	-.44	.69
		4	.50	.225	.303	-.21	1.21
		5	.22	.168	.780	-.31	.75
		6	.00	.276	1.000	-.87	.87
	3	2	-.13	.178	.974	-.69	.44
		4	.37	.178	.357	-.19	.94
		5	.10	.096	.904	-.20	.40
		6	-.13	.239	.991	-.88	.63
	4	2	-.50	.225	.303	-1.21	.21
		3	-.37	.178	.357	-.94	.19
		5	-.28	.168	.604	-.81	.25
		6	-.50	.276	.515	-1.37	.37
	5	2	-.22	.168	.780	-.75	.31
		3	-.10	.096	.904	-.40	.20
		4	.28	.168	.604	-.25	.81
		6	-.22	.231	.920	-.95	.51
	6	2	.00	.276	1.000	-.87	.87
		3	.13	.239	.991	-.63	.88
		4	.50	.276	.515	-.37	1.37
		5	.22	.231	.920	-.51	.95
V410	2	3	.25	.186	.771	-.34	.84
		4	.50	.235	.348	-.24	1.24
		5	.22	.175	.807	-.33	.77

		6	.00	.288	1.000	-.91	.91
	3	2	-.25	.186	.771	-.84	.34
		4	.25	.186	.771	-.34	.84
		5	-.03	.100	.999	-.34	.29
		6	-.25	.250	.908	-1.04	.54
	4	2	-.50	.235	.348	-1.24	.24
		3	-.25	.186	.771	-.84	.34
		5	-.28	.175	.644	-.83	.27
		6	-.50	.288	.559	-1.41	.41
	5	2	-.22	.175	.807	-.77	.33
		3	.03	.100	.999	-.29	.34
		4	.28	.175	.644	-.27	.83
		6	-.22	.242	.931	-.98	.54
	6	2	.00	.288	1.000	-.91	.91
		3	.25	.250	.908	-.54	1.04
		4	.50	.288	.559	-.41	1.41
		5	.22	.242	.931	-.54	.98
V409	2	3	.00	.187	1.000	-.59	.59
		4	-.50	.237	.357	-1.25	.25
		5	-.33	.177	.474	-.89	.22
		6	-.50	.290	.567	-1.41	.41
	3	2	.00	.187	1.000	-.59	.59
		4	-.50	.187	.141	-1.09	.09
		5	-.33*	.101	.034	-.65	-.02
		6	-.50	.252	.419	-1.29	.29
	4	2	.50	.237	.357	-.25	1.25
		3	.50	.187	.141	-.09	1.09
		5	.17	.177	.925	-.39	.72
		6	.00	.290	1.000	-.91	.91
	5	2	.33	.177	.474	-.22	.89
		3	.33*	.101	.034	.02	.65

		4	-.17	.177	.925	-.72	.39
		6	-.17	.244	.976	-.93	.60
	6	2	.50	.290	.567	-.41	1.41
		3	.50	.252	.419	-.29	1.29
		4	.00	.290	1.000	-.91	.91
		5	.17	.244	.976	-.60	.93

Table 14.7 Post Hoc Tests for Question 4 (Age-Gender)

Question 4: Pair 2 (Position-Gender)

Check assumption on Box-M: from table 4.18 we found Box-M is not significant Sig .348 > alpha .05 hence we can continue to check Bartlett's Test of Sphericity

Box's M	7.003
F	1.119
Df1	6
Df2	44527.987
Sig.	.348

Table 4:18 Box's Test of Equality of Covariance Matrices for Question 4 (Position-Gender)

Checking assumption on Box-M: from table 4.19 we found Bartlett's is significant Sig .009 < alpha .05 hence assumption was hold, we can continue to use Two-way MANOVA to test hypothesis for Question 4 (Position-Gender)

Likelihood Ratio	.000
Approx. Chi-Square	15.349
Df	5
Sig.	.009

Table 4.19 Bartlett's Test of Sphericity for Question 4 (Position-Gender)

From table 4.20 For Position*Gender has Wilks' Lambda F=0.099, p-value = .960 > alpha .05 We have to accept alternative hypothesis that there is no interaction effect between Position and Gender for answer in question 4.

For each independent variable, variable "Position" has Wilks' Lambda F=1.034, p-value=.381 > alpha .05 We have to accept alternative hypothesis that there is no different in Position that effect for answer in question 4.

For variable "Gender" has Wilks' Lambda F=1.485, p-value=.224 > alpha .05 We have to accept alternative hypothesis that there is no different in Gender that effect for answer in question 4.

Effect		Value	F	Hypotheses df	Error df	Sig.
Intercept	Pillai's Trace	.947	515.406	3.000	87.00	.000
	Wilks' Lambda	.053	515.406	3.000	87.00	.000
	Hotelling's Trace	17.773	515.406	3.000	87.00	.000
	Roy's Largest Root	17.773	515.406	3.000	87.00	.000
Position	Pillai's Trace	.034	1.034	3.000	87.00	.381
	Wilks' Lambda	.966	1.034	3.000	87.00	.381
	Hotelling's Trace	.036	1.034	3.000	87.00	.381
	Roy's Largest Root	.036	1.034	3.000	87.00	.381
Gender	Pillai's Trace	.049	1.485	3.000	87.00	.224
	Wilks' Lambda	.951	1.485	3.000	87.00	.224
	Hotelling's Trace	.051	1.485	3.000	87.00	.224
	Roy's Largest Root	.051	1.485	3.000	87.00	.224
Position* Gender	Pillai's Trace	.003	0.099	3.000	87.00	.960
	Wilks' Lambda	.997	0.099	3.000	87.00	.960
	Hotelling's Trace	.003	0.099	3.000	87.00	.960
	Roy's Largest Root	.003	0.099	3.000	87.00	.960

Table 4.20 Multivariate Tests for Question 4 (Position-Gender)

4.3 Analysis by size of organization

Result from table 4.21 compare important on each criteria for Question 2 about "How important of each of the following criteria to evaluate and select Cloud Computing Service Provider", grouped by organization with number of staff 1-50. And the result ordered by highest means are:

1. Q2.3 "Availability" with mean = 4.5
2. Q2.4 "Continuity" with mean = 4.5
3. Q2.7 "Security" with mean = 4.5
4. Q2.12 "Supporting team" with mean = 4.5
5. Q2.5 "Consistency" with mean = 4.33
6. Q2.6 "SLA (Service Level Agreement)" with mean = 4.33
7. Q2.9 "Flexibility of expanding the infrastructure" with mean = 4.33

	Mean
Q2-01 "Low Cost"	4.17
Q2-02 "Upfront Capital Investment"	4
Q2-03 "Availability"	4.5
Q2-04 "Continuity"	4.5
Q2-05 "Consistency"	4.33
Q2-06 "SLA (Service Level Agreement)"	4.33
Q2-07 "Security"	4.5
Q2-08 "Flexibility of accessing to our system"	4
Q2-09 "Flexibility of expanding the infrastructure"	4.33
Q2-10 "Flexibility of updating the data"	4.17
Q2-11 "Location of Cloud Provider's Datacenter"	3.17
Q2-12 "Supporting team"	4.5
Q2-13 "Brand of Cloud Provider"	3.5
Q2-14 "Brand of equipment that Cloud Provider are using"	3.83
Q2-15 "System/Software that Cloud Provider are using"	3.67
Q2-16 "Domestic Internet bandwidth of Cloud provider"	4

Q2-17 “International Internet bandwidth of Cloud provider”	3.83

Table 4.21 Compare mean for Question 2 “How important of each of the following criteria to evaluate and select Cloud Computing Service Provider?”, grouped by organization with number of staff 1-50

Result from table 4.22 compare important on each criteria for Question 2 about “How important of each of the following criteria to evaluate and select Cloud Computing Service Provider”, grouped by organization with number of staff 51-100. And the result ordered by highest means are:

1. Q2.5 “Consistency” with mean = 5
2. Q2.6 “SLA (Service Level Agreement)” with mean = 5
3. Q2.7 “Security” with mean = 5
4. Q2.2 “Upfront Capital Investment” with mean = 4.5
5. Q2.4 “Continuity” with mean = 4.5
6. Q2.10 “Flexibility of updating the data” with mean = 4.5
7. Q2.15 “System/Software that Cloud Provider are using” with mean = 4.5
8. Q2.16 “Domestic Internet bandwidth of Cloud provider” with mean = 4.5
9. Q2.17 “International Internet bandwidth of Cloud provider” with mean = 4.5

	Mean
Q2-01 “Low Cost”	4
Q2-02 “Upfront Capital Investment”	4.5
Q2-03 “Availability”	4
Q2-04 “Continuity”	4.5
Q2-05 “Consistency”	5
Q2-06 “SLA (Service Level Agreement)”	5
Q2-07 “Security”	5
Q2-08 “Flexibility of accessing to our system”	3.5
Q2-09 “Flexibility of expanding the infrastructure”	4
Q2-10 “Flexibility of updating the data”	4.5
Q2-11 “Location of Cloud Provider’s Datacenter”	3

Q2-12 “Supporting team”	4
Q2-13 “Brand of Cloud Provider”	3.5
Q2-14 “Brand of equipment that Cloud Provider are using”	2.5
Q2-15 “System/Software that Cloud Provider are using”	4.5
Q2-16 “Domestic Internet bandwidth of Cloud provider”	4.5
Q2-17 “International Internet bandwidth of Cloud provider”	4.5

Table 4.22 Compare mean for Question 2 “How important of each of the following criteria to evaluate and select Cloud Computing Service Provider?”, grouped by organization with number of staff 51-100

Result from table 4.23 compare important on each criteria for Question 2 about “How important of each of the following criteria to evaluate and select Cloud Computing Service Provider”, grouped by organization with number of staff 101-200. And the result ordered by highest means are:

1. Q2.6 “SLA (Service Level Agreement)” with mean = 4.29
2. Q2.16 “Domestic Internet bandwidth of Cloud provider” with mean = 4.29
3. Q2.17 “International Internet bandwidth of Cloud provider” with mean = 4.29
4. Q2.2 “Upfront Capital Investment” with mean = 4.14
5. Q2.3 “Availability” with mean = 4.14
6. Q2.7 “Security” with mean = 4.14
7. Q2.9 “Flexibility of expanding the infrastructure” with mean = 4.14

	Mean
Q2-01 “Low Cost”	3.71
Q2-02 “Upfront Capital Investment”	4.14
Q2-03 “Availability”	4.14
Q2-04 “Continuity”	4
Q2-05 “Consistency”	3.86
Q2-06 “SLA (Service Level Agreement)”	4.29
Q2-07 “Security”	4.14
Q2-08 “Flexibility of accessing to our system”	4

Q2-09 “Flexibility of expanding the infrastructure”	4.14
Q2-10 “Flexibility of updating the data”	4
Q2-11 “Location of Cloud Provider’s Datacenter”	3
Q2-12 “Supporting team”	3
Q2-13 “Brand of Cloud Provider”	3.71
Q2-14 “Brand of equipment that Cloud Provider are using”	3.43
Q2-15 “System/Software that Cloud Provider are using”	3.71
Q2-16 “Domestic Internet bandwidth of Cloud provider”	4.29
Q2-17 “International Internet bandwidth of Cloud provider”	4.29

Table 4.23 Compare mean for Question 2 “How important of each of the following criteria to evaluate and select Cloud Computing Service Provider?”, grouped by organization with number of staff 101-200

Result from table 4.24 compare important on each criteria for Question 2 about “How important of each of the following criteria to evaluate and select Cloud Computing Service Provider”, grouped by organization with number of staff more than 200. And the result ordered by highest means are:

1. Q2.7 “Security” with mean = 4.69
2. Q2.4 “Continuity” with mean = 4.5
3. Q2.6 “SLA (Service Level Agreement)” with mean = 4.44
4. Q2.3 “Availability” with mean = 4.38
5. Q2.5 “Consistency” with mean = 4.31
6. Q2.9 “Flexibility of expanding the infrastructure” with mean = 4.31

	Mean
Q2-01 “Low Cost”	3.88
Q2-02 “Upfront Capital Investment”	3.75
Q2-03 “Availability”	4.38
Q2-04 “Continuity”	4.5
Q2-05 “Consistency”	4.31
Q2-06 “SLA (Service Level Agreement)”	4.44

Q2-07 “Security”	4.69
Q2-08 “Flexibility of accessing to our system”	4.25
Q2-09 “Flexibility of expanding the infrastructure”	4.31
Q2-10 “Flexibility of updating the data”	4.25
Q2-11 “Location of Cloud Provider’s Datacenter”	3.12
Q2-12 “Supporting team”	3.81
Q2-13 “Brand of Cloud Provider”	3.5
Q2-14 “Brand of equipment that Cloud Provider are using”	2.87
Q2-15 “System/Software that Cloud Provider are using”	3.56
Q2-16 “Domestic Internet bandwidth of Cloud provider”	4.13
Q2-17 “International Internet bandwidth of Cloud provider”	3.87

Table 4.24 Compare mean for Question 2 “How important of each of the following criteria to evaluate and select Cloud Computing Service Provider?”, grouped by organization with number of staff more than 200

Result from Table 4.25 show frequency distribution for 20 answers from Question 4 about “Challenge that stop you from using Cloud Computing”, grouped by organization with number of staff 1-50. And the result show highest frequencies are:

1. Q4.8 “I am worry about availability of our system” with frequencies = 6
2. Q4.16 “I am worry about department will be downsizing after using Cloud Computing” with frequencies = 6
3. Q4.1 “I am worry about data leaked” with frequencies = 5
4. Q4.5 “I am worry if our cloud got hacked it will be effect on our company reputation” with frequencies = 5
5. Q4.9 “I am worry about continuity of our system” with frequencies = 5
6. Q4.10 “I am worry about consistency of our system” with frequencies = 5
7. Q4.17 “I am worry about lacking of supporting resources”with frequencies = 5

	Disagree	Agree
Q4-01 “I am worry about data leaked”	1	5
Q4-02 “I am worry about data loss”	3	3

Q4-03 “I am worry about data privacy”	2	4
Q4-04 “I am worry about data backup system”	3	3
Q4-05 “I am worry if our cloud got hacked it will be effect on our company reputation”	1	5
Q4-06 “I am worry if our cloud got hacked we might not able to get back our system”	3	3
Q4-07 “I am worry about virus”	3	3
Q4-08 “I am worry about availability of our system”	0	6
Q4-09 “I am worry about continuity of our system”	1	5
Q4-10 “I am worry about consistency of our system”	1	5
Q4-11 “I am worry about reliability of Internet connection”	2	4
Q4-12 “I am worry about Internet bandwidth might not enough”	2	4
Q4-13 “I am worry about cost of Internet bandwidth”	2	4
Q4-14 “I am worry about failure recovery time”	2	4
Q4-15 “I am worry about our change in operation”	2	4
Q4-16 “I am worry about department will be downsizing after using Cloud Computing”	0	6
Q4-17 “I am worry about lacking of supporting resources”	1	5
Q4-18 “I am worry about Interoperability among our internal system and Cloud provider system”	4	2
Q4-19 “I am worry that Cloud Computing technology will change too fast”	4	2
Q4-20 “I am worry that our company will have to upgrade our system to work with Cloud Computing”	3	3

Table 4.25 Frequency distribution for Question 4 “Challenge that stop you from using Cloud Computing”, grouped by organization with number of staff 1-50

Result from Table 4.26 show frequency distribution for 20 answers from Question 4 about “Challenge that stop you from using Cloud Computing”, grouped by organization with number of staff 51-100. And the result show highest frequencies are:

1. Q4.9 “I am worry about continuity of our system” with frequencies = 2
2. Q4.12 “I am worry about Internet bandwidth might not enough” with frequencies = 2
3. Q4.15 “I am worry about our change in operation” with frequencies = 2
4. Q4.16 “I am worry about department will be downsizing after using Cloud Computing” with frequencies = 2
5. Q4.18 “I am worry about Interoperability among our internal system and Cloud provider system” with frequencies = 2
6. Q4.19 “I am worry that Cloud Computing technology will change too fast” with frequencies = 2

	Disagree	Agree
Q4-01 “I am worry about data leaked”	1	1
Q4-02 “I am worry about data loss”	1	1
Q4-03 “I am worry about data privacy”	1	1
Q4-04 “I am worry about data backup system”	1	1
Q4-05 “I am worry if our cloud got hacked it will be effect on our company reputation”	1	1
Q4-06 “I am worry if our cloud got hacked we might not able to get back our system”	1	1
Q4-07 “I am worry about virus”	1	1
Q4-08 “I am worry about availability of our system”	1	1
Q4-09 “I am worry about continuity of our system”	0	2
Q4-10 “I am worry about consistency of our system”	1	1
Q4-11 “I am worry about reliability of Internet connection”	1	1
Q4-12 “I am worry about Internet bandwidth might not enough”	0	2
Q4-13 “I am worry about cost of Internet bandwidth”	1	1
Q4-14 “I am worry about failure recovery time”	1	1
Q4-15 “I am worry about our change in operation”	0	2
Q4-16 “I am worry about department will be downsizing after using Cloud Computing”	0	2

Q4-17 “I am worry about lacking of supporting resources”	1	1
Q4-18 “I am worry about Interoperability among our internal system and Cloud provider system”	0	2
Q4-19 “I am worry that Cloud Computing technology will change too fast”	0	2
Q4-20 “I am worry that our company will have to upgrade our system to work with Cloud Computing”	1	1

Table 4.26 Frequency distribution for Question 4 “Challenge that stop you from using Cloud Computing”, grouped by organization with number of staff 51-100

Result from Table 4.27 show frequency distribution for 20 answers from Question 4 about “Challenge that stop you from using Cloud Computing”, grouped by organization with number of staff 101-200. And the result show highest frequencies are:

1. Q4.5 “I am worry if our cloud got hacked it will be effect on our company reputation” with frequencies = 6
2. Q4.10 “I am worry about consistency of our system” with frequencies = 6
3. Q4.13 “I am worry about cost of Internet bandwidth” with frequencies = 5
4. Q4.3 “I am worry about data privacy” with frequencies = 5
5. Q4.4 “I am worry about data backup system” with frequencies = 5
6. Q4.6 “I am worry if our cloud got hacked we might not able to get back our system” with frequencies = 5
7. Q4.11 “I am worry about reliability of Internet connection” with frequencies = 5
8. Q4.14 “I am worry about failure recovery time” with frequencies = 5
9. Q4.18 “I am worry about Interoperability among our internal system and Cloud provider system” with frequencies = 5

	Disagree	Agree
Q4-01 “I am worry about data leaked”	3	4
Q4-02 “I am worry about data loss”	5	2

Q4-03 “I am worry about data privacy”	2	5
Q4-04 “I am worry about data backup system”	2	5
Q4-05 “I am worry if our cloud got hacked it will be effect on our company reputation”	1	6
Q4-06 “I am worry if our cloud got hacked we might not able to get back our system”	2	5
Q4-07 “I am worry about virus”	3	4
Q4-08 “I am worry about availability of our system”	5	2
Q4-09 “I am worry about continuity of our system”	3	4
Q4-10 “I am worry about consistency of our system”	1	6
Q4-11 “I am worry about reliability of Internet connection”	2	5
Q4-12 “I am worry about Internet bandwidth might not enough”	3	4
Q4-13 “I am worry about cost of Internet bandwidth”	1	6
Q4-14 “I am worry about failure recovery time”	2	5
Q4-15 “I am worry about our change in operation”	3	4
Q4-16 “I am worry about department will be downsizing after using Cloud Computing”	6	1
Q4-17 “I am worry about lacking of supporting resources”	3	4
Q4-18 “I am worry about Interoperability among our internal system and Cloud provider system”	2	5
Q4-19 “I am worry that Cloud Computing technology will change too fast”	3	4
Q4-20 “I am worry that our company will have to upgrade our system to work with Cloud Computing”	4	3

Table 4.27 Frequency distribution for Question 4 “Challenge that stop you from using Cloud Computing”, grouped by organization with number of staff 101-200

Result from Table 4.26 show frequency distribution for 20 answers from Question 4 about “Challenge that stop you from using Cloud Computing”, grouped by organization with number of staff 51-100. And the result show highest frequencies are:

1. Q4.5 “I am worry if our cloud got hacked it will be effect on our company reputation” with frequencies = 13
2. Q4.3 “I am worry about data privacy” with frequencies = 12
3. Q4.9 “I am worry about continuity of our system” with frequencies = 12
4. Q4.10 “I am worry about consistency of our system” with frequencies = 12
5. Q4.14 “I am worry about failure recovery time” with frequencies = 12
6. Q4.17 “I am worry about lacking of supporting resources = 12

	Disagree	Agree
Q4-01 “I am worry about data leaked”	5	11
Q4-02 “I am worry about data loss”	9	7
Q4-03 “I am worry about data privacy”	4	12
Q4-04 “I am worry about data backup system”	7	9
Q4-05 “I am worry if our cloud got hacked it will be effect on our company reputation”	3	13
Q4-06 “I am worry if our cloud got hacked we might not able to get back our system”	6	10
Q4-07 “I am worry about virus”	7	9
Q4-08 “I am worry about availability of our system”	5	11
Q4-09 “I am worry about continuity of our system”	4	12
Q4-10 “I am worry about consistency of our system”	4	12
Q4-11 “I am worry about reliability of Internet connection”	10	6
Q4-12 “I am worry about Internet bandwidth might not enough”	9	7
Q4-13 “I am worry about cost of Internet bandwidth”	10	6
Q4-14 “I am worry about failure recovery time”	4	12
Q4-15 “I am worry about our change in operation”	9	7
Q4-16 “I am worry about department will be downsizing after using Cloud Computing”	12	4
Q4-17 “I am worry about lacking of supporting resources”	4	12
Q4-18 “I am worry about Interoperability among our internal system and Cloud provider system”	7	9

Q4-19 “I am worry that Cloud Computing technology will change too fast”	15	1
Q4-20 “I am worry that our company will have to upgrade our system to work with Cloud Computing”	12	4

Table 4.28 Frequency distribution for Question 4 “Challenge that stop you from using Cloud Computing”, grouped by organization with number of staff more than 200

Result from Table 4.29 show frequency distribution for 12 answers from Question 5 about “In your point of view, what should be benefit for your company when using Cloud Computing”, grouped by organization with number of staff 1-50. And the result show highest frequencies are:

1. Q5.4 “More flexibility” with frequencies = 6
2. Q5.1 “More profitable due to cost saving” with frequencies = 5
3. Q5.2 “More productivity” with frequencies = 5
4. Q5.7 “Globalization image” with frequencies = 5
5. Q5.9 “Competitive advantage” with frequencies = 5
6. Q5.10 “Less complicate IT system” with frequencies = 5
7. Q5.12 “Better availability” with frequencies = 5

	Disagree	Agree
Q5-01 “More profitable due to cost saving”	1	5
Q5-02 “More productivity”	1	5
Q5-03 “More customer”	2	4
Q5-04 “More flexibility”	0	6
Q5-05 “Modernized image”	2	4
Q5-06 “Green Image”	4	2
Q5-07 “Globalization image”	1	5
Q5-08 “Tax Benefit”	5	1
Q5-09 “Competitive advantage”	1	5
Q5-10 “Less complicate IT system”	1	5
Q5-11 “Better security”	3	3

Q5-12 “Better availability”	1	5

Table 4.29 Frequency distribution for Question 5 “In your point of view what should be benefit for your company when using Cloud Computing”, grouped by organization with number of staff 1-50

Result from Table 4.30 show frequency distribution for 12 answers from Question 5 about “In your point of view, what should be benefit for your company when using Cloud Computing”, grouped by organization with number of staff 51-100. And the result show highest frequencies are:

1. Q5.1 “More profitable due to cost saving” with frequencies = 2
2. Q5.3 “More customer” with frequencies = 2
3. Q5.4 “More flexibility” with frequencies = 2
4. Q5.5 “Modernized image” with frequencies = 2
5. Q5.8 “Tax Benefit” with frequencies = 2
6. Q5.9 “Competitive advantage” with frequencies = 2
7. Q5.10 “Less complicate IT system” with frequencies = 2

	Disagree	Agree
Q5-01 “More profitable due to cost saving”	0	2
Q5-02 “More productivity”	1	1
Q5-03 “More customer”	0	2
Q5-04 “More flexibility”	0	2
Q5-05 “Modernized image”	0	2
Q5-06 “Green Image”	1	1
Q5-07 “Globalization image”	1	1
Q5-08 “Tax Benefit”	0	2
Q5-09 “Competitive advantage”	0	2
Q5-10 “Less complicate IT system”	0	2
Q5-11 “Better security”	1	1
Q5-12 “Better availability”	1	1

Table 4.30 Frequency distribution for Question 5 “In your point of view what should be benefit for your company when using Cloud Computing”, grouped by organization with number of staff 51-100

Result from Table 4.31 show frequency distribution for 12 answers from Question 5 about “In your point of view, what should be benefit for your company when using Cloud Computing”, grouped by organization with number of staff 101-200. And the result show highest frequencies are:

1. Q5.4 “More flexibility” with frequencies = 6
2. Q5.5 “Modernized image” with frequencies = 6
3. Q5.9 “Competitive advantage” with frequencies = 6
4. Q5.1 “More profitable due to cost saving” with frequencies = 5
5. Q5.2 “More productivity” with frequencies = 5
6. Q5.3 “More customer” with frequencies = 5
7. Q5.6 “Green image” with frequencies = 2
8. Q5.12 “Better availability” with frequencies = 2

	Disagree	Agree
Q5-01 “More profitable due to cost saving”	2	5
Q5-02 “More productivity”	2	5
Q5-03 “More customer”	2	5
Q5-04 “More flexibility”	1	6
Q5-05 “Modernized image”	1	6
Q5-06 “Green Image”	2	5
Q5-07 “Globalization image”	4	3
Q5-08 “Tax Benefit”	6	1
Q5-09 “Competitive advantage”	1	6
Q5-10 “Less complicate IT system”	4	3
Q5-11 “Better security”	4	3
Q5-12 “Better availability”	2	5

Table 4.31 Frequency distribution for Question 5 “In your point of view what should be benefit for your company when using Cloud Computing”, grouped by organization with number of staff 101-200

Result from Table 4.32 show frequency distribution for 12 answers from Question 5 about “In your point of view, what should be benefit for your company when using Cloud Computing”, grouped by organization with number of staff more than 200. And the result show highest frequencies are:

1. Q5.2 “More productivity” with frequencies = 14
2. Q5.1 “More profitable due to cost saving” with frequencies = 13
3. Q5.4 “More flexibility” with frequencies = 13
4. Q5.5 “Modernized image” with frequencies = 13
5. Q5.12 “Better availability” with frequencies = 13

	Disagree	Agree
Q5-01 “More profitable due to cost saving”	3	13
Q5-02 “More productivity”	2	14
Q5-03 “More customer”	11	5
Q5-04 “More flexibility”	3	13
Q5-05 “Modernized image”	3	13
Q5-06 “Green Image”	8	8
Q5-07 “Globalization image”	4	12
Q5-08 “Tax Benefit”	12	4
Q5-09 “Competitive advantage”	4	12
Q5-10 “Less complicate IT system”	4	12
Q5-11 “Better security”	7	9
Q5-12 “Better availability”	3	13

Table 4.32 Frequency distribution for Question 5 “In your point of view what should be benefit for your company when using Cloud Computing”, grouped by organization with number of staff more than 200

CHAPTER 5
CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

We found out from this research that market in Thailand for Cloud Computing looking for criteria “Security”, “SLA (Service Level Agreement)” and “Continuity of the system” when they are looking for Cloud Computing Service Provider.

Top three challenges that stop or delay enterprise market in Thailand for moving to Cloud Computing are their concern about “If their Cloud system got hacked, it would be effect on their company reputation” “Consistency of their system” “Continuity of their system”

Top three perceived benefit that enterprise market in Thailand could get from using Cloud Computing are “More flexibility” “More profitable due to cost saving” and “More productivity”

When we break down in term of organization size, we found that small size organization (with number of staff 1-50), they are looking for criteria “Availability”, “Continuity”, “Security” and “Supporting team”. They are worried about “Availability of their system” and “Department downsizing after using Cloud Computing”. And their perceived value on Cloud Computing are “More flexibility”, “More profitable due to cost saving”, “More productivity” “Globalization image” “Competitive advantage” “Less complicate IT system” and “Better availability”

For medium size organization (with number of staff 51-100), they are looking for criteria “Consistency”, “SLA” and “Security”. They are worried about “Continuity of their system”, “Internet bandwidth might not enough”, “Change in operation”, “Department downsizing after using Cloud Computing”, “Interoperability among internal system and Cloud provider system” and “Cloud Computing technology will change too fast”. And their perceived value on Cloud Computing are “More profitable due to cost saving”, “More customer”, “More flexibility”, “Modernized image”, “Tax benefit” “Competitive advantage” and “Less complicate IT system” .

For large size organization (with number of staff 101-200), they are looking for criteria “SLA”, “Domestic Internet bandwidth” and “International Internet

bandwidth". They are worried about "If cloud got hacked, it will be effect on company reputation" and "consistency of their system". And their perceived value on Cloud Computing are "More flexibility", "Modernized image" and "Competitive advantage".

For very large size organization (with number of staff more than 200), they are looking for criteria "Security", "Continuity" and "SLA". They are worried about "If cloud got hacked, it will be effect on company reputation", "Data privacy", "Continuity of their system", "Consistency of their system", "Failure recovery time" and "Lacking of supporting resources". And their perceived value on Cloud Computing are "More productivity", "More profitable due to cost saving", "More flexibility" "Modernized image" and "Better availability"

Conclusion for Cloud Service Provider

1. When approaching Cloud solution to Enterprise customer, there is no different in preference between age group or gender or position between enterprise customers.

2. Thailand market for Cloud Computing for could be segmented based on size of the organization. According to the founding from this research, different size of organization has different preference for Cloud Computing.

3. Cloud Computing service provider can use different strategy for specific organization size to go to market with their target customer.

5.2 Recommendations

Recommendation for Cloud Computing Service Provider

1. Segment Cloud Computing market by size of customer's organization

2. Position your Cloud Solution to match with customer selection criteria.

3. If your target customer is the organization with number of staff in the range of 1-50 staffs, focus your Cloud Solution Offering on Availability.

4. If your target customer is the organization with number of staff in the range of 51-100 staffs, focus your Cloud Solution Offering on Consistency.

5. If your target customer is the organization with number of staff in the range of 101-200 staffs, focus your Cloud Solution Offering on SLA.

6. If your target customer is the organization with number of staff more than 200 staffs, focus your Cloud Solution Offering on Security.

Recommendation for future research

1. Number of people participated in this research is only 31 people. Increasing number of participant would get more precise finding.

2. Expanding research to a wider industry, as well as expand to other industry. And study on different preference in different industry.

3. Finding for more independent variable that could effect on dependent variable.

5. Find correlation between variable and run Chi-Square statistic

REFERENCES

Ahmed, M. & Hossain M. (2014) “Cloud Computing and Security Issues in the Cloud” International Journal of Network Security & Its Applications (IJNSA), Vol.6, No.1, January 2014. Retrieved from http://airccse.org/journal/nsa/6114nsa03.pdf

Brynjolfsson, E. & Hitt L. (2000). “Beyond Computation: Information Technology, Organizational Transformation and Business Performance.” Journal of Economic Perspectives 14: 23-48 Retrieved from http:// http://ebusiness.mit.edu/erik/Beyond%20Computation%20-%20JEP.pdf

Flack, C. & Dembla, P. (2014) “Influence of Cloud-Based Computing on User Productivity” Retrieved from http://saisconferencemgmt.org/proceedings/2014/FlackDembla2.pdf

Hall B. & Khan B. (2003) “Adoption of New Technology” Retrieved from http://www.nber.org/papers/w9730.pdf

Iacovou, C.L., Benbasat, I. and Dexter, A.S. (1995) Electronic data interchange and small organizations: Adoption and impact of technology, "MIS Quarterly", Vol. 19, No. 4, pp 465-485.

Lee, K. & Lee, S. & Yang, H. (2014) Towards on Cloud Computing Standardization. ETRI, Ewha Womans University. Retrieved from http://dx.doi.org/10.14257/ijmue.2014.9.2.17

Lewis, G. (2010). “Basics about cloud computing”. Software Engineering Institute Carniege Mellon University, Pittsburgh. Retrieved from http://www.lbcloudcomputing.com/Cloudcomputingbasics.pdf

Martínez, D. (2013) “Privacy and Confidentially issues in Cloud Computing Architectures” Retrieved from: http:// http://upcommons.upc.edu/bitstream/handle/2099.1/20816/thesis-david.jimenez-martinez-1.pdf

Mohlameeane, M. & Ruxwana, N. (2014) The Awareness of Cloud Computing: A Case Study of South African SMEs International Journal of Trade, Economics and Finance, Vol. 5, No. 1, February 2014. Retrieved from http://www.ijtef.org/papers/332-N00004.pdf

Sainz, C. & Alonso, J. & Tuesta, D. & Fernandez, S. (2014) “Development of the Cloud Computing Industry: impacts and transformations in progress” BBVA Research. Retrieved from: https://www.bbvaresearch.com/en/publicaciones/development-of-the-cloud-computing-industry-impacts-and-transformations-in-progress/

Sharma, M. (2014) “Evaluating Various Aspect of Cloud Computing Vendors with Comparison” International Journal of Research Aspects of Engineering and Management ISSN: 2348-6627, Vol. 1, Issue 1, FEB 2014, pp. 4-8 Retrieved from: http://docplayer.net/3309903-Evaluating-various-aspects-of-cloud-computing-vendors-with-comparison.html

Umamageswari, S. & Babu M. (2014) “Cost Optimization in Dynamic Resource Allocation using Virtual Machines for Cloud Computing Environment” Asia Pacific Journal of Research Vol: I Issue XI, March 2014 ISSN: 2320-5504, E-ISSN-2347-4793. Retrieved from http://apjor.com/files/1394099730.pdf

Walker, D. (2014) “Cloud Computing Benefit for the Company” Retrieved from http://systemduo.pbworks.com/w/file/.../Cloud%20computing%20benefits.pdf

Article from: http://www.asiacloudcomputing.org/research/cri2014

Article from: http://www.nationmultimedia.com/technology/Low-cloud-readiness-in-Thai-firms-30245091.html

Article from: http://www.asiacloudcomputing.org/research/cri2014

Article from: http://www.infoworld.com/article/2683784/cloud-computing/what-cloud-computing-really-means.html

Article from: http://www.ibm.com/cloud-computing/what-is-cloud-computing.html

Article from: http://asia.pcmag.com/networking-communications-software-products/2919/feature/what-is-cloud-computing

Article from: http://www.ibm.com/cloud-computing/th/en/

APPENDICES

APPENDIX A
SURVEY QUESTIONAIRE

Sex:_____Age:_____Position:_____ Department:_____

Number of staff in your company ( )less than 50 ( )50-100 ( )100-200 ( )more than200

	Question asked	Response (1=not agree, 5=totally agree)				
1	**Awareness about Cloud Computing**					
1.1	I think I know Cloud Computing well					
1.2	I think I need to be trained on Cloud Computing					
1.3	I am currently using Cloud Computing personally					
1.4	Our company is currently using Cloud Computing					
1.5	I think Cloud Computing will help us save cost					
1.6	I think Cloud Computing will help us provide better security					
1.7	I don't know where to start					
1.8	I don't know who provide Cloud Computing					
2	**How important of each of the following criteria to evaluate and select Cloud Computing Service Provider?**	Response (1=not important, 5=very important)				
2.1	Low Cost					
2.2	Upfront capital investment					
2.3	Availability					
2.4	Continuity					
2.5	Consistency					
2.6	SLA (Service Level Agreement)					
2.7	Security					

2.8	Flexibility of accessing to our system					
2.9	Flexibility of expanding the infrastructure					
2.10	Flexibility of updating the data					
2.11	Location of Cloud Provider's Datacenter					
2.12	Supporting team					
2.13	Brand of Cloud Provider					
2.14	Brand of Equipment that Cloud Provider are using					
2.15	System/Software that Cloud Provider are using					
2.16	Domestic Internet bandwidth of Cloud provider					
2.17	International Internet bandwidth of Cloud Provider					
3	**Following criteria effect our company decision to go to Cloud Computing**	**Disagree**			**Agree**	
3.1	Our eco-systems are also using Cloud Computing					
3.2	Our competitors are also using Cloud Computing					
3.3	Our customers are also using Cloud Computing					
4	**Challenge that stop you from using Cloud Computing**	**Disagree**			**Agree**	
4.1	I am worry about data leaked					
4.2	I am worry about data loss					
4.3	I am worry about data privacy					
4.4	I am worry about data backup system					
4.5	I am worry if our cloud got hacked it will be effect on our company reputation					
4.6	I am worry if our cloud got hacked we might not be able to get back our system					
4.7	I am worry about virus					
4.8	I am worry about availability of our system					
4.9	I am worry about continuity of our system					
4.10	I am worry about consistency of our system					
4.11	I am worry about reliability of Internet connection					
4.12	I am worry about Internet bandwidth might not enough					

4.13	I am worry about cost of Internet bandwidth		
4.14	I am worry about failure recovery time		
4.15	I am worry about our change in operation		
4.16	I am worry about department will be downsizing after using Cloud Computing		
4.17	I am worry about lacking of supporting resources		
4.18	I am worry about Interoperability among our internal system and Cloud provider system		
4.19	I am worry that Cloud Computing technology will change too fast		
4.20	I am worry that our company will have to upgrade our system to work with Cloud Computing		
5	**In your point of view what should be benefit for your company when using Cloud Computing**	Response (1=not agree, 5=totally agree)	
5.1	More profitable due to cost saving		
5.2	More productivity		
5.3	More customer		
5.4	More flexibility		
5.5	Modernized image		
5.6	Green image		
5.7	Globalization image		
5.8	Tax benefit		
5.9	Competitive advantage		
5.10	Less complicate IT system		
5.11	Better security		
5.12	Better availability		

BIOGRAPHY

Name	Mr. Chakrit Visaltanachoti
Date of Birth	April 24, 1972
Educational Attainment	1994: Bachelor of Engineer (B.E.), Computer Engineering, Chulalongkorn University
	1998: Master of Science (M.S.), Computer Science, Chulalongkorn University
Work Position	System Consultant Asia South Dell Computer
Work Experiences	System Consultant Asia South Dell Computer
	Presale Engineer Cisco Systems
	System consultant Vmware Inc
	Sales Specialist IBM Software
	Presale Engineer HP Software
	Presale Engineer Mercury Interactive
	IT Manager Advanced Data Network

System Engineer
The Bank of Tokyo Mitsubishi